

# Health Policy Research in Tribal Communities: Type 2 Diabetes in the Chickasaw Nation



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Diabetes is incredibly common. The Center for Disease Control and Prevention (CDC) shows that in the United States, 30.3 million adults have diabetes. Twenty-five percent of persons with diabetes are not aware they have diabetes. In 1997 to 2017, the number of adults diagnosed with diabetes tripled (CDC, 2017). In addition to being the seventh leading cause of death in the United States, type 2 diabetes is also the number one cause of certain amputations, adult-onset blindness, and kidney failure (CDC, 2017). In 2 of 3 American Indians and Alaska Natives (AI/ANs) with kidney failure, diabetes is the cause (Vital Signs Fact Sheet, 2017). In Oklahoma, the AI/AN death rate is more than double the death rate for whites. AI/AN males have a higher death rate than females (Oklahoma Area Tribal Epidemiology Center, 2019).

## Background

Type 1 diabetes accounts for 5% of the people who have diabetes. It is an autoimmune disorder and prevents the body from actually making the insulin it needs. Unlike type 1 diabetes, type 2 is widely considered preventable. Type 2 is the most common form of diabetes and is increasingly developing in children, teens, and adults (CDC, 2017). Type 2 diabetes is a disease in which a person's blood glucose levels rise higher than it should. This happens because the body is unable to use insulin the way properly (American Diabetes Association, 2017).

There are a number of risk factors for developing type 2 diabetes. Persons with prediabetes or gestational diabetes are at higher risk of developing type 2 diabetes. Being overweight is an additional risk factor, though a person does not have to be overweight to develop type 2 diabetes. Body types that store fat in the abdomen, as opposed to other areas of the body, are also at higher risk of developing type 2 diabetes. Family medical history also plays a role, as well as race. Most minority populations are at greater risk of developing type 2 diabetes. Living a sedentary lifestyle can also contribute to a person's risk of developing type 2 diabetes (Mayo Clinic, 2017).

Ninety percent of the 84.1 million Americans who have prediabetes do not even realize they have it. Having prediabetes means a person may have high blood sugar, but their blood sugar is not yet high enough to be considered full-blown diabetes. Having prediabetes not only increases a person's risk for developing type 2 diabetes, but also increases their risk for developing heart disease or having a stroke. Because these individuals may not notice any symptoms, people with prediabetes need to get their blood sugar tested regularly. Since it can be prevented through healthy lifestyle changes, it is important to catch it sooner rather than later (CDC, 2017).

Some of the major symptoms of type 2 diabetes include increased hunger, thirst, and more frequent urination. Some may also experience weight loss, areas of darkened skin, fatigue, blurred vision, slower-healing for sores or more frequent infections. A type 2 diabetes diagnosis can be accompanied by a number of complications, such as heart disease, nerve damage, kidney damage, eye damage, foot damage, hearing impairment, skin conditions, and Alzheimer's disease. Type 2 diabetes puts a strain on the entire body because glucose is an essential fuel source for the body. Two common problems type 2 diabetics face (insulin resistance or high glucose levels) interfere with their body's ability to properly fuel its cells and cause the symptoms listed above. The body is essentially trying to correct the error by using fluid or alternative fuels, which may be pulled from various tissues or muscle and fat to compensate for this imbalance. While there is no cure once a person is diagnosed with type 2 diabetes, it is manageable through medication and eating healthy and exercising (Mayo Clinic, 2017).

### **Problem Statement**

In most cases, type 2 diabetes is a preventable disease. Even for those diagnosed as diabetics, type 2 diabetes and its symptoms can be managed through medication and implementing a healthier lifestyle with physical exercise and a healthy diet. Unfortunately, some people diagnosed with diabetes may be a part of a built environment that may not encourage enough physical activity. Access to healthy food also plays a big role in the health of diabetics and people at risk for developing diabetes. Often, food insecure households struggle to adapt their diet to their diagnosis, simply because they may not live in an area with a good grocery store or may not be able to afford healthy food. Though there are a number of different factors to take into consideration when creating appropriate interventions to assist type 2 diabetics, these are two major issues that can be addressed to help this population. Not only can increasing physical activity help prevent or manage type 2 diabetes, changing a person's diet can have a huge impact as well. Unfortunately, this is a struggle for food-insecure people, as they may have difficulty safely accessing nutritious food. Eating a healthy diet is crucial to preventing or managing type 2 diabetes, and unfortunately, food insecurity is more prevalent among these households (Gucciardi, Vahabi, Norris, Del Monte, & Farnum, 2014). Food insecurity can create a strain for these individuals, and they may find themselves struggling to prioritize eating a healthy diet and manage medication or other supplies, all while keeping up with their other living expenses. Limited budgets can often lead to people purchasing the cheapest, longest-lasting food. This food is typically not very healthy, which often leads to weight gain, and eventually, one or more chronic diseases like type 2 diabetes. When these populations have difficulty accessing healthy food already, changing diet to a stricter regimen to accommodate a disease like diabetes is even harder, since diet usually consists of inexpensive, high-carb, easily-preserved food.

From a public health practitioner's perspective, creating interventions for food-insecure populations can be somewhat difficult, as there is no true consensus on how to define what a food insecure person or population actually looks like. Most of the quantitative data is based on telephone surveys, which have their own limitations and reach a very specific population. Since cell phones are often more popular these days and only a subset of the population still has a landline, this often creates issues with sampling for quantitative data. Fortunately, qualitative data has offered some insight on what some people personally experience dealing with these

barriers. Overall, scholars agree that culturally appropriate measures should be taken in order to implement interventions for food-insecure populations. Most research suggests that food insecurity is even an additional risk factor to developing type 2 diabetes (Gucciardi, Vahabi, Norris, Del Monte, & Farnum, 2014). Sometimes, food insecurity is a matter of geography. In many low-income neighborhoods, the only places with food are convenience stores, which do not have produce or protein-rich foods. Therefore, these food insecure diabetics consume less fresh foods. Additionally, finding necessary appliances (like a refrigerator or oven) in which to store or cook healthy meals may be yet another barrier.

## Research Methodology

My research began by consulting my tribal legislators at the Chickasaw Nation. The tribal legislators serving the Pickens District include Connie Barker, Shana Tate Hammond, and David Woerz. Hammond and Woerz deferred to Barker, a known public health advocate. From there, I conducted an interview with Barker to understand what the most pressing public health issues facing our citizens were, and she immediately mentioned diabetes.

After gaining guidance from this interview, I began researching articles online and scouring the Chickasaw Nation website for more data. I also attended a tribal legislature meeting in September 2018 to gain insight into the way the Chickasaw tribal legislature works and to meet the other members of the tribal legislature. The tribal legislature expressed interest in the NIHB Health Policy Fellowship and were supportive of me working with Connie Barker on learning more about diabetes in the Chickasaw Nation and what solutions we can find to assist our citizens.

I also interviewed Chickasaw citizens in the Duncan area of the Pickens District to better understand the barriers they face when it comes to diabetes prevention and management. These interviews served as a guide in analyzing and choosing potential policy recommendations and implementation strategies. Two of the interviewees actually have diabetes. As an elder, one interviewee was eligible to receive assistance through the nutrition center, and paid for a gym membership at a national franchise gym in Duncan. His wife, who is not a Chickasaw citizen, also sometimes attends the gym with him, but cited transportation as an occasional barrier to attendance.

At the time of the interview, one of the other interviewees was not eligible for benefits from the nutrition center and did not have financial access to fitness facilities in the area. The interviewee also stated she would feel more comfortable at a facility with other Chickasaw citizens, citing social support as the reasons. This particular interviewee lives alone and mentioned she would not only enjoy the physical fitness and nutritional



benefits from such programs, but also the social interaction and opportunity to make friends who are facing similar challenges.

### Current Policies

In 1997, Congress established the Special Diabetes Program for Indians (SDPI). SDPI is a \$150 million grant program coordinated by the Indian Health Service (IHS) which provides diabetes treatment and prevention focused funds to IHS, Tribal, and Urban Indian health programs. A federal advisory committee, the Tribal Leaders Diabetes Committee (TLDC), was established at the same time to facilitate a true government to government relationship between tribal leaders and the IHS Director related to the distribution of SDPI. The SDPI grantees are given resources and a set of guidelines to follow, but for the most part, are able to use their funding in innovative ways to help prevent and treat diabetes (Indian Health Service, 2019). This program has seen success since its inception, as demonstrated by the decreased A1C levels for those in the IHS system (see Figure 1). Funding for SDPI was at risk until Congress passed a two-year renewal of SDPI in February of 2018. SDPI has guaranteed funding through September 2019 (NIHB.org, 2019).

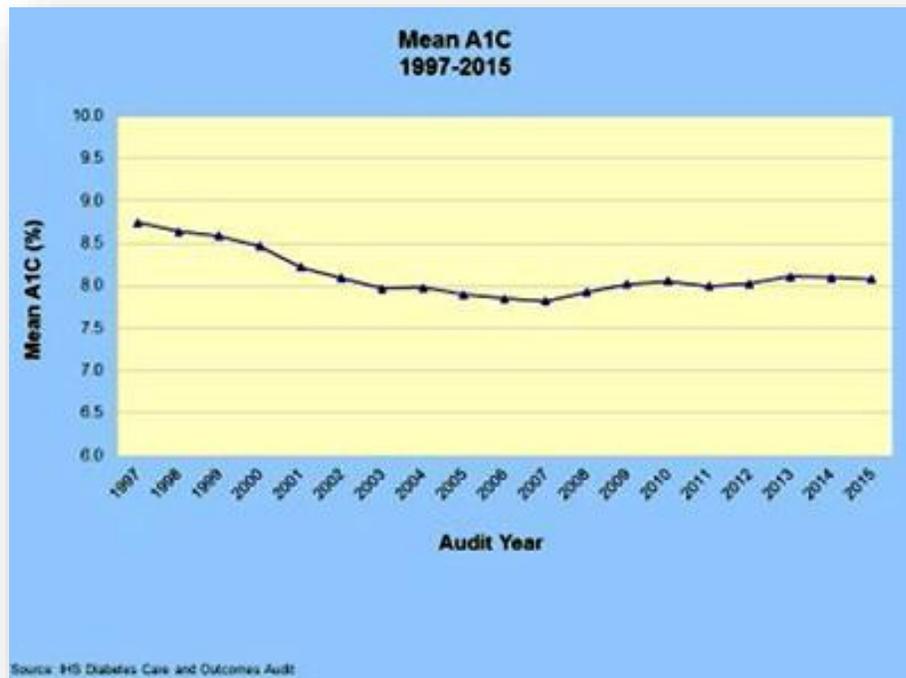


Figure 1: Decreased A1C levels for adults at the IHS.

As demonstrated, type 2 diabetes is a prevalent issue throughout Indian Country. The Chickasaw Nation is no exception. A recipient of SDPI funding, the Chickasaw Nation has chosen to place diabetes as one of its top health priorities. Chickasaw Nation citizen and legislator, Connie Barker, serves on the TLDC as the Tribal Co-Chair and advocates for improved treatment and prevention of diabetes across Indian Country. Through our meetings, Barker regularly identified diabetes as one of the most important issues facing the Chickasaw

Nation. The Chickasaw Nation is tackling diabetes through its Diabetes Prevention Program (DPP). For citizens to be eligible, they must be 18 or older, have a body mass index (BMI) above 24, and must have passed a series of screening tests (like the CDC Prediabetes Screening Test or testing positive for gestational diabetes). This program guides citizens in various patient-centered lessons.

Lessons include:

- How to eat healthy without giving up all the foods you love
- Ways to add physical activity to your life, even if you do not think you have time
- Techniques to help you keep track of what you eat and how active you are
- Tips to help you deal with challenges that can derail your hard work
- How to manage stress related to lifestyle change
- Strategies to help you get back on track if your stray from your plan
- How to adopt new behaviors by setting new goals
- Ways to adapt and maintain your success
- Strategies to help you stay motivated

The classes for the DPP take place at the Diabetes Care Center in Ada. The Diabetes Care Center provides education and medical treatment both for the prevention of diabetes and complications associated with diabetes. Cases seen at the Diabetes Care Center require a referral from the Chickasaw Nation Department of Health or an Indian Health Services provider (patients cannot self-refer). This Diabetes Care Center is different from other clinics due to its comprehensiveness; there is an endocrinologist, nurse practitioner, dietitian, exercise consultant, medical family therapist, pharmacist, and dental hygienist on site to serve patients. They also host a four-day diabetes camp in the summer. In addition to these services, home glucose monitoring equipment and therapeutic shoes can be given to patients who live within the Chickasaw Nation Division of Health service area. The Diabetes Care Center covers areas ranging from retinal imaging to dental care to behavioral health and more (Chickasaw.net, 2019).

The Special Diabetes Program for Indians has only been re-enacted as short-term legislation for only one year at a time and will expire in September 2019. As of February 14, 2019, the Senate Health, Education, Labor, and Pensions Committee proposed S. 192, which would reauthorize the SDPI for the next five years, the longest guaranteed funding for SDPI period since 2002. Releasing this bill demonstrates the support of several Senators for the documented success of the SDPI. One issue with the legislation as written is that the amount of funding it proposes at \$150 million has been the same since 2004. A primary issue with the funding for SDPI is that it has not been adjusted for inflation, and 37% of the program's funds have essentially been eaten away as a result. In order to account for the power of inflation, SDPI funds would need to see a 64% increase (NIHB.org, 2019). Similar legislation is intended to be released in the House of Representatives.

## **Policy Recommendations and Implementation Strategies**

One policy recommendation to combat the high rates of diabetes in Chickasaw Nation is to encourage nutrition programs to include those who are diagnosed with prediabetes or type 2 diabetes. The program at some locations currently only includes elders or those who are on Women, Infants, and Children (WIC) funding. However, at some locations, the nutrition program is expanded to include stipends for citizens to shop at farmer's markets, nutrition education and classes, along with having an on-site dietitian. During an interview with a Chickasaw tribal member, she shared she is not old enough to benefit from the elder nutrition programs, but as a person living with type 2 diabetes, she would benefit from having access to the resources at the Chickasaw Nation nutrition center in Duncan.

Many Chickasaw Nation districts are also home to Wellness Centers. These Wellness Centers are hubs for fitness and health education, and are a great place to connect with the community while improving health. They are open for use to any Chickasaw Nation citizen. The Pickens District is a very large district, and Ardmore is currently the only city with a Chickasaw Nation Wellness Center. Citizens living outside of Ardmore boundaries are left out and have expressed interest in a wellness center (Chickasaw Nation, 2019). According to a personal interview with a member of the Chickasaw Nation living in the Duncan area, she said she would personally benefit from a Wellness Center in her area. She also mentioned that her parents, who are elders, would not only benefit from the physical exercise aspect of the Wellness Center, but the social aspect of visiting the Wellness Center. The Wellness Center would contribute to both diabetes prevention and management efforts.

It is my recommendation that the Chickasaw Nation pursue potentially building a Wellness Center in the Duncan area of the Pickens District. As they have expanded their current health efforts through the construction of the Nutrition Center, the Wellness Center would be an excellent complement to this. Additionally, the Chickasaw Nation should expand the criteria at the Nutrition Center to include those who were diagnosed with type 2 diabetes.

Another alternative to building their own facilities would be to partner with local organizations to offer reduced or free membership fees for those diagnosed or at risk of developing diabetes. One local organization in Duncan is the Simmons Center. The Simmons Center is a large recreational community center that offers exercise classes, fitness equipment, and other wellness related courses and groups. While the Simmons Center currently offers reduced membership fees for any senior citizen wishing to join, there currently exists no partnership with a tribal organization. This would be the first for the wellness center, and could pave the way for an innovative partnership between the two organizations. It would require contacting employees at the Simmons Center and offering to create a contract and discuss the terms to cover the expenses of members meeting specific criteria (like requiring a member to show their tribal ID and present a letter from their physician assessing their diagnosis of diabetes). From there, Chickasaw citizens could become regular members of the Simmons Center.

However, I would also recommend that they do not just stop at membership in a local facility. Modeling after an already very successful program at Oklahoma City-County Health Department called Total Wellness (OKC-County Health Department, 2019), the Chickasaw

Nation could work to create wellness programming and host these events in the Simmons Center community rooms. If the Simmons Center was unwilling to host, these classes could always be hosted at the local Chickasaw Senior Center facility. The Total Wellness classes offer free weight loss classes with the goal of preventing diabetes and heart disease. New classes are offered in quarterly rotations, and participants meet one hour a week for eight weeks. The class topics range from nutrition to exercise to sleep, and all participants have the goal of losing 5% of their body weight and becoming more active. The program has been very well received by community members in the OKC metro area. A similar program could be created and adapted for the Chickasaw Nation, and courses already being offered through the DPP could serve as a guide for developing the program curriculum.

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