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## Traditional Healing and Biomedicine Use in Urban American Indians Living with Diabetes

Elin Elise Kambuga  
*Walden University*

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# Walden University

College of Education and Human Sciences

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Elin Elise Kambuga

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2023

Abstract

Traditional Healing and Biomedicine Use in Urban American Indians Living with  
Diabetes

by

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MS, University of West Florida, 2011

BA, Evergreen State College, 1999

Dissertation Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy  
Health Education and Promotion

Walden University

May 2023

## Abstract

The purpose of this interpretative qualitative study was to describe influences that affect the use of traditional healing and biomedical health services for type 2 diabetes to help health educators develop more culturally competent diabetes education programs for urban American Indian/Alaska Native (AI/AN) communities in the United States. The theoretical framework used for this study was the social ecological model (SEM). Using the SEM, the research questions were crafted to explore experiences of participants connected to personal, interpersonal, community, institutional, policy, and educational factors that influenced the use of traditional healing and biomedical health services. Urban AI/AN adults living in the continental United States and Alaska who used traditional healing and biomedical health services for type 2 diabetes were recruited for the study through purposive sampling, including convenience and snowball sampling. Thirteen participants completed semistructured interviews over Zoom. Data were coded and analyzed based on the five levels of SEM and the participant's experiences using traditional healing and biomedical health services for their type 2 diabetes education and management. Participants reported disorientation when being diagnosed at a young age with type 2 diabetes self-empowerment as an adult, disconnection to their tribal community, convenience of biomedical health services, family involvement with their diabetes care, and the need for policy to include traditional healing and healers into healthcare accessibility. Implications for positive social change include improving awareness and understanding of health educators regarding urban AI/AN populations health needs and being able to implement better health programs for them.

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## Dedication

This dissertation is dedicated to my Native American ancestors who I did not know I had for much of my life, Hilletje Van Olinda, her mother Ots-Toch, and grandmother Mie Kameoka Caniachkoo, Turtle clan of the Kanien'kehá:ka, or the Mohawk, part of the Haudenosaunee or Iroquois Confederacy. These ancestors were there at the beginning of the interactions with Europeans and experiencing multiple cultural identities. It is also dedicated to all American Indians and Alaska Natives who live in a world of intersecting identities who should never have to choose only one identity or way of living. All the original inhabitants of Turtle Island know we are all relatives and that we are all connected. Let us move forward in making room for Indigenous Native Americans and their wisdom to help us make a more sustainable future.

## Acknowledgments

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## Chapter 1: Introduction to the Study

Type 2 diabetes in the American Indian (AI) and Alaska Native (AN) communities has become a serious health issue that affects all aspects of daily living (Centers for Medicare & Medicaid Services [CMMS], 2018; Pollak, 2017). The Centers for Disease Control and Prevention (CDC: 2017) stated that AIs/ANs are twice as likely to have type 2 diabetes compared to Whites. Multiple health issues show comorbidities regarding the AI/AN population in conjunction with type 2 diabetes such as kidney failure, cardiovascular disease, arthritis, and cancer complicating health care treatment (CMMS, 2018). However, studies that are conducted and used to provide these statistics are more likely to be researched on reservations and areas near reservations. There are few studies conducted within urban AI/AN communities complicating a comprehensive understanding surrounding type 2 diabetes education and treatment (Dennis & Momper, 2016; James et al., 2018).

Though urban AIs/ANs no longer live on a reservation or close to their tribe, traditional healing is used in conjunction with biomedical health services (Moghaddam et al., 2015). Fiedeldey et al. (2017) noted that culture is interwoven with wellness and the connectedness of body, mind, heart, and spirit influencing health outcomes. The lack of healthcare professionals that have been trained to understand nonbiomedical healthcare or incorporate traditional healing into treatment for type 2 diabetes exacerbate education and management of the disease for urban AIs/ANs (Moorehead et al., 2015). This study provides insight into experiences of urban AIs/ANs using traditional healing and biomedicine living with type 2 diabetes; social implications may result in more

comprehensive type 2 diabetes education programs for this population. This study describes AI/AN perspectives on health providing health educators the ability to implement programs that resonate with culture. The next sections in the chapter will provide the background, problem statement, purpose of study, and research questions, followed by the conceptual framework, nature of study, definitions, assumptions and limitations, scope and delimitations, limitations, and significance. In conclusion, it ends with a summary of the chapter.

### **Background**

Satterfield et al. (2016) acknowledged that disproportionate disease burden is affected by more than just individual decisions and actions but social conditions contributing to the disease, such as economic distribution and human right violations. Type 2 diabetes falls into this category due to relocation of AIs/ANs to new environments which restricted their movement to hunt, decreased opportunities to exercise, and deterred food cultivation for themselves on a regular basis (Satterfield et al., 2016). Put another way, there was systematic disruption of AIs/ANs connections to home, land, culture, religion, and language which contributed to a change in the way of life decreasing access to fresh foods, clean water, and the ability to regularly exercise (Satterfield et al., 2016). Traditional healing is part of the connection to culture that affects the wellbeing of AIs/ANs and their relationship to the environment (Notah Begay III Foundation [NB3], 2015). *Traditional health or healing* is the incorporation of life balance with self, family, and community; living in harmony with others and the land including connections to food by making and providing it; and an individual's physical,

mental, emotional, and spiritual health (NB3, 2015). Whereas *biomedicine* is a system that includes medical doctors and other healthcare professionals such as nurses, pharmacists, and therapists that treat diseases through drug therapies, surgery, and radiation; other names are allopathic, mainstream, conventional, and Western medicine (National Cancer Institute, n.d.).

Type 2 diabetes has exponentially risen since the 1940s when early documented cases numbered around 21 in the O'odham people living in the Sonoran Desert along the Gila River (Satterfield et al., 2016). Later in 2006, it was found that 38% of the O'odham adult population had type 2 diabetes along with other tribes developing type 2 diabetes in conjunction with the increased rate of displacement from original land use and ability to cultivate traditional foods (Satterfield et al., 2016). Currently, the adult AI/AN population is more than twice as likely to be diagnosed with type 2 diabetes when compared to non-Hispanic White populations (Office of Minority Health [OMH], 2016). AI/AN adolescents are 30% more likely to be obese and AI/AN adults are 50% more likely to be obese which contributes to the possibility of having type 2 diabetes (OMH, 2016). AI/AN youth aged 10 to 19 are diagnosed with type 2 diabetes at 1.74 per 1000 or 76% while non-Hispanic Whites are diagnosed 0.19 per 1000 or 6% (Dong et al., 2016). Type 2 diabetes contributes to complications of cardiovascular disease and can impede positive health outcomes affecting the mental health of a patient creating a feeling of insurmountable chances to a healthy life (Urban Indian Health Institute [UIHI], 2018).

The Indian Health Service (IHS, 2018) noted that 70% of the 3.7 million AIs/ANs live in urban areas and only 25% live in counties that serve this population through urban



Indian health programs. Over 1 million AIs/ANs are provided health care services through Urban Indian Health Programs (UIHP) in 19 states which only receives 1% of the IHS budget (James et al., 2018). Furthermore, urban healthcare settings that provide services for the general population are not set up to support urban AIs/ANs needs or address an indigenous cultural view on health (Moghaddam et al., 2015).

General healthcare professionals and settings are not attuned to the unique history of AIs/ANs creating barriers to supportive care and education (Auger et al., 2016; UIHC, 2007). Cultural practices for treatment and prevention of health issues in urban AI/AN communities are central to their daily life and address health concerns that may be overlooked by mainstream health care providers (Moghaddam et al., 2015). For instance, wellness is dependent upon the balance or harmony of physical health, mental, or emotional health, spiritual wellbeing, and connection to the environment (Fiedeldey et al., 2017). Any part of wellness that is left out or not addressed is tied to health status and health conditions including psycho-social factors, traumatic events during a lifetime, and cultural connectivity (Fiedeldey et al., 2017). Biomedical health care providers need to be sensitive to the differing world view of their AI/AN patients who use more than one mode of healing.

AI/AN individuals living in urban areas have decreased access or no longer have access to IHS services (James et al., 2018; UIHC, 2007) resulting in use of traditional healing to feel connected to tribe (Gone et al., 2017). It is recognized that there is variation in the use of traditional healing and biomedical health services across tribe and region based on access and connection to cultural practices (James et al., 2018). Geana et

al. (2012) noted that AIs/ANs who use both traditional medicine and biomedicine are reluctant to share the combining of health modes with their Western medical providers. Furthermore, it is not easy to navigate the healthcare system in the urban environment and miscommunications can result in urban AIs/ANs in discontinuing healthcare services (Rutman et al., 2016).

The complexity of living in urban environments creates tensions that were identified when using traditional healing and health services in the community (Hartmann & Gone, 2012). It is important for these communities to have urban health centers or biomedical healthcare providers who are culturally aware and can address the unique needs of the community. Traditional healing focuses on a holistic view of health which includes mental, spiritual, and physical health (Fiedeldey-Van Dyk et al., 2017). Moghaddam et al. (2015) identified the need for urban centers that serve these communities to integrate biomedical health services with traditional healing practices. These types of health centers can provide a more holistic system to address chronic health issues and diseases. Fiedeldey-Van Dyk et al. (2017) discussed the crucial need for a holistic system of healing that includes cultural aspects as part of identifying the whole person to better serve the AI/AN communities. Therefore, there is a need for deeper cultural understanding among biomedical healthcare providers and organizations that provides a holistic system of healing to be utilized when addressing health issues for urban AIs/ANs.

Both type 2 diabetes education and management education provided by healthcare providers does not consider the holistic view of health or the historical roots of being

abruptly disconnected to a way of life which was closely connected to the land (Auger et al., 2016; George, et al., 2018; Satterfield et al., 2016). Historically, AI/AN populations had active lives planting and gathering their food while hunting and fishing which provided extensive opportunities to stay physically active (Satterfield et al., 2016). The drastic changes to decreased land use and arable land use in the 20th century from industrialization curtailed access to fresh foods and physical activity (Satterfield et al., 2016).

Cultural competence from providers is found to be lacking when AI/AN individuals seek health services from biomedical health personnel in the urban environment (Dennis & Momper, 2016). Acknowledging that native culture looks at health holistically and that all aspects of health must be treated are key to ensuring increased health outcomes (Moghaddam et al., 2015). If one component of health, such as physical, mental, emotional, or spiritual, is neglected, then it is not possible to achieve full health (Fiedeldey-Van Dyk et al, 2017; Moghaddam et al., 2015). To maintain the balance of these aspects of health many urban AIs/ANs choose to use both traditional healing and biomedical health services to address illness. Trust and cultural competence of the personnel implementing health education are paramount in creating a good relationship between the participant and the educator.

Most research conducted has focused on quantitative results. For instance, the UIHI (2018) found, from 2013 to 2017, that 75% or more urban AIs/ANs with type 2 diabetes received education regarding nutrition, exercise, and diabetes education. Exercise instruction steadily increased about 5%, while diabetes education decreased

from 5% (UIHI, 2018). Nutrition education among urban AI/AN patients with type 2 diabetes was found to be just a little over 40% and the education by only registered dietitians or only other staff decreased while education with both registered dietitian and staff increased (UIHI, 2018). This information gives an idea about the use of diabetes education but does not provide a full understanding regarding reasons for the increase or decline of the health education efforts.

### **Problem Statement**

AIs/ANs have the highest rate of type 2 diabetes in the United States compared to all other ethnic groups (CMMS, 2018). In the past, there has been blanket implementation of biomedical treatment programs in reservation settings, which have proved ineffective (Pollak, 2017). Traditional teachings and practices need to be included to ensure a higher rate of success (Pollak, 2017). The problem is current diabetes education does not fully consider the AI/AN individual's cultural views about health and healing (Dennis & Momper, 2016; Fiedeldej-Van Dijk et al., 2017; Jacob et al., 2015; Pollak, 2017; Rutman et al., 2016). Despite the availability of diabetes education programs, there is decreased use of nutrition and diabetes management education and a low use of nutrition education (UIHI, 2018). This problem has negatively impacted urban AIs/ANs because type 2 diabetes has been identified as one of the most detrimental diseases due to its continued presence and coexistence with depression and cardiovascular disease (Urban Indian Health Commission [UIHC], 2007; UIHI, 2018). A possible cause is the misunderstanding of how to provide health education to urban AIs/ANs. This study investigated the experiences of using traditional healing, biomedical

health services, and diabetes education by using a socioecological model contributing to the exploration in more depth.

Most research conducted in AI/AN communities is done on reservations which have different issues surrounding health access and the use of traditional healing and biomedical health services (Dennis & Momper, 2016; Jacobs-Wingo et al., 2016; Community Psychology, 2017-2019). It has been confirmed that few studies are carried out with AI/AN populations living in urban environments (James et al., 2018; Pollak, 2017). Rutman et al. (2016) and the UIHI (2019) noted that urban AIs/ANs are more widely dispersed in urban areas than those living on or near reservations and usually do not qualify to use health services offered by IHS or by the tribe. Living off the reservations disqualifies most AIs/ANs from receiving health services based on tribal affiliation. Furthermore, many of these individuals have been disconnected from their tribes but still associate being AI/AN and use traditional healing to keep their connection to their culture (Hartmann et al., 2014; James et al., 2018). At the same time, these urban populations use modern medicine because there is more access to biomedical health services in the urban setting (UIHC, 2007; Moghaddam et al., 2015). The urban setting is a place where AI/AN people go to find work or go to school. However, healthcare personnel in urban settings are less likely to know about the healing traditions, culture, or preferences of this population. Moreover, due to the lack of understanding in the scientific community, there is not adequate research conducted in urban AI/AN populations (James et al., 2018; Yuan et al., 2014).

### **Purpose of the Study**

This study provided a better understanding of the experiences of AIs/ANs who live in metropolitan areas in the United States who use both traditional healing and biomedical services addressing type 2 diabetes health. The purpose of this interpretative qualitative study using the social ecological model was to explore and describe personal, interpersonal, community, and policy influences that affect the use of traditional healing and biomedical health services to help health educators to develop more culturally competent diabetes education programs for the urban AI/AN community in the United States. There are many different AI/AN peoples from all areas of the United States, as well as individuals who identify with multiple tribes but who may no longer have close ties to their tribes or tribal lands. Health educators who have cultural awareness about the unique situation of urban AIs/ANs will be more effective implementing diabetes health education.

### **Research Questions**

The following research questions focus on the personal experiences that urban AIs/ANs have with traditional healing and biomedical services when addressing type 2 diabetes in their daily lives.

Research Question 1 (RQ1): What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?

Research Question 2 (RQ2): How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?

Research Question 3 (RQ3): How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?

Research Question 4 (RQ4): How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?

Research Question 5 (RQ5): How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and nonIndian clinics?

Research Question 6 (RQ6): How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?

### **Theoretical Foundation**

This study used the social ecological model (SEM) as a framework to recognize the multiple levels that influence health seeking behavior for urban AIs/ANs in the United States. This model identifies multiple factors including interpersonal, intrapersonal, organizational, and public policy that can impede or facilitate health seeking behavior (Sallis & Owen, 2015). Urban AIs/ANs have multiple influences that could affect how they seek health services. Some of those influences are a need to retain

culture and be modern at the same time while having only limited access to health care services in the urban environment.

The intrapersonal level is affected by utilizing traditional healing methods and biomedical health services to address type 2 diabetes. Individual AIs/ANs depend on using multiple healing modes based on belief, knowledge, and world view (Moghaddam et al., 2015). Interpersonal relationships with family and friends influence identity and socially acceptable norms (Sallis & Owen, 2015). Connections to family and community in addition to personal beliefs influence urban AI/AN individuals to utilize traditional healing and biomedical services for type 2 diabetes. Partaking in community gatherings and interacting in social networks can also influence health decisions. For instance, attending inter-tribal cultural events and carrying out ceremonies and beliefs that connect to culture promotes healthy living (Fiedeldey-Van Kijk et al, 2017; UIHC, 2007).

Institutional and public policy factors similarly affect how urban AI/AN individuals decide to address type 2 diabetes and to seek health advice. Cultural competence is lacking in Western medical training especially with native cultures that are not prominently known (Dennis & Momper, 2016; UIHC, 2007). There is not adequate training for these medical professionals to have conversations about alternative health or those who do not trust the medical system (UIHC, 2007; UIHI, 2019). Policy that dictates the use of IHS services are mostly to be used on the reservation constricts the possibility of receiving appropriate biomedical health services. There are thirty-four Indian Health Organizations across the U.S. which are not fully able to reach all urban AI/AN due to lack of funding and lack of access (UIHC, 2007; UIHI, 2019). Another concern is the



lack of education for urban AIs/ANs to access Medicaid or child health insurance through the State Health Insurance Assistance Program (SHIP) which exacerbate the lack of health care access. Finally, due to the history of the American government deciding not to recognize approximately 109 tribes in the 1950's, those individuals from those tribes cannot access IHS services or tribally run hospitals or clinics (UIHC, 2007; UIHI, 2019).

The social ecological model considers all levels of the environment that can affect health behavior (Albright, 2015). Though individual perspective and beliefs influence behavior, relationships with family, friends, and peers also impact health behaviors. The greater environment including community, institutional, physical environment, and public policy shape how health behavior is carried out. For instance, the disconnect from land and culture due to institutional factors and public policy result in limited access to health care and the ability to access fresh foods (George et al., 2018; Moghaddam et al., 2015; Satterfield et al. 2016). When there is limited access to health care, there is limited access to tests for early detection of disease such as type 2 diabetes. The disease can be detected early on through multiple risk factors including weight gain, poor diet, and lack of exercise. Another aspect that can be addressed through the ecological model will be when traditional healing is used to address type 2 diabetes in conjunction with biomedical services. The urban environment may influence both the modern and traditional uses of healing modes. Pollak (2017) found that incorporating community in addition to family, biomedical care, and policy change within a cultural center assisted individuals to make lifestyle changes addressing type 2 diabetes awareness and management.

### **Nature of Study**

The nature of this study was a basic interpretive qualitative study or basic qualitative research. Qualitative research provides a way to explain and understand the perspective of an individual's experiences. Interviews allowed the researcher to understand the interviewee's point of view (Creswell, 2014). Focusing on AIs/ANs who use both traditional healing and biomedical services for health issues provided a deeper understanding about the topic and provided information about their experiences. The findings of the study were created by the interactions of the investigator and with those being investigated creating an informed perspective (Guba & Lincoln, 1994; Rodriguez & Smith, 2018) and giving a voice to urban AIs/ANs using traditional healing and biomedicine. The qualitative analysis assisted in understanding AIs/ANs experiences with two modes of healing, specifically traditional healing and biomedicine.

The study used an interpretive qualitative approach utilizing semistructured interviews of urban AI/AN adults who are 18 and above and have experiences using both traditional and biomedical medicine for type 2 diabetes health. Since the phenomenon required specific types of individuals to give information about their experiences, participants were recruited from American Indian social media groups, American Indian Centers, museums, and other Indigenous organizations in metropolitan areas, relying on convenience sampling and snowball sampling once initial individuals were identified. Permissions were obtained to recruit from these different organizations as I requested posting the recruitment flyer. As a thank you for participation, a 10-dollar gift card and an Indigenous made craft were offered to the participants.

The use of an interpretive qualitative approach provided a deeper understanding of the use of traditional healing and biomedicine being used for type 2 diabetes. Merriam and Tisdell (2016) explained that constructivism is the foundation of a basic qualitative study to better understand the phenomenon being studied. The point of this kind of study is to provide meaning based on human interaction and experience (Merriam & Tisdell, 2016). Three points are of interest to basic qualitative study: “how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (Merriam & Tisdell, 2016, pg. 24). Hagaman and Wutich (2016) found that qualitative studies range from three to 16 interviews to reach a common saturation point. The more homogenous the group, the less interviews are needed ranging from three to five interviews to find a common theme (Hagaman & Wutich, 2016). Eight to 14 urban AI/AN participants were proposed in the beginning, and 13 were recruited.

### **Definitions**

*American Indian and Alaska Native (AI/AN)*: Original inhabitants of North America living in the United States and Alaska (UIHC, 2007).

*Apache*: Originally lived in the southwestern New Mexico, southeastern Arizona, and northern Mexico, and some were relocated by the US to Oklahoma as prisoners of war during 1886-1914 (Fort Sill Apache, 2020; National Park Service, 2018). Most today are located on five reservations in Arizona (the Fort Apache, the San Carlos Apache, and the Tonto Apache) and New Mexico (the Mescalero and the Jicarilla Apache) (Partnership with Native Americans, 2022).

*Apalachee*: Originally from northwest Florida extending between two rivers, the Aucilla to the east and the Ochlockonee to the west reaching the Georgia state line to the Gulf of Mexico. They were a highly prosperous people and fierce warriors with a population of 50 – 60 thousand and now have approximately 300 surviving descendants living in Louisiana as a non-federally recognized tribe (Florida State University, 2019).

*Biomedical health services*: Health services provided through the health system based on biomedicine relying upon the biological perspective to heal people (Moghaddam et al. 2015).

*Biomedicine or Western Medicine*: A system that includes medical doctors and other healthcare professionals such as nurses, pharmacists, and therapists that treat diseases through drug therapies, surgery, and radiation; other names are allopathic, mainstream, conventional, and Western medicine (National Cancer Institute, n.d.).

*Cherokee Appalachian or Cherokee*: Originally settled along the Tennessee river extending through the southern Appalachian Mountains, including western North and South Carolina, northern Georgia and Alabama, and southwest Virginia and is non-federally recognized. During the Indian relocation in the 1820s and 1830s, the Cherokee were gathered together along with other Indigenous nations to relocate them to Oklahoma, best known as the “Trail of Tears” (Appalachian Cherokee Nation, 2010). Many escaped and stayed in Appalachia and are called the Eastern Band of Cherokee (Cherokee North Carolina, 2020).

*Healthcare providers:* A generic term used for people who work in Western medicine/biomedicine. Some of these providers are doctors, nurses, pharmacists, therapists, and administrative personnel (National Institute of Health Policy, 2019).

*Implicit bias:* Prejudiced attitudes, behaviors, and actions that occur automatically and unintentionally (National Institutes of Health, 2022).

*Indian Health Services:* An agency within the Department of Health and Human Services to federally recognized American Indian and Alaska Native tribes or nations that endeavors to provide a high level of culturally appropriate health services for physical, mental, social, and spiritual health (Indian Health Service, n.d.).

*Metropolitan area:* Typically, it is an area that has a concentrated core population of 50,000 or more with surrounding areas that have a high social and economic integration with the core, such as commuting (Bureau of Economic Analysis, 2018).

*Narragansett:* Originally from the area now known as Rhode Island (Narragansett Indian Tribe, 2018). They were one of the first tribes to have contact with the Europeans and were almost completely wiped out in the 1675 massacre called King Philip's War. It became federally recognized in 1983 and the population is approximately 2400 tribal members who mostly live in Rhode Island.

*Natick Algonquin:* Located in Massachusetts today known as a praying town, this tribe consisted of family clans from Nipmuc and Masseursett who integrated with English people led by a puritan missionary John Eliot (Natick Historical Society, n.d.). The praying towns were created to separate the Indigenous people from their culture including spiritual teachings and to convert Indigenous people to the Puritan faith.

Indigenous people who moved to these towns were called “praying Indians” and they had to adopt English dress and systems. The praying Indians of Natick are not federally recognized as tribe.

*Native Americans:* A general term used for American Indians and Alaska Natives.

*Indigenous:* The original people of an area or region who have direct connection to the geographic area who are from a distinct cultural group and who descended from groups before modern states and countries were created (World Health Organization (WHO), 2019a).

*Traditional health or healing:* The incorporation of life balance with self, family, and community; living in harmony with others and the land including connections to food by making and providing it; and an individual’s physical, mental, emotional, and spiritual health (Notah Begay III Foundation, 2015).

*Traditional medicine:* The use of plants throughout the Americas to heal sick people taken orally or used as a poultice for wounds, infections, and anesthetics (Isaac et al., 2018).

*Diabetes:* A chronic, metabolic disease with elevated blood glucose or sugar levels that over time contribute to the damage of the heart, blood vessels, eyes, nerves, and kidneys (WHO, 2019b).

*Type 2 Diabetes:* The most common type of diabetes usually presenting in adults based on lifestyle when body becomes resistant to insulin or does not make enough insulin (WHO, 2019b).

*Urban American Indian and Alaska Native or Urban Indians:* AI/AN who live off the reservation and live in urban and suburban areas of the United States (National Council of Urban Indian Health (NCUIH), 2018).

*Urban Indian Relocation Program:* A 1950s program sponsored by the Bureau of Indian Affairs to relocate AIs/ANs to metropolitan areas through coercion and enticement for better work and quality of life to ten cities without enough support to follow through on the promises (NCUIH, 2018).

### **Assumptions and Limitations**

Assumptions are based on the belief that certain aspects of the study are true but cannot be proven (Bloomberg & Volpe, 2019). One such belief is that the participants will tell the truth when answering the questions presented to them. It is important to remember that the truth will be provided to the best of memory recall and to personal experience. The same experience may be remembered differently by another person during the same time. Assumptions are also founded on the researcher's beliefs and may be proven otherwise once the research is concluded (Bloomberg & Volpe, 2019).

The following assumptions were made during the study:

1. Each participant is an urban AI/AN living in a metropolitan area.
2. Each participant gave truthful answers as best they could according to their memory recall.
3. Each participant was truthfully over the age of 18.

### **Scope and Delimitations**

The scope of this study included the experiences, perceptions, and memories of the urban AIs/ANs who have type 2 diabetes and use both traditional healing and biomedical services. Potential transferability of this study provides information for health educators to have an awareness of how AI/AN may approach their health differently, especially in terms of type 2 diabetes education and management. AIs/ANs who are 18 years and older were recruited to share these experiences. A site was preselected for the interviews or a site was chosen by the participant based on their comfort. This study was also shaped by time, funding, availability of participants, theoretical framework, and the questions asked of the participants.

Delimitations of the study are the non-inclusion of urban AIs/ANs outside of the United States, children were not included due to practical reasons regarding consent and vulnerability, the cognitively impaired and prisoners, as well as AIs/ANs who predominantly reside on reservations since the study is specifically about urban AIs/ANs. The study focused on the experiences of urban AIs/ANs resulting in the non-inclusion of a different methodological approach.

### **Limitations**

Limitations of the study were that a limited amount of urban AIs/ANs were interviewed, and the results cannot be used as a generalization of experience for those individuals who use both biomedical health services and traditional healing for health issues. Another limitation was the use of the social ecological model which does not allow for specificity of constructs or mechanisms that influence individual behavior



(Sallis & Owen, 2015). There were challenges in recruiting individuals due to the lack of direct association with the urban AI/AN community. Attending community events and creating relationships with community members and gate keepers were two ways I reduced some of the challenges of recruiting. A second challenge of the study was providing a comfortable and open relationship when interviewing individuals that resulted in truthful responses about personal experiences.

### **Significance**

The significance of this study was to provide health educators the ability to implement more culturally appropriate type 2 diabetes health programs to urban AIs/ANs living in metropolitan areas of the United States. Finding culturally appropriate ways to implement health programs increases the health of the population resulting in a better quality of life personally, interpersonally, communally, and in policy (Fiedeldey-Van Kijk et al, 2017; UIHC, 2007). Most studies focus on the quantitative values within a community but do not address the reasons why urban AIs/ANs may or may not use a diabetes health program (CMMS, 2018; UIHI, 2017).

The qualitative methodology provided another perspective based on the personal experiences of urban AI/AN individuals and their reasons for using both traditional healing and biomedical health services. There have been numerous quantitative studies (CMMS, 2018; Kelley et al., 2015; Knaster et al., 2015) that identify that there is a large health disparity between urban AI/AN populations compared to non-Hispanic White populations. These studies contemplate that cost or world view may be reasons for the disparity. Qualitative research can provide a description of the urban AIs/ANs

experiences with type 2 diabetes education provided when using biomedical health services and traditional healing.

The positive social change may be for health educators to better understand the urban AI/AN population being served, resulting in healthier individuals and communities. Understanding the perspective of the participants and the reasons for using two modes of healing can increase communication and understanding between health educators and AI/AN patients. Increased communication between urban AIs/ANs and health educators can result in the creation of a more comprehensive type 2 diabetes health program.

### **Summary**

AIs/ANs continue to have the highest rate of type 2 diabetes compared to all other ethnicities. Since the 1940s, type 2 diabetes has significantly increased in the AI/AN community, creating a health crisis for all ages. AI/AN children are more likely to have type 2 diabetes at a younger age and longer lifespans generate more possibilities of living with health issues as adults age, including kidney failure, heart disease, high blood pressure, and cancer (CMMS, 2018). The diabetes audit conducted in 2017 showed urban AIs/ANs were 59.8% female and 50.9% were 55 or older showing an aging population (UIHI, 2017). Many studies provide statistics about the rates of type 2 diabetes and who it affects, but limited studies provide more information about the continued disease burden of diabetes in the community. There have been few studies that consider the use of traditional healing and biomedical healthcare to treat diabetes. Many studies suggest that culture is important for health and wellbeing of AIs/ANs but few have directly asked those using both about their experiences.

This chapter included the introduction, background, problem statement, purpose of the study, research questions, conceptual framework, nature of study, definitions, limitations, and significance. Chapter 2 will provide more detail regarding the background and current findings about using traditional healing and biomedicine to address type 2 diabetes. In addition, it will discuss the scope of the issues, research variables, explain the theoretical framework, and address the gap in the literature.

## Chapter 2: Literature Review

Research has found that type 2 diabetes continues to occur in AI/AN communities at higher rates than other ethnic groups, specifically more than twice the rate of non-Hispanic Whites (OMH, 2016). Typically, type 2 diabetes in this community is addressed by focusing on physical activity and access to healthy foods but does not include cultural factors that may influence rates of type 2 diabetes. Within the community, many have moved to an urban environment and no longer live on reservations or rural areas near reservations. Urban AIs/ANs make up a group that may or may not have close ties to reservation life and extended family depending on when they moved to an urban area. Once AIs/ANs move to an urban environment, familial and tribal bonds change based on proximity to native lifestyle.

The purpose of this interpretative qualitative study using the social ecological model was to explore and describe personal, interpersonal, community, and policy influences that affect AI/AN use of traditional healing and biomedical health services. This information is designed to help health educators to develop more culturally competent type 2 diabetes education programs for the urban AI/AN community in metropolitan areas in the United States. Current diabetes education programs provided through a biomedical lens do not comprehensively consider cultural views about Indigenous health and healing (Fiedeldey-Van Dijk et al., 2017; Pollak, 2017; Rutman et al., 2016). Additionally, studies focus more on mental health and obesity in conjunction with type 2 diabetes within AI/AN communities (Aronson et al., 2016; Dill et al., 2016; Knaster et al., 2015; Scarton & Groot, 2017; Whitegoat et al., 2015). Furthermore,

interventions in the AI/AN community using the socioecological model (SEM) focus predominantly on the individual level (Jernigan et al., 2020). Numerous studies indicate the need for more culturally appropriate health care settings including the need for culturally sensitive providers and services (CMMS, 2018; Jernigan et al., 2020; Auger et al., 2016; Dennis & Momper, 2016; Rutman, et al., 2016; Moghaddam et al., 2015; Whitegoat et al., 2015). This study contributes to the literature with an urban AI/AN perspective about their experiences using traditional healing and biomedicine for type 2 diabetes.

The following sections will provide an overview of the theoretical framework and how it will be applied to the experiences of urban AIs/ANs who use traditional healing and biomedicine for type 2 diabetes within the context of SEM. The subsequent section presents the literature review focusing on urban AIs/ANs, type 2 diabetes, and how cultural competency is needed within the context of its prevention and management.

### **Literature Search Strategy**

The search strategy used for this study was conducted using several databases. Key terms were entered individually and in conjunction with each other into databases and search engines to identify articles and gaps in the research. The terms were searched in a range of the following disciplines: public health, nursing, medical anthropology, psychology, medicine and public health, and community psychology. Initially, Walden University library was used foundationally to identify articles using CINAHL, CINAHL & Medline (combined search), ProQuest Health & Medical Collection, PubMed, BioMedCentral, and Dissertations & Theses both generally and from Walden University.

Searches for dissertations were conducted using the Walden library including basic qualitative studies, studies using SEM as the theoretical framework, and studies involving type 2 diabetes or traditional health in any indigenous population within the United States, Canada, Central and South America, and Australia. Iterative searches built on the initial database exploration expanded to Research Gate, Hindawi, Google Scholar, PloS, Lancet, ProjectMuse, Research Gate, and Science Direct. Also, I searched for relevant information from the CDC, OMH, IHS, UIHC, and UIHP.

I searched all health sciences database in the Walden University library limiting to peer-reviewed scholarly journals using the following terms: *American Indian and diabetes* (3,025 results); *Alaska Native and diabetes* (1,046 results); *Native American and diabetes* (2,646 results); *Indigenous and diabetes* (54 results); *American Indian youth and diabetes* (63 results); *traditional healing and American Indian* (228 results); *traditional healing and Alaska Native* (101 results); *traditional healing and Native American* (213 results); *traditional healing and biomedicine* (104 results); *medicine wheel and health* (101 results); *western medicine and traditional healing* (92 results); *health education and traditional healing* (82 results); *diabetes education and American Indian/Alaska Native/Native American* (165 results); *diabetes management and American Indian/Alaska Native/Native American, Indigenous* (13 results); *culture and American Indian/Alaska Native/Native American, Indigenous and diabetes* (232 results); *social ecological model/ socioecological model and health* (2,602 results).

I then added filters using specific descriptive terms. The following searches were *urban to American Indian* (76 results), *Alaska Native* (7 results), *Native American* (8

results); *type 2 diabetes to American Indian* (375 results), *Alaska Native* (68 results), *Native American* (83 results); *traditional healing and biomedicine to American Indian* (5 results), *Alaska Native* (0 results), *Native American* (2 results); *medicine wheel and diabetes* (2 results), *wellness* (13 results); *health education and diabetes and American Indian/Alaska Native/Native American, Indigenous* (250 results); *social ecological model/socioecological model and culture or cultural or ethnicity or identity or values* (767 results).

The inclusion criteria for literature used was peer-reviewed journal articles, foundational documents or articles before 2015, and written in English. Finally, references in articles were used to find more studies pertaining to the topic.

### **Theoretical Foundation**

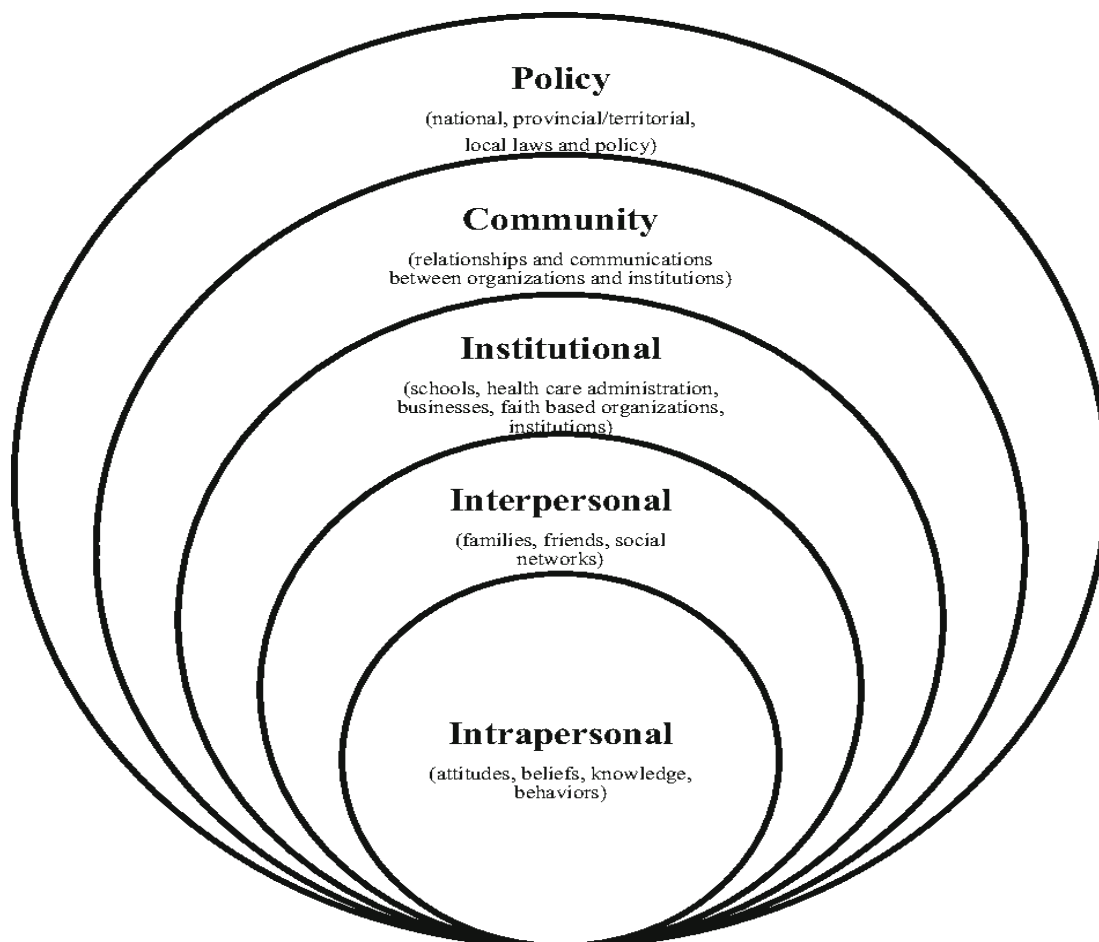
A theoretical foundation is used to give structure and to support the study by providing a framework. Grant and Osanloo (2014) explained that it is like a blueprint which gives an overview regarding ideas, concepts, principles, and approaches to the dissertation. Furthermore, the theoretical framework provides a specialized lens that has been established by leaders in the field, and it holds up the study by summarizing the theories and concepts developed from previous study (Kivunja, 2018). The socioecological model was used as the theoretical framework for this research study.

### **Socioecological Model**

The SEM encompasses multiple levels that effect an individual's health behaviors. This model consists of five levels that include interpersonal, intrapersonal, organizational, and public policy which impede or help individual health behaviors (Figure 1). Kilanowski

(2017) explained that SEM shows how health is influenced by these different levels and interactions among the levels. In the 1970s SEM was developed, showing concentric circles nested within each other describing ecological principles of human behavior and the complexity of these behaviors directly affecting interactions on human health (Lee et al., 2017). These concentric circles start with the individual at the center and then progress outward from most directly influential to least directly influential affecting the individual's health (Kilanowski, 2017). After the individual, the most influential interactions are the interpersonal relationships such as family, friends, and social networks due to the proximity of the individual (Lee et al., 2017). The next level is institutional encompassing health care systems, school, faith-based organizations, businesses, workplaces, and other institutions (Lee et al., 2017). Community level is the fourth level, which depicts the interactions and connections between the community and organizations (Lee et al., 2017). The final sphere represents the public policy level including local, national, and international laws and policy that affect the individual (Lee et al., 2017). The history of SEM started in the 1970s, and has been adapted to be used for different applications including public health, health education and promotion, behavioral sciences, and community-based research (Golden et al., 2015; Lee et al., 2017; Schölmerich & Kawachi, 2016).



**Figure 1***Social Ecological Model*

*Note:* From “The Socio-Ecological Model Approach to Understanding Barriers and Facilitators to the Accessing of Health Services by Sex Workers: A Systematic Review,” by P.H. Ma, Z.C. Chan, and A.Y. Loke, 2017, *AIDS and Behavior*, 21, p. 2413 (<https://doi.org/10.1007/s10461-017-1818-2>). Copyright 2017 by Springer Nature.

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### **Socioecological Model and Urban AIs/ANs who Have Diabetes**

SEM concentrates on multiple levels of human interaction that contribute to the health of an individual. The model demonstrates the reciprocal relationship between different levels the individual interacts with and how personal attitudes and relationships influence health behaviors as well as the influence community, institutions, and policy have on those behaviors (McElfish et al., 2016). This model provides an understanding of how these different levels contribute to the health of urban AIs/ANs who use traditional healing and biomedicine to manage type 2 diabetes. This model concentrates on five levels: intrapersonal, interpersonal, institutional, community, and policy.

#### ***Intrapersonal***

The intrapersonal level encompasses the attitudes, beliefs, and knowledge of the individual along with genetic factors that may increase the risk of contracting type 2 diabetes. Initially these attitudes and beliefs will be developed from the relationships in an individual's life. Attitudes towards self and the ability to carry out healthful or harmful actions and behaviors are part of this level. One study found that feelings of fatalism, denial, and hopelessness contributed to late diagnosis of type 2 diabetes (CMMS, 2018). Another study by Pollak (2017) described that from a young age AIs in the Chicago area had to assist parents and elders with their type 2 diabetes care. If a significant amount of the immediate community is dealing with type 2 diabetes, there can be a perception that contracting the disease is inevitable. Feelings of anxiety, fear, and dread about type 2 diabetes for those who have been diagnosed and individual's whose family members have been diagnosed may create a sense of doom by not seeking help when symptoms

arise and result in denial to cope with the situation (Carson et al., 2015). In another study some of the participants felt that developing type 2 diabetes was inevitable (Goins et al., 2018). Other concerns regarding unsuccessful diabetes care are a fear of amputation, blindness, and death (Goins et al., 2018; Carson et al., 2015). Factors such as fatalism, denial, and hopelessness contribute to a delay in diagnosis resulting in poor health outcomes (CMMS, 2018).

Several studies have found that incorporating traditional culture of wellness and spirituality are beneficial to self-care (CMMS, 2018, Dennis & Momper, 2016, NB3, 2015). Having a connection to traditional culture can create self-pride and ownership of health which results in taking care of personal health. The IHS (n.d.) notes that health spans across all ages starting with the health of the fetus. Culture contributes to self-knowledge and self-empowerment and the connection to family, friends, and community.

### ***Interpersonal***

The interpersonal level encompasses the personal relationships the individual has with family and friends (IHS,n.d.). Relationships with family and friends influence the individual and how that individual interacts within the environment and the decisions made regarding health. Chambers et al. (2015) further explained that beliefs, attitudes, knowledge, and skills are influenced by the relationships with family and friends. In a diabetes prevention translational project for AIs/ANs, families who were more supportive towards weight loss of a family member had increased weight loss whereas negative interactions produced smaller reductions in weight loss (Dill et al., 2016). The lack of teaching food gathering and preparation by parents and grandparents to their children and

youth increases barriers to living a healthy life including the possible increase in developing type 2 diabetes (Keith et al., 2018). Additionally, there has been a lack of access to culturally centered psychosocial support for obese AIs/ANs who are obese and at risk of developing type 2 diabetes (Rosas et al., 2016).

### ***Community***

The community level encompasses the environments, support systems, local organizations, and culturally competent health care (Chambers et al., 2015). Jernigan et al. (2020) noted that interventions implemented within AI/AN communities have disproportionately focused on the individual level of SEM with few addressing the institutional, community, or policy level and fewer addressing multilevel interventions. One reason for this inability to implement multilevel interventions is based on the lack of understanding related to culturally appropriate interventions (Jernigan et al., 2020). Moreover, the knowledge of the host community is treated as secondary and not as important as the knowledge of the researchers focusing on narrow parameters towards individual intervention (Jernigan et al., 2020). Accordingly, interactions between social ecological levels are complex and cannot be isolated from each level to be addressed on its own. Interventions can be addressed on a system level acknowledging the need for institutional, community, and policy level changes in addition to the individual level, building on the capacity of the community at large and creating a more sustainable impact (Jernigan et, 2020).

Cultural perspectives are central to understanding how to address health issues and to change health outcomes of a disease such as type 2 diabetes (CMMS, 2018; UIHC,

2007). Identifying strengths in communities that will support health wellness in urban AI/AN populations results in a healthier community. Jernigan et al. (2017) explained that focusing on culturally centered approaches and indigenous ways of knowing are strengths of the community that can contribute to more effective change within the Native community. Community can provide support by acknowledging the history of the community or tribe by understanding the impact of historical trauma on the health of the community (Rosas et al., 2016).

Once an AI/AN transitions to the urban environment, this historical context comes with them. Moving to a city promises a better life through employment and access to resources (Moghaddam et al., 2015). However, some individuals and families find they still have lower incomes and have challenges with housing costs. Food insecurity was found to be highest in households that identify as AI, use WIC, live in urban communities, and are single parent led (Tomayko et al., 2017). Households where a college education or higher were obtained and working outside of the home increased the chances of food security (Tomayko et al., 2017). However, having insurance or having higher income does not specifically improve access to health care for urban AIs/ANs (UIHI, 2019).

Food insecurity exacerbates type 2 diabetes and management of the disease since there are not consistent healthy foods available. A recent study has found that urban indigenous populations are more likely to be food insecure than those living on reservations possibly due to a larger geographical distance between urban AIs/ANs (Jernigan et al., 2017). Prevalence of food insecurity was found to be higher for urban

AIs/ANs at 80% compared to those living rurally at 45% (Tomayko et al., 2017). One possible reason for this finding is rural AI families participated in individual gathering and hunting, and sharing of food through community gardens, hunting and gathering (Adams et al., 2019; Tomayko et al., 2017). The increase in travel to obtain food decreased food insecurity for urban AIs but increased food insecurity with increasing numbers of children (Tomayko et al., 2017). Accordingly, urban AIs would need to have access to transportation to access food at a distance. Food secure urban AIs were more likely to shop every day or every other day increasing the planned amount of income they spent on food (Tomayko et al., 2017).

### ***Institutional***

The institutional level encompasses the places that are influenced by policy and rules such as schools, worksites, community organizations, hospitals, and health clinics (IHS, n.d.). Furthermore, culturally competent health care, supportive clinic care, and connected clinical support systems can improve health outcomes (Chambers et al., 2015). The IHS, UIHI, and the CDC have contributed to addressing type 2 diabetes with the greater AI/AN community including tribal and urban areas. An audit was conducted from 2013 to 2017 to assess the programs being used with in the urban AI/AN environment (UIHI, 2018). Collaboration from the Special Diabetes Program for Indians, Urban Indian Health Programs and the UIHI concentrated efforts to improve diabetes surveillance, prevention, treatment, and education (UIHI, 2018). The Urban Indian Health Programs are independent agencies that provide primary health care by integrating traditional health care and activities presenting a culturally appropriate environment (UIHI, 2018).

The UIHI combines the strengths of biomedicine while providing culturally appropriate values to research and evaluation by decolonizing data.

### ***Policy***

The policy level encompasses policies that support healthy living and promote a holistic view of healing from an appropriate cultural perspective (Chambers et al., 2015). Several studies have identified the social determinants of health to be central to the disproportionate disease burden of type 2 diabetes in the AI/AN communities (Fiedeldey-Van Dijk et al., 2017; Jacobs-Wingo et al., 2016; Jernigan et al., 2020; Satterfield et al., 2016). Historical experiences of Native Americans, such as removal from traditional lands to reservations and forced assimilation through the Indian relocation program have resulted in health disparities we see today (Jernigan et al., 2020).

As a continuation of earlier displacement, present day laws and policies have influenced the accessibility of obtaining fresh and traditional foods on the reservations. Since 1977, the Food Distribution Program on Indian Reservations (FDPIR) has provided access to food through vouchers at food distribution centers or programs (USDA, 2016). Though conditions have improved over the decades, many communities are still too remote to easily access the food distribution program due to lack of transport and many times bad weather conditions (USDA, 2016). Furthermore, access to nontraditional food retailers, such as convenience stores, gas stations, and Dollar Stores in Tribal areas contribute to the lack of access to healthy fresh foods (Love et al., 2019). AIs/ANs who have lived in a reservation or rural setting and then moved to an urban setting will already

be coming from an environment of poor food security which contributes to type 2 diabetes.

The removal of AIs/ANs to reservations directly created reliance on packaged and canned food with high fat and sugar content provided through the Food Distribution Program from the U.S. Department of Agriculture (Jernigan et al., 2020). This program has been connected to high rates of hypertension, obesity, and type 2 diabetes (Jernigan et al., 2020). Furthermore, it was found that urban AIs/ANs experienced a higher rate of food insecurity compared to rural AIs/ANs (Jernigan et al., 2017). The reasons for this finding is mostly due to the small AI/AN population in relation to the large urban populations it is surrounded by, they are dispersed across large geographical areas being socially isolated, and there is limited access to culturally appropriate health and social services (Jernigan et al., 2017). These cases emphasize the need for research to fully address the multiple levels needed for more sustainable implementation of interventions on more than one or two social ecological levels through SEM.

The SEM framework was selected to provide a more in depth understanding of how type 2 diabetes management and education is affected on multiple levels beyond the individual. Each level interacts with the next and can influence the next from individual interactions in the community to the access of healthy foods or diabetes support in the immediate environment. Each level can influence the use of traditional healing and biomedicine for diabetes management and education.



## **Literature Review**

The experience of the urban AIs/ANs is different than their contemporaries who live on a reservation or near a reservation in a rural area. The next section establishes the uniqueness of being an AI/AN who lives in an urban environment. It elaborates about the relationship between living a modern life and continuing to use cultural traditions that are not known to the predominant society.

### **Diabetes**

Globally diabetes is in the top ten causes of death and is one of three other non-communicable diseases that cause 80% of premature deaths worldwide (Lin et al., 2020). There are two types of diabetes, 1 and 2 which are contracted differently. Type 1 diabetes is the inability of the body to make enough insulin to control sugar levels with contributors being genetic, viruses, and other environmental factors (Mayo Clinic, 2021a). Type 2 diabetes is when the pancreas cannot produce enough insulin and the cells respond inadequately to insulin taking in less sugar than is required (Mayo Clinic, 2021b). Primary contributors to type 2 diabetes are being overweight or obese, fat distribution, and inactivity (Mayo Clinic, 2021b). In general, when diabetes is present there is increased mortality relating to infections, cardiovascular disease, stroke, chronic kidney disease, and cancers (Lin et al., 2020). According to the authors, diabetes is the second largest reason that has negatively affected the world's adjusted life expectancy worldwide.

## **Type 2 diabetes**

Lin et al. (2020) found the following risk factors that most contribute to type 2 diabetes are metabolic or body mass index (BMI); environmental and occupational factors including pollution; behavioral factors specifically related to smoking and second-hand smoke; dietary composition relating to high fat, sugar, and salt intake with low nutrient intake, alcohol use, and low physical activity. The International Diabetes Foundation (IDF: 2020) noted the most effective prevention methods of type 2 diabetes is a healthy diet and regular physical exercise. It has been found that the rapid increase worldwide of type 2 diabetes is directly related to the urbanization and rapid development of countries that now have access to processed foods, decreased daily physical exercise due to changes in types of employment, and lack of infrastructure and health services (IDF, 2020; Lin et al., 2020).

Though diabetes was first observed in ancient Egypt and India approximately 3000 years ago and was not commonplace, today type 2 diabetes specifically is a common disease (Sami et al., 2017). Type 2 diabetes has increased in the last four decades in most countries of the world and is not specific to only developed or developing countries (Trikkalinou et al., 2017). The increased access to energy dense but nutrient deficient food in addition to an increased sedentary lifestyle resulting in weight gain and obesity contributes to the increase in type 2 diabetes (Chatterjee et al., 2017). As type 2 diabetes progresses in an individual, the possibility of life-threatening complications increases such as chronic kidney disease, several heart conditions, stroke, foot problems, and eye damage (Trikkalinou et al., 2017). Furthermore, the authors noted quality of life is

affected by the mere presence of type 2 diabetes and complicates health and daily life if the individual already has pre-existing health issues.

Throughout the world, Indigenous populations are disproportionately affected by the disruption of their traditional food systems and relationship to the land resulting in higher percentages of health disparities (Lemke & Delormier, 2017). The continued removal of Indigenous people from their land by corporate and state interests further separates them from their traditional food, culture, and healing systems (Lemke & Delormier, 2017). AI/AN have also experienced these disruptions to their culture, health, land use, and spiritual practices (Stanley et al., 2020).

In the United States, more than 34 million people have diabetes and 90 to 95% of those people have type 2 diabetes (CDC, 2019). Historically type 2 diabetes has occurred in adults aged 45 and older but there has been an increase of incidence among children, teens, and young adults (CDC, 2019). Some additional risk factors that can contribute to developing type 2 diabetes are having prediabetes, having family members who have type 2 diabetes such as a brother, sister, or parent, if physically active for less than three times a week, or if African American, Hispanic/Latino American, AI/AN, and some Asian/South Pacific Islander groups.

### **Urban American Indians/Alaska Natives and Type 2 Diabetes**

Though AIs/ANs represent 1.7% (52 million) of the U.S. population (Yracheta et al., 2015), this population has the highest rate of type 2 diabetes. The highest prevalence of type 2 diabetes is among AI/AN adults at 16.1% compared to blacks at 9.3%, Asians at 6.5%, and whites at 5.9% (Keith et al., 2018). Food insecurity, poor dietary patterns, and

exercise are known health risks to developing diabetes (Dong et al., 2016). A nutritional change from fresh mostly healthy traditional foods to a predominantly processed fat and sugar energy nutrient foods contributed to the increase in type 2 diabetes in adults and children (Keith et al., 2018).

There is a higher rate of comorbidities and higher disabilities in AI/AN populations than other ethnic groups (UIHI, 2017). Elderly AIs/ANs tend to have more than the typical one to two comorbidities creating more complex health needs for the population (UIHI, 2017). Until recently, in 2013, Native Americans had the highest rate of kidney failure from type 2 diabetes (CDC, 2017). In 2013, medical costs for kidney failure from type 2 diabetes were \$82,000 per person, and Medicare spent \$14 billion treating it (CDC, 2017). From 1996 to 2013 there was a 54% decrease in kidney failure from type 2 diabetes due to the concerted efforts of the IHS using population health and team-based approaches (CDC, 2017).

Though urban AIs/ANs are a heterogeneous group identifying with different tribes or more than one tribe, they all come from a similar historically traumatic experience (Knaster et al., 2015). To fully understand the higher rates of type 2 diabetes in the urban AI/AN community, there needs to be a focus on the history of social and environmental conditions in the indigenous populations (Satterfield et al., 2016). The displacement of AIs/ANs from their homelands where food cultivation and exercise occurred along with the separation from culture, language, and religious beliefs have significantly contributed to the higher rates of health disparities (Satterfield et al., 2016). Reduced access to arable land from industrialization and the limited ability to hunt for animals has created more

conditions contributing to higher rates of type 2 diabetes (Satterfield et al., 2016).

Additionally, industrialization which contributed to the rerouting of water resources reduced access to both healthy food and exercise.

Being an urban AI/AN is not a type of Indian or tribe, it is an experience that a large amount of the present AI/AN population has experienced (James et al., 2018). Approximately 70% of all tribal members and their descendants live in cities and urban areas (James et al., 2018). The moving of Native populations from reservations to urban areas was implemented, by the U.S. Bureau of Indian Affairs from 1953 to 1973 through the Urban Indian Relocation Program (James et al., 2018; Pollak, 2017). The purpose of the program was to assimilate the indigenous population into mainstream America and to reduce the obligations of the federal government to the AI/AN nations (Pollak, 2018). Urban AIs/ANs frequently have ties to more than one tribe and may feel a lack of connection to their tribal affiliations but want to reconnect to their culture (James et al., 2018).

Compared to other population groups, AIs/ANs are more likely to be diagnosed with type 2 diabetes (CDC, 2017; CMMS, 2018; OMH, 2016). Living in an urban setting does not necessarily change diagnosis of type 2 diabetes, though there may be more opportunities including access to general healthcare. Depending on the status of tribal affiliation and whether the tribe is federally recognized, an urban AI/AN may or may not have health insurance through the IHS (Rutman et al., 2016). The need to constantly go back and forth between cities and reservations for healthcare makes it inaccessible and can result in losing tribal healthcare benefits (Knaster et al., 2015). The IHS is part of the Department

of Health and Human Services which provides health services to AIs/ANs from federally recognized tribes to create healthier communities through physical, mental, social and spiritual health and providing quality healthcare systems addressing culturally appropriate practice and cohesive partnerships (IHS,n.d.).

Numerous studies have confirmed that type 2 diabetes is disproportionately high in the AI/AN population (CMMS, 2018; Dong et al., 2016; Satterfield et al., 2016). James et al. (2018) noted there are challenges for urban AIs/ANs to gain access to healthcare due to lower poverty rates and higher unemployment than other ethnic groups. In addition, urban Indians may be misidentified in reports or health assessments as other and seen as statistically insignificant resulting in incomplete data regarding health (James et al., 2018).

Urban AIs/ANs generally have lower rates of education and higher rates of unemployment which does not contribute to health coverage loss (Rutman et al., 2016). Due to the lower rates of education, employment opportunities do not usually provide healthcare coverage (Rutman et al., 2016). Therefore, access to healthcare to provide care for type 2 diabetes goes beyond employment. Rutman et al. found that cultural differences affected communication with providers, discrimination, distrust, lack of confidence to access healthcare, and differing views, beliefs, and attitudes towards healthcare. Urban Indian Health Organizations (UIHO) do offer services that support these needs for urban AIs/ANs, however the present budget of the IHS provides only 1% to these organizations (Rutman et al., 2016). The Urban Indian Health Programs are in

only 19 states covering 33 urban AI/AN service areas for approximately 1.2 million people (UIHI, 2017).

There are over 1.5 million AIs/ANs of at least one federally recognized tribe who live in metropolitan areas of the U.S. and every state has a metro area where there is an AI/AN population (CDC, 2018c). Within the context of AI/AN who are part of a federally recognized tribe, the four metro areas with the largest populations are Phoenix-Mesa-Scottsdale in Arizona; Tulsa, Oklahoma; Los Angeles-Long Beach-Anaheim, California; and Oklahoma City, Oklahoma (CDC, 2018c). Other areas within the top ten metropolitan areas with the highest AI/AN populations are Farmington and Albuquerque, New Mexico; Flagstaff, Arizona; Riverside-San Bernardino-Ontario, California; Seattle-Tacoma-Bellevue, Washington; and New York-Newark-Jersey City, NY-NJ-PA (CDC, 2018c). Texas as a whole has the fifth largest population of AIs/ANs and the Dallas-Fort Worth area has the most urban AI/AN in the state (Stacker, 2021). These specific areas only include the federally recognized 574 tribes in the U.S.

There are some metropolitan areas that have AIs/ANs who are from non-federally recognized tribes that have large populations of AIs/ANs. The Minneapolis-St. Paul metro area of Minnesota has more than 35,000 AIs/ANs people who live in 11 counties (Minneapolis American Indian Center, 2017). In the Detroit metropolitan area, there are 30,000 AIs/ANs (National Park Service, 2020). Moreover, Chicago has the eighth-largest AI/AN population with approximately 65,000 Native people in Chicagoland (Pollak, 2017) and is the third largest urban Native population in the United States (US) (AIC, 2018). The urban AI/AN people living in Chicagoland are representative of more than

100 tribes who both identify with specific tribes and whose identity straddles more than one tribal affiliation (Pollak, 2017). The Urban Indian Relocation program contributed to a large part of the shift of AI/AN to move to cities (Pollak, 2017). Initially the program was expected to assimilate the AI/AN population, however the community reaffirmed its identity by participating in religious and cultural activities and maintaining connections to reservation communities (Pollak, 2017).

Albright (2015) noted there is a need for intensive lifestyle interventions that support type 2 diabetes education on all levels including the individual, friends and family, workplace and healthcare systems, community, and policy. There needs to be structures in place to support diabetes education and maintenance of the disease. Incorporating different aspects of type 2 diabetes education within the overall environment supports a more robust way to maintain wellness. Rosas et al. (2016) clarifies the need for psychosocial support that is culturally centered specifically towards native healing practices and the acknowledgement of historical trauma. One study conducted with the Eastern Band of Cherokee Indians and the Navajo Nation found that including caregivers and youth in interventions to reduce risk factors for type 2 diabetes improved due to multilevel education and interventions (Sauder et al., 2018). Additionally, it was important to include age appropriate culturally sensitive materials (Sauder et al., 2018).

### **Biomedical Practices for Type 2 Diabetes**

Health care services predominantly focus on an individual's health lifestyle and taking responsibility of lifestyle choices. Self-care is considered central to type 2 diabetes



management however, numerous barriers hinder the ability for AIs/ANs to receive the needed support (CMMS, 2018). An aspect of health for this community is the idea of life balance and living in harmony with other community members, self, and to the ability to provide food (NB3, 2015). AIs/ANs consider the health of the whole community and the ecosystem in which they live (NB3, 2015). A special diabetes program for AIs/ANs was implemented in 1997 to reduce the high rates of type 2 diabetes in both tribal and urban areas to provide community-based diabetes prevention and treatment including self-management, long-term health, and independent care (CMMS, 2018). Improvements were made in the decline of kidney failure by 54%, a decrease in diabetic eye disease by 50%, and improvement of blood sugar control by 10% (CMMS, 2018).

Timely diagnosis and self-management of type 2 diabetes are essential for effective long-term management of the disease (CMMS, 2018). Aspects of self-management include healthful nutrition, physical activity, medication, monitoring of blood glucose levels, and foot care (CMMS, 2018). It is recommended by the American Diabetes Association that individuals who are diagnosed with type 2 diabetes receive self-management education and support (Powers et al, 2015). Diabetes self-management education must be ongoing, and support needs to be provided for an individual to continue to implement skills, education, and behavior (Beck et al., 2017). Disparities and barriers may impede diabetes self-management for AIs/ANs in general due to hopelessness, not wanting to burden the family, lack of access and knowledge about healthy foods, and location (CMMS, 2018).

A national diabetes prevention program has been implemented by the CDC working with public and private organizations working to prevent diabetes based on the increasing amount of people in the United States who develop prediabetes and type 2 diabetes (CDC, 2018a). The program focuses on lifestyle changes towards eating healthy foods, getting more exercise, and reducing stress through improving coping skills (CDC, 2018a). There is a focus on presenting statistics about type 2 diabetes, the cost, and the physical risk factors to develop type 2 diabetes along with possible health complications (CDC, 2018b). Additionally, there is an emphasis on annual exams, nutrition education, physical activity, and learning to cook and prepare food (UIHI, 2017). More emphasis is put on the individual to make healthy lifestyle choices to prevent the development of type 2 diabetes (DePalma, Trahan, Eliza, & Wagner, 2015).

There is a need for culturally competent services and providers that provide healthcare to AIs/ANs (Dennis & Momper, 2016; Knaster et al., 2015). Lack of culturally competent health services results in patients not feeling comfortable to discuss historical, cultural, geographical, and social experiences that contribute to their whole health (Dennis & Momper, 2016; Fiedelday-Van Dijk et al., 2017; Keith et al., 2018). For those who had experienced healthcare discrimination and who use traditional spirituality, there was a preference to use traditional services (Aronson et al., 2016).

### **AI/AN Traditional Healing Practices**

Health perspective in the AI/AN community focuses on holistic wellness which spans across Indigenous cultures (Fiedelday-Van Dijk et al., 2017). Holistic wellness or Native wellness addresses the person as a whole person through the balance of mind,

body, heart, and spirit (Dennis & Momper, 2016; Fiedelday-Van Dijk et al., 2017).

Connection to traditional and spiritual healing contributes to enculturation and is associated with lower rates of suicide attempts, substance abuse, and psychological stress (Moghaddam et al., 2015). Moreover, maintaining connections to traditional healing provides a way to address health concerns that are overlooked by the dominant culture's healthcare practices (Moghaddam et al., 2015). For instance, disease is addressed through causes not identity and personal history as done in the biomedical environment (Moghaddam et al., 2015).

It has been found that ownership of healthcare is increased when urban Indigenous communities learn about traditional health care practices (Auger et al., 2016). Simonds et al. (2017) found that self-efficacy and risk perception coincided with type 2 diabetes knowledge of risk factors but not directly related to cultural risk factors. It has been found that when Native American perspectives about traditional ecological knowledge are identified it provides a more accurate understanding of Indigenous health indicators (Isaac et al., 2018).

The personal connections AIs/ANs have with land directly impact their spiritual, mental, emotional, and physical health (NB3, 2015; Satterfield et al., 2016). The land is considered part of identity and is not separate from AI/AN identity (NB3, 2015).

Traditional healing practices and medicines are linked to the land reinforcing the identity of AI/AN people (NB3, 2015). Disconnection from land and a traditional way of life affects access to food and exercise. No longer having access to fresh and healthy foods and reduced access to land for exercise can result in negative health outcomes such as an

increase in type 2 diabetes (Satterfield et al., 2016). No longer having access to traditional foods also mean there is no longer access to local plants that were used for traditional healing.

Traditional healing practices vary from tribe to tribe but there are some general similarities that apply to all AI/AN peoples. Traditional ecological knowledge directly affects traditional healing practices through seasonal harvesting of local plants to use as anesthetics, antibiotics, diuretics, and other medicinal uses (Isaac et al., 2018). Local ecological knowledge has three sources: it is learned from generation to generation, long term observational knowledge is shared, and knowledge acquired through the spirit (Isaac et al., 2018). This indigenous knowledge is intricately linked to the integration of person, place and environment which is conveyed through local language, and creates a worldview in context with their surroundings (Isaac et al., 2018). Recent research conducted in Canada, Belize, and Guatemala found plants that have antidiabetic properties to possibly prevent and reduce type 2 diabetes (Ferrier et al., 2017; Ferrier et al., 2018; Levy, 2019; Li et al., 2018). Within the context of plant knowledge, spiritual practices are closely related to traditional healing. One such practice is using the sweat lodge to heal the mind, body, and spirit by gathering together as a community or group of people (Marsh et al., 2018). Other spiritual practices involve a traditional healer talking to spirits about health or wellness issues and receiving knowledge from the spirits (Gone, 2016; Marsh et al., 2018). Another aspect of traditional healing acknowledges the collective generational trauma experience from colonization and the need to reconnect with traditional ways of being (Gone, 2016). Spiritual practices and medicinal remedies

are interwoven with one another and are directly influenced by the environment of the indigenous people.

### **Evidence-Based Interventions for Type 2 Diabetes in AI/AN Communities**

The interventions implemented in AI/AN communities focus on relationships with community members, individual lifestyle choices, and inclusion of cultural activities and renewing cultural ties. A study identified culture as an intervention to improve health outcomes and address the need for balanced and harmonious health (Fiedeldey-Van Dijk et al., 2017). Several other studies identify the importance and the need for culture to be used for interventions regarding health (Carlson et al., 2015; CMMS, 2018; Jernigan et al., 2020; Satterfield et al., 2016; Whitegoat et al., 2015). Talking circles were found to facilitate discussion about knowledge and management of type 2 diabetes improving understanding and providing a way for the participants to share stories and experiences (Whitegoat et al., 2015). Participation in cultural activities is found to have an indirect effect on health by reducing apathy and engaging in community activities (Carlson et al., 2015). Scarton and Groot (2017) further note that social support from family and community produces positive type 2 diabetes outcomes.

Many studies focus on food security and traditional foods that directly influence the health of AIs/ANs including type 2 diabetes and obesity in conjunction with mental health. Jernigan et al. (2020) reviewed two interventions on the community level focusing on food environments and the need to involve the local population in increasing healthy foods and traditional foods. Research has confirmed that food insecurity contributes to type 2 diabetes in adults and exacerbates glucose control for those who have type 2

diabetes (Satterfield et al., 2016). The Traditional Foods Project spanning five years was created to directly address the type 2 diabetes disparities in the AI/AN community focusing on traditional foods, exercise, engagement of community, and storytelling about healthy traditional ways (Satterfield et al., 2016). In an urban AI/AN community in California, an intervention focusing on overall mind, body, spirit, and culture including Native cooking (Jernigan et al., 2020). Two other intervention studies concentrated on food environments within tribal areas by addressing policy and organizational levels (Jernigan et al., 2020).

It has been found that integration of cultural knowledge into interventions produces better outcomes for adult populations including type 2 diabetes interventions (Thompson et al., 2015). One key component in a sociocultural viewpoint is to integrate social and cultural contexts such as traditional foods and exercise (Thompson et al., 2015). The Traditional Foods Project which spanned from 2008 to 2014 was one example that was implemented by the CDC in conjunction with the Native Diabetes Wellness Program and eleven agreements from tribal communities in the US (Satterfield et al., 2016). The project had support from the community on different levels from policy, schools, and communities to increase access to traditional foods, exercise, through hands on learning and application of traditional ecological knowledge (Satterfield et al., 2016). Local stories that had cultural significance were used to create ownership and self-sufficiency regarding personal health decisions and self-determination (Satterfield et al., 2016).

A Native Wellness Assessment (NWA) was conducted in Canada to assess culture as an intervention to health for the Indigenous population (Fiedeldey-Van Dijk et al., 2017). Native wellness incorporated all aspects of the person through the balance of the spiritual, emotional, mental, and physical (Fiedeldey-Van Dijk et al., 2017). These four aspects cannot be separated and are always considered connected (Fiedeldey-Van Dijk et al., 2017). This supports other findings that parts of AI/AN culture is an intervention and contribute to wellness through spirituality and connection to environment (CMMS, 2018). Carlson et al. (2017) found that involvement in cultural activities resulted in less apathy and indirectly affected type 2 diabetes outcomes in a positive way through self-care and community support. Key tribal members and elders who have cultural knowledge and skills provide essential understanding to Native wellness and the community's engagement in health projects (Jacob et al., 2015).

Making culturally appropriate healthcare available to AIs/ANs will contribute considerably to reducing rates of disease (Knaster et al., 2015). Langås-Larsen et al. (2017) found that Norwegian health personnel that were open-minded towards Sami healing practices and took the time to integrate them into their skills produced a more balance and trusting patient practitioner relationship. In addition, in Nicaragua it was found that successful efforts in integrating traditional indigenous healing of the Mitisku with biomedicine when there was cooperation with the community instead of using it as a last resort (Carrie et al., 2015). A preventative medicine residency program was implemented at the University of New Mexico to include traditional healing education encompassing several types from different cultures allowing the students to have a more

comprehensive understanding about different types of healing (Kesler et al., 2015). A seminar series was developed by the Northwest Native American Center of Excellence (NNACoE), a collaborative effort between Oregon Health & Science University, Portland State University, and the Northwest Portland Area Indian Health Board, to provide innovative programming to decrease the health gaps in the AI/AN community (Carney, 2019). The series provided topics on AI/AN health and was open to all students, faculty, and the public. They found that the education provided to the participants increasing their understanding of AI/AN health, culture, and needs.

### **Qualitative Studies Type 2 Diabetes in AI/AN Communities**

Qualitative studies provide an exploration of issues surrounding culture and type 2 diabetes. For example, Pollak (2017) conducted ethnographic research for 25 months with an urban AI population in connection to the American Indian Center in Chicago. The study provides a deeper understanding on the family and community relationships towards health. Noted challenges found were self-care and care of others who have type 2 diabetes which was a part of life from an early age (Pollak, 2017). Also, young AIs witness type 2 diabetes care from older family members and participate directly with the care, such as injecting insulin, testing blood sugar levels, eating specialized diets, and dealing with limb or eyesight loss (Pollak, 2017). Community considerations were made at the American Indian Center when providing food for community gatherings by including food that diabetics can eat. Though the center is limited in the availability of food and cost, the staff were able to provide diabetic friendly food (Pollak, 2017). In addition, the center had provided health screenings that alerted community members they



had type 2 diabetes and provided regular blood screenings (Pollak, 2017). The awareness and need to consider community members with type 2 diabetes forged a stronger bond between tribes and family members demonstrating the importance of the wider community in affecting diabetes care. The ethnographic study provided an understanding of the community's contribution to supporting diabetes care and the involvement of family members who learn about type 2 diabetes and provide care from a young age.

Another qualitative study used semi-structured interviews and focus groups including community members and service providers focusing on assessing, planning, and designing a more culturally appropriate health system incorporating traditional healing for behavioral and physical healthcare (Dennis & Momper, 2016). These interviews provided information about the services community members preferred from health services at the Indian health clinic in Detroit. They requested the need for more culturally competent services such as traditional healing, cultural planning, more marketing about the services, the incorporation of whole body and mind within the services provided, and for community members and providers to work together (Dennis & Momper, 2016). All participants wanted the clinic to provide cultural programming encompassing language, spirituality, traditional life, and traditional healing. In this study, community members requested more integration of Western and traditional medicine. The authors noted that there are challenges to incorporate more culturally competent services in urban areas since the diversity of tribe is much larger than in rural areas. Traditional healers can provide a needed link between the community and providers if they are accessible within the community (Dennis & Momper, 2016). The study

identified there was a need for more specialized services for mental health and trauma in the community, more culturally competent services, and increased transportation options to the clinic (Dennis & Momper, 2016).

Further studies concentrate on needs assessments in urban AI health centers, food choices for college students, the need to have a connection to traditional ecological knowledge to better community health and affecting change of tribal food environments. These studies concentrate on a range of issues from food accessibility both in urban and rural environments to the relationship of land that affects the health of the community. Moghaddam et al. (2015) found that traditional healing was essential in understanding health as a continuum, that it was a complement to Western medicine, and it could be used to restore imbalances in spirit, mind, and body. The urban health center where the study took place discovered the appeal of using traditional healing and Western medicine to address health issues. Moreover, a study of AI college students found barriers and strategies that affected food choice including taste, preparation, food gathering, taste preference, personal motivation to find healthy foods, and cultural traditions and practices (Keith et al., 2018). The Isaac et al. (2018) study reinforced the importance of health and connection to cultural practices and land for AIs/ANs. The disconnection between the Indigenous peoples and the land shaped the health of the communities by changing their traditional ways of accessing food which impacted their health. Though there is a high prevalence of type 2 diabetes among AIs/ANs, the research literature does not specifically address the perspectives or experiences of the population regarding their use of traditional health practices and biomedical healthcare services. It

has been noted that possible reasons for not using biomedical healthcare services is due to differing cultural view regarding health and distrust (Auger et al., 2016; Moghaddam et al., 2015). Rick et al. (2017) further noted that limited access to healthcare services for type 2 diabetes in the urban AI population continues to be a challenge. Furthermore, urban AIs/ANs are more likely to not be recognized in local and national health assessments since they are many times identified as other (James et al., 2018).

Numerous studies identify the need to integrate the use of traditional healing practices with biomedical healthcare (Auger et al., 2016; CMMS, 2018; Dennis & Momper, 2016; Moghaddam et al., 2015; Rutman, et al., 2016; UIHC, 2007). Identifying aspects of culture that support living a healthier lifestyle, such as encouraging eating traditional foods can contribute to type 2 diabetes prevention and successful management of the disease. Satterfield et al. (2016) noted that traditional foods activities attracted AIs/ANs to be more involved in growing, harvesting, and preparing food as well as participating in more actively in dancing and playing games. Turning towards culture may contribute to a more balanced life for urban AIs/ANs. Moghaddam et al. (2015) found that respondents felt that including services that focus on mind, body, and spirit would bring balance to the whole person. Langås-Larsen et al. (2017) and Carrie et al. (2015) found that biomedical healthcare providers that integrated traditional healing practices into their practice had better outcomes with their indigenous patients. According to several studies, depression is linked to type 2 diabetes and cultural connection can reduce depression. Using both traditional health practices along with biomedicine may

help AIs/ANs have more positive health outcomes in managing type 2 diabetes and integrating diabetes education into daily life.

### **Summary**

Urban AIs/ANs can benefit from health educators that integrate traditional healing practices with biomedicine for type 2 diabetes education and management. It is important for health educators to understand that AIs/ANs can benefit from culturally sensitive practitioners and programs. Using the SEM as a theoretical model shows how these individuals are not only influenced by their individual actions but the actions of multiple levels including social interactions, environment, and policy. The literature review presented evidence regarding the prevalence of the type 2 diabetes within the AI/AN community and the effects that historical trauma has had on their health. Culturally traditional healing has connections to the community and to the land that they live on. Through the process of moving these communities to reservations then encouraging relocation to urban areas, there has been a disconnection to communal practices that supported health. While there is a need to use biomedical health practices to manage type 2 diabetes, it is also valuable to include traditional healing practices that include wellness of the whole person. Many studies focus on the issue of type 2 diabetes and the medical therapies needed to reduce its prevalence in the AI/AN community. There are many assumptions of why there is a higher rate of type 2 diabetes in the community, but little is known about the experiences of urban AIs/ANs using both traditional healing and biomedicine to manage or prevent type 2 diabetes. This study provided information from the perspective of urban AIs/ANs about using traditional healing and biomedicine for

type 2 diabetes. In Chapter 3, research design and rationale, role of the researcher, methodology, and issues of trustworthiness will be discussed.

### Chapter 3: Research Method

The purpose of this interpretive qualitative study was to provide a deeper understanding of urban AIs/ANs who use traditional healing and biomedical services living with type 2 diabetes and who live in metropolitan areas in the United States. Using the qualitative method provides a way to understand the experiences of individuals living with diabetes and their use of traditional healing and biomedical services as described by them. Considering there have been multiple studies about type 2 diabetes from a statistical viewpoint (CMMS, 2018; Kelley et al., 2015; Knaster et al., 2015), a qualitative approach allowed me to present rich descriptive data that can improve understanding about urban AIs/ANs living with type 2 diabetes. The methodology section includes research design and rationale, the rationale for basic qualitative research, and role of the researcher. Further description of methodology comprises participant selection, contacting and inviting participants, a table of the interview questions and the alignment of them to the levels of SEM, and issues of trustworthiness.

#### **Research Design and Rationale**

The study was conducted to better understand the experiences of AIs/ANs who live in metropolitan areas in the United States who use both traditional healing and biomedical services addressing type 2 diabetes health. This qualitative study can provide insights for health educators regarding reasons urban AIs/ANs use two types of healing to address their type 2 diabetes health.

RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?

RQ2: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?

RQ3: How do urban AIs/ANs living in metropolitan in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?

RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?

RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and nonIndian clinics?

RQ6: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?

### **Rationale for Basic Qualitative Research**

A basic qualitative research approach was chosen to provide in-depth understanding of urban AIs/ANs who use both traditional healing and biomedicine to educate themselves and manage type 2 diabetes. Merriam and Tisdell (2016) explained that people construct meaning out of their surroundings and experiences. Three aspects

that guide basic qualitative research are the interpretation of human experience by individuals, how individual construct their world, and the meaning the individual gives to the experience (Merriam & Tisdell, 2016). Qualitative research was chosen over quantitative research to provide meaning beyond the statistics that acknowledge there is a high percentage of AIs/ANs who have type 2 diabetes. Quantitative research looks at what is already existing in the world just waiting to be discovered whereas qualitative research considers the creation of knowledge through human experience (Merriam & Tisdell, 2016).

There are other forms of qualitative studies which include phenomenology, ethnography, grounded theory, and case study. Phenomenological studies focus on common shared experiences and delve to find the meaning of the essence of the lived experience (Merriam & Tisdell, 2016). This study strives to understand the viewpoints of the participants regarding their use of both traditional healing and biomedical services to manage type 2 diabetes. Rodriguez and Smith (2018) confirm that studies seeking viewpoints instead of lived experience are better met by a descriptive qualitative design. Ethnography involves being a participant observer and being a part of the participant's daily life (Harwati, 2019). This type of qualitative study requires a large amount of time and a focus on culture and society specifically. The present study was to find out the viewpoints of managing type 2 diabetes as urban AIs/ANs who use traditional healing and biomedicine. Grounded theory produces a theory grounded based on the data and is the purpose of such a study. Since the present study is not developing a theory, this type of qualitative study was rejected. A case study focuses on a unit of analysis in a bounded



environment or case, such as a specific classroom or a specific practitioner who has unique characteristics (Merriam & Tisdell, 2016). This type of study was also excluded since the purpose of this study was to better understand the viewpoints and experiences of the participants but not in a bounded environment or case.

### **Role of the Researcher**

In qualitative research, the researcher is the primary instrument when collecting data (Ravitch & Carl, 2016). For this reason, it is important for the researcher to understand the relationship of power that a researcher has in relation to the participants. As the researcher, I will not have any personal or professional relationships with the participants of the study. Furthermore, Merriam and Tisdell (2016) noted it is essential for a researcher to identify biases and to explain how those biases may influence the data collection. I have had professional experiences working in health and health education settings that predominantly apply a biomedical model of health. Some of my interactions included health education with AIs/ANs where I noted the need to include more culturally sensitive health education centering on the whole health of the individual. I am predominantly of European background which means I was constantly aware of how I interact with the participants by not being judgmental or project the feeling I know their experience. Another bias is I was raised with a holistic approach to health by using multiple modes of healing. While interviewing, bias was reduced by not having assumptions and preconceived ideas about the experiences of the participants. Merriam and Grenier (2019) noted the importance of identifying the biases and to monitor them since it is not possible to completely eliminate the biases but to be aware of them.

Reflexivity encompasses the critical self-reflection of the researcher biases, worldview, and the relationship to the study (Merriam & Grenier, 2019).

Establishing a trusting relationship within the interview is important to provide free flowing information between the interviewer and interviewee. A psychological and emotional bond of trust and acceptance while engaging in active listening provides a safe environment for the participant to discuss in a deep way the complexities of the phenomenon (Seidman, 2019). This allows the researcher to understand on a deeper level the situation being studied. To prepare for the study, I conducted a practice interview with a friend who has similar characteristics to the participants and to identify any issues that may arise during the interviews. The piloting of the interview provided a realistic understanding of how long the interview took and whether the participants could understand and answer the questions (Castillo-Montoya, 2016).

Urban AIs/ANs may not have a close connection to their tribal communities once there is relocation to an urban environment (Yuan et al., 2014). The researcher must be aware that there is no governing body that regulates research through tribal authority as is done on a reservation (Yuan et al., 2014). Though there may be access to an UIHO, it cannot be assumed that the health organization is the best representative of the urban AI/AN community (Yuan et al., 2014). Furthermore, the urban Native community has varying perspectives, beliefs, language, values, and priorities and research might be best disseminated through lessons learned (Yuan et al., 2014).

## **Methodology**

### **Participant Selection**

The participants in the study were urban American Indians living in metropolitan areas in the United States who use traditional healing and biomedicine to manage type 2 diabetes. Snowball and convenience sampling were used to identify individuals who use both traditional healing and biomedicine to manage type 2 diabetes. Snowball sampling is started by identifying a few individuals who are information rich about the topic being studied and who can provide other relevant contacts (Ravitch & Carl, 2016).

Convenience sampling is used when the study population meets requirements of convenience such as proximity, accessibility, availability, and willingness to participate in the study (Etikan et al., 2015). The participants were recruited with the help of different personal contacts and organizations in metropolitan areas in the United States through the social media pages on Facebook and their websites.

### ***Inclusion and Exclusion Criteria***

Inclusion criteria was based on the phenomenological perspective of urban AIs/ANs who willingly agree to be interviewed and recorded as well as being old enough to give consent without a guardian. In exploring urban American Indians interpretation, construction, and experience of using both traditional healing and biomedicine to manage their type 2 diabetes, the following was used for inclusion and exclusion criteria to participate in the study. The inclusion criteria were:

- Urban American Indians living with type 2 diabetes
- 18 years or older

- Uses any aspect of traditional healing and biomedicine together
- Any person who identifies as an American Indian through family or tribal affiliation
- Agrees to be interviewed and recorded on a tape recorder or over zoom

The exclusion criteria were decided because these individuals need extra concessions to ensure they are not being exploited. The exclusion criteria were:

- Children
- Pregnant women
- Prisoners
- The cognitively impaired including any mental or emotional diagnosed issues

### ***Sample Size***

There is not a definitive agreement on sample size of participants for qualitative research (Ravitch & Carl, 2016). According to Mason (2010), sample sizes in qualitative research can range from 5 to 350 participants. Typically, in qualitative research, saturation is used as an indication that no more information is needed if there is no new information being provided (Fusch & Ness, 2015; Rubin & Rubin, 2012). Galvin (2015) explained that number of interviews is based on funding and time limitations since each interview must be recorded, transcribed, and analyzed. Based on the time limitations for this study and the wide variance of possible sample size along with availability of participants, this study consisted of seven to fourteen interviews. Ravitch and Carl (2016) further explained the purpose of the interview is to answer “rigorously, ethically, and

thoroughly” the research questions to achieve complex and multidimensional understanding. The goal number of interviews for this study was ten interviews. At the end of the interview process, I was able to interview thirteen participants. Since it took a long time to recruit participants, there was not a consistent flow of individuals throughout the recruiting time starting in August of 2021 to June 2022. At the end of May, it seemed only eight participants would be available for the study but within a two-week period five new participants asked to be interviewed and were able to be a part of the study.

### ***Contacting and Inviting Participants***

The directors of the American Indian Health Service of Chicago and the American Indian Center were contacted to get permission to post flyers on social media accounts about the study and to provide information as according to their policies and needs. A presentation was offered to the staff and boards if they had concerns regarding the study. However, no presentation was requested from the staff or boards. Participants were recruited using convenience in the beginning of the study and snowball sampling once initial contact was made with the first participants. These centers were chosen based on the importance both facilities hold in the urban AI/AN community. When potential participants made contact, I used the survey questionnaire to determine participant eligibility (Appendix A) that I developed. As a thank you for participation, a ten-dollar gift card and a small token of AI/AN artwork was offered to the participants.

### **Instrumentation**

An interview is only effective as the crafting of interview questions to provide quality data for interpretation. Castillo-Montoya (2016) explained that the interview is an

inquiry-based conversation propelled forward by specific information needed for the study yet carried out in a conversational format. The interview is a way to document the experiences of individuals and then to provide meaning from the information shared. I developed an interview guide in Appendix B to provide structure and focus during the interviews. A sociodemographic questionnaire was also developed to provide information that described the participants in the study in Appendix C.

The questions in the interview guide are all semistructured open-ended questions including follow up questions for clarification. Semistructured questions were used to organize and guide the interview but also allow for follow up questions tailored to the responses from the interviewee (Ravitch & Carl, 2016). The predetermined questions were asked of all participants, but the order and wording differed according to the pattern of the conversation with each participant (Ravitch & Carl, 2016). Open-ended questions produce in-depth replies about their experiences, opinions, feelings, and knowledge (Patton, 2015). Both semi-structured and open-ended questions provided in-depth data needed for basic qualitative research.

To establish face validity, I provided a letter and the interview guide (Appendix B) to at least three experts to determine the appropriateness of the questions for the topic and its relation to the participants. A feedback table called aspects of an interview protocol (Appendix D) was provided. Castillo-Montoya (2016) explained that feedback improves the reliability and trustworthiness of the instrument. The author noted that receiving feedback from multiple sources increases the alignment of the questions with

the experiences of the participants. In Table 1, the research questions show the alignment to the interview questions that will be asked of the participants.

**Table 1***Alignment of the Research Questions with the Interview Questions*

Research Questions	Interview Questions
RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?	<p>Tell me about your background and where you grew up.</p> <p>How does your identity influence your use of traditional healing and biomedical health services?</p> <p>How does living in a city influence your use of traditional healing addressing type 2 diabetes?</p> <p>How does living in a city influence your use of biomedical health services and treatments addressing type 2 diabetes?</p>
RQ2: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?	<p>How does family influence your use of traditional healing and biomedical health services?</p> <p>Tell me about your experiences with traditional healers when seeking health advice for type 2 diabetes health.</p> <p>Tell me about your experiences with biomedical health personnel when seeking health advice for type 2 diabetes health issues.</p> <p>How do experiences differ when traditional healers and biomedical personnel provide prevention, detection, and treatment of type 2 diabetes health issues?</p> <p>How do personal interactions with traditional healers and biomedical personnel affect your use of their services?</p>
RQ3: How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?	How does community influence your use of traditional healing and biomedical health services?
RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?	How do experiences differ when traditional healers and biomedical personnel provide prevention, detection, and treatment of type 2 diabetes health issues?
RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and nonIndian clinics?	How does policy affect your use of traditional healing and biomedical health services for type 2 diabetes health and issues regarding type 2 diabetes?
RQ6: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?	How does policy affect your use of traditional healing and biomedical health services for type 2 diabetes health and issues regarding type 2 diabetes?



### **Procedures for Recruitment, Participation, and Data Collection**

I conducted interviews on the phone or Zoom as currently recommended by the Academic Experiences COVID-19 Doctoral Data Collection. The interviews took place in a room in my house with no access to the room by any person in my house during time of interview. If circumstances had changed and it was deemed possible to collect data in person, I would have conducted face-to-face interviews at the time. However, the ongoing pandemic and the need to expand the research area resulted in the continued use of Zoom to conduct interviews.

When I contacted these sites, I shared the purpose of the study, the inclusion and exclusion criteria and sample recruitment flyer was posted on site or on their web/social media pages. The flyer included information about the purpose of the study and contact information for potential participants to contact me by phone or email. I delivered the terms of consent to the participants to read and sign in their preferred medium digitally through email. Potential participants could ask any questions about the study and how and where interviews would be conducted. Once consent was given, we set an appointment for the interview and I sent a reminder a day before the appointment. The reminder was through text or email depending on the preference of the individual.

I provided a member check after I transcribed the interview by emailing a copy of the interview, and requesting them to confirm their acceptance of the transcript in a return email signaling their acceptance of the transcript. Before I started the interview, I mentioned the importance of answering truthfully. At the end of the interview, I thanked them for their time and offered them a \$10 gift card with a small American Indian made

keychain. Twelve of the thirteen only wanted the gift card and one only wanted the keychain. I provided them with a summary of my findings once I am finished the study.

Each interview took approximately 30 minutes and I tried to conduct one interview a week until I reached 15 interviews or reached saturation beforehand with a minimum of 10 interviews. I was the only person interviewing which was recorded on computer software that can be uploaded on the computer and was passcode protected. I did not plan to having follow-up interviews.

### **Data Analysis Plan**

Qualitative data analysis is not subject to take place at one point during the research process. Ravitch and Carl (2016) contend that data analysis begins as soon as the first piece of data is collected. The concept conveyed in data analysis is occurring continually and iteratively as analysis takes place. Some aspects of data analysis that occur simultaneously include collecting and analyzing data, creating memos throughout different stages of the process, coding data, and making connections with theory and literature (Ravitch & Carl, 2016). Saldaña (2016) noted the importance of making analytic memos throughout the process as the ideas, themes, and concepts take shape. As the iterative process continues, understanding the phenomena within an interview will become visible. Inductive reasoning is another aspect that allows the researcher to draw conclusions from raw data to concepts or theories (Merriam & Tisdell, 2016).

This study involved coding, identifying patterns, and identifying themes based on the participant's answers to the interview questions. The coding software that was used for this study was Dedoose. As these themes and patterns emerged, the data was coded to

provide meaning to the data collected (Seidman, 2019). Processes during the collection and analysis to provide meaning included writing memos during collection and analysis, coding data, writing to analyze, developing ideas and concepts, and connecting the analysis to theory and literature (Ravitch & Carl, 2016). There were connections made between the data and the questions asked during the interviews (Ravitch & Carl, 2016).

### **Issues of Trustworthiness**

In qualitative research, trustworthiness and validity are used interchangeably to confirm that findings from a study faithfully reflect the participant's experiences (Ravitch & Carl, 2016). Validity signifies the study is both rigorous and has quality (Ravitch & Carl, 2016). It is vital that the recording and transcribing of interviews is factually accurate, and the field notes, observations, and memos are recorded as close to the interview as possible (Ravitch & Carl, 2016). Descriptive validity is essential for the analysis to be accurate (Ravitch & Carl, 2016). Interpretive validity is dependent upon decisions made during data collection through follow up questions and the use of words and concepts used by the participants in a study (Ravitch & Carl, 2016). Qualitative research ensures rigor and quality through credibility, transferability, dependability, and reliability.

### **Credibility**

Credibility is established by the researcher through acknowledging personal bias that is brought to the study (Bloomberg & Volpe, 2019). Credibility can be assessed by adopting well established research methods, a familiarity of context to an organization or culture before data collection occurs, random sampling, triangulation, transparent

recruiting, member checking, and open discussion regarding discrepancies in findings (Ravitch & Carl, 2016). These aspects are established to ensure validity of the study.

Other elements that can be utilized for a more comprehensive study are iterative questioning based on the responses, reflective commentary, and peer checks. For this study member checks, transparent recruiting, open discussion regarding discrepancies in the findings, and reflective commentary was used.

### **Transferability**

Transferability in qualitative research is bound to context and how that context is applicable in a broader context (Ravitch & Carl, 2016). It can be assessed by providing a thorough explanation of the fieldwork site to provide context. In this study, thick description was used to explain all factors relating to the study, including information about the recruitment of participants, data collection, and the participant's experiences which capture the context of the study. The more detailed descriptions allow other researchers to make comparisons to other contexts (Ravitch & Carl, 2016). This supports the ability of the study to be transferred to other settings with other participants (Ravitch & Carl, 2016).

### **Dependability**

Dependability of a study shows that stability and consistency through a solid reasoned argument for collecting data and those data are consistent with the argument (Ravitch & Carl, 2016). This entails the use of appropriate methods and a description of the use of those methods to answer constructs and concepts of the study (Ravitch & Carl, 2016). In this study, the description of the design provided specifics about data collection

and report any issues or complications that have occurred during the study providing the rationale for using the methods chosen.

### **Confirmability**

Confirmability shows that the findings are those of the participants and based on the data collected, not the researcher's opinion (Korstjens & Moser, 2018). As a researcher, acknowledging personal bias and interpretations contributes to strengthening of confirmability (Ravitch & Carl, 2016). Since the researcher is the primary instrument of collecting data in qualitative research, the researcher must be challenged by herself and by others throughout all phases of the research (Ravitch & Carl, 2016). Implementing triangulation, reflexive processes, and conducting external audits will assist with confirmability. In this study, reflexive journaling (Appendix E) and providing an audit trail was used to explain the process of the decisions made about data analysis.

### **Ethical Procedures**

In the past, many researchers have reported findings based on western or European viewpoints and interpretations. In many circumstances, the way these findings, interpretations, and viewpoints were gathered has had a negative impact on how indigenous people saw themselves (Smith, 2021). Presently indigenous communities are rewriting stories and histories to better represent their viewpoints and perspectives. Smith (2021) explained that the indigenous people and communities want to tell their own stories in their own words. This concept is central to the purpose of interviewing AIs/ANs who use both traditional healing and biomedical services to manage type 2

diabetes. This approach provided a way to better understand the use of two different systems of healing for the participants.

Ravitch and Carl (2016) noted the importance of establishing an ethical relationship with the participants of the study. Part of the ethical code is the established parameters laid out for qualitative research however, the relationship fostered with the participants makes the study ethical. It is essential as a qualitative researcher to acknowledge the complexity of interacting with participants who will be sharing personal information. An approach of humility and understanding when collaborating with the individuals in the study safeguards the ethics of the study (Ravitch & Carl, 2016).

Ethical protocols have been established to conduct qualitative research and for Walden University which will be adhered to during this study. Institutional Review Board (IRB) approval was needed before the study started, approval number 08-19-21-0075320. Once IRB approval was obtained, the consent of the participants without coercion was essential to ensuring the freedom to decide if the risks are worth taking to advance scientific inquiry (Bloomberg & Volpe, 2019).

### ***Agreement to Access***

I contacted the directors of the American Indian Health Service in metropolitan areas and the American Indian cultural centers through email to get permission to post flyers on social media about the study and to provide information according to their policies and needs.

### ***Protection of Participants***

There were minimal to no risks associated with the one-on-one interview during the collection of the data. I explained they could feel stress answering questions about their experiences. The demographic information was used for general purposes to explain the participant pool. For instance, the use of tribal names or gender was generally to reduce identification of participants. Each participant was asked for their consent with no obligation. They were asked if they would like to withdraw from the study and could do so at any time. If a question was uncomfortable to answer, the issue would not be pressed and did not have to be answered. For initial contact to set up interviews I kept the names of the participants in a password protected electronic file.

Informed consent was an essential part of the ethics component of the study including purpose of study, approximate length of interview, procedures, the right to withdraw or terminate the interview, possible consequences of participation, confidentiality, and contact information about rights.

### ***Handling of Data***

The interviews were stored on a password protected removable hard drive that only the interviewer had access to. All participants were not identified in the reporting of the information and codes were assigned to responses and notes. There was not any identifying information in the study that could put the participants at risk of violating their privacy. Confidentiality was strictly upheld.

Data will be kept for 5 years as required by Walden University and will be destroyed after the time period has passed by erasing the files from my computer and

cloud. Participants were given copies of their personal interview transcript. All details that could identify a participant were not shared or published. Actual names were used for the participant's responses but were replaced with pseudonyms. All notes that were taken were also coded with the corresponding codes.

### **Summary**

Qualitative research needs to be conducted in collaboration with individuals who challenge and stretch the perspective of the researcher. Examining different aspects of the research with others expands the knowledge and perceptions of the research which may be missed if working alone (Ravitch & Carl, 2016). Trustworthiness is established through dialogue and exchange and contribute to rigorous and credible research (Ravitch & Carl, 2016).

In this chapter, research design and rationale, role of the researcher, methodology, and trustworthiness were described. In Chapter 4, the results of the study will be discussed including the interview setting, the participants, data collection process, and data analysis.



## Chapter 4: Results

The purpose of this qualitative study was to gain a better understanding of urban AIs/ANs who live in metropolitan areas in the United States and use both traditional healing and biomedical services addressing type 2 diabetes health. After recruiting for 9 months through personal Indigenous contacts, asking friends to share the recruitment flyer, and posting the recruitment flyer on social media groups, 13 interviews were conducted over a 6-month period. In the past, studies have focused on the experiences of AIs/ANs who live on reservations and rural areas addressing type 2 diabetes and the integration of traditional healing with biomedicine (CMMS, 2018) however, there has been limited research of urban AIs/ANs with the same experiences.

Participants in this study engaged in person-to-person interviews over zoom with me. Each person chose the time that was best suited to their situation for the interview. The interviews were confidential using no names during the interview, audio recorded, and transcribed using a computer-generated transcribing service. The interviews addressed the following research questions:

RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?

RQ2: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?

RQ3: How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?

RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?

RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and non-Indian clinics?

RQ6: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?

Results from this study may help health educators in urban areas to implement programs that integrate different aspects of AI/AN culture when educating about type 2 diabetes management and education. Health educators who have cultural awareness about the unique situation of urban AIs/ANs will be more effective implementing diabetes health education (Moorehead et al., 2015). This chapter describes the setting, demographics, data collection, data analysis, evidence of trustworthiness, and results.

### **Setting**

Preliminary research for this study was conducted approximately 7 months before I received approval from the IRB to test out the possibility of narrowing the results to a specific area where urban AIs/ANs lived, specifically in the Chicago area known as Chicagoland which includes several counties outside of Chicago. The response from the

different organizations proved I would not be able to recruit enough participants for a study in the area. I had many contacts from other states and areas therefore, I expanded the study to include any urban AI/AN living in the continental United States and Alaska. I shared recruitment flyers with personal contacts in the AI/AN community, friends, family, emailing urban AI/AN organizations across the county, and posted the flyers on social media groups predominantly on Facebook which relied on convenience sampling and snowball sampling once the initial individuals were identified. All interviews were conducted on Zoom and the door to my interview space was closed while interviewing.

### **Participant Demographics**

Five different tribes were represented Natick Algonquin (1) and Narragansett (1), Apalachee (1), Apache (1), and Cherokee Appalachian (10). Out of 13 participants, one participant was male and 12 were female. One participant lived in the Chicago area, specifically known as Chicagoland. Seven participants lived in New York City, four lived in Houston, Texas area, and one participant lived in an urban environment in California. All participants had used both traditional healing and biomedicine at some point to address their type 2 diabetes. Nine participants were between the ages of 20 and 29, three participants were between the ages of 30-39, and one participant was over 65. One had a doctorate, seven had a bachelor's degree, four had some college, and one was a high school graduate. Three were married and 10 were single. Though other racial demographics were not asked about in the demographic questionnaire, some of the participants shared their racial identity in addition to their tribal identity. One participant identified as African American, one identified as White, one identified as a person from

India, one identified as mixed, one identified as African, five identified as Black, and three did not disclose their other ethnicities. Table 2 displays the information from the demographic questionnaire.

**Table 2**

*Gender, Age, Education, Marital Status, Tribe, and Additional Ethnicity Data*

Participant	Gender	Age Range	Education	Marital Status	Tribe
P1	Male	65 and over	Doctorate	Married	Natick Algonquin & Narragansett
P2	Female	30-39	Bachelor's	Married	Apalachee
P3	Female	20-29	Some College	Single	Apache
P4	Female	30-39	Bachelor's	Married	Appalachian
P5	Female	30-39	Bachelor's	Single	Appalachian
P6	Female	20-29	Bachelor's	Single	Appalachian
P7	Female	20-29	Some College	Single	Appalachian
P8	Female	20-29	Some College	Single	Appalachian
P9	Female	20-29	Bachelor's	Single	Appalachian
P10	Female	20-29	HS graduate	Single	Appalachian
P11	Female	20-29	Some College	Single	Appalachian
P12	Female	20-29	Bachelor's	Single	Appalachian
P13	Female	20-29	Bachelor's	Single	Appalachian

### **Data Collection**

Data collection occurred between December 29, 2021, and June 2, 2022. I conducted 13 interviews with respondents who replied to the recruitment flyer I posted on social media sites, emails, and gave to personal connections. Participants contacted me through email or direct messages from social media sites. First, I determined eligibility to participate using the questionnaire to determine participant eligibility (Appendix A) document I prepared by sending it through email. Once eligibility was confirmed, I emailed the consent form and requested each participant to respond with “I consent.” After consent was established, I scheduled the interviews; 12 lasted between 20 and 38 minutes and one lasted 90 minutes.

It was established early on that I would collect data by using Zoom for the interviews since the eligibility requirement was any urban American Indian in the United States including Alaska. Additionally, at the beginning of the COVID-19 pandemic, Walden University indicated that all interviews should take place over Zoom or a similar application and not in person. Before I started each interview, I asked the sociodemographic questions (Appendix C) and asked if they had any questions about the informed consent. Then I made sure they were ready to start the interview and reminded each participant that they would be audio recorded and all agreed to be recorded. One participant decided to use the video camera during the interview resulting in both audio and visual recording. I explained the nature of the study and let them know they could stop at any time. The time allotted for each question was driven by the participant’s response and how much was shared from the question. Rephrasing of the questions was

done when needed and follow up questions were asked when more information was needed to fully understand the meaning of the response or for a more complete answer. I rephrased the participants' responses to ensure I understood the meaning and included techniques such as probing and summarizing where appropriate. I offered the opportunity at the beginning of the interview for each participant to add prayers or an invocation and at the end of the interview I asked if they had any additional comments about their experiences I might have missed. I took some interview notes of the interviews, such as impressions, but all details were described in the audio recordings on Zoom. One participant decided to use the camera for the interview and the 12 other participants chose not to use the camera.

It took me about 5 days each to transcribe three of the first four interviews. The first interview was 90 minutes long which took me a week to transcribe. The other three, I found it difficult to transcribe due to accents from other countries and the amount of background noise in the participants' environment. Additionally, there were times when participants would not talk directly into the microphone. After spending a lot of time trying to transcribe the interviews, I chose to use the online transcription service Otter.ai which allowed me more time to go over the interviews to determine issues with sound and understandability of the participants. I emailed each participant a copy of their interview and asked them to return a copy if there was a need for changes in the script. There was no indication that the transcripts did not describe the meaning as each participant had denoted in the interview.

It took several months of recruiting before I had participants responding to my posting of flyers on social media or distribution of the flyers through my contacts. The first interview started in late December then there were four clusters of two or four participants who contacted me at similar times. My first interview was a contact I had but he did not give any additional contacts who might be interested. The remainder of the contacts contacted me directly. No one shared names with me of possible participants. They all shared the flyer with their contacts who then contacted me directly. There was up to a 1 month span between some of the participants contacting me. Some of the contacts would initially ask to participate then it would take 2 to 3 weeks for them to get back to me. During the clusters, most days I had one interview a day for 3 or 4 days in a row then no response for a month. Each time I had an interview, I took time afterwards to reflect on how the interview went and if I needed to change something in the room for myself to ensure a better interview. For instance, was the temperature adequate and did I need to have water available during the interview. I observed if the relationship between the participant and I was building a connection and if there was a need to change the phrasing of the questions.

As the interview process advanced, I found that I needed to combine some of the semistructured questions into one question because they sounded too redundant. I combined questions by using the word “and” to reduce the feeling of repetition. Some of the participants would only answer the question with minimal or general words. I would then have to introduce additional follow up questions or prompts I had not previously included in the interview guide. I made note of these findings during my reflective

journaling. Each interview gave me more experience to conduct the next one and to adjust where needed to have a more informative interview.

All participants were forthcoming and detailed in their responses to the interview questions. Each one was open about their use of biomedicine and traditional healing for different reasons and at different times in their lives. For some of the participants it took some time to confirm a good meeting time and several had to reschedule due to internet issues. All participants were fully involved in the interview once internet or scheduling issues were resolved.

After the 13th interview, I concluded the interview process. Originally, I determined that 10 participants would be interviewed. However, the last five participants came within a few days of each other, and I continued interviewing until they were finished. Each participant was assigned an identifier (P1, P2, P3, and so on) throughout the interview, transcription, and analysis process.

### **Data Analysis**

Analysis occurred throughout all stages of the of the research process. After I conducted each interview, I transcribed the interview. On average, it took me 3 to 5 days to transcribe an interview. Initially, I transcribed the first four audio interviews into Microsoft Word documents then changed over to the Otter.ai to transcribe the remainder of the interviews also using Microsoft Word. The change in transcribing occurred after difficulty in understanding the answers. The change provided more time to go over the documents to correct mistakes in transcribing, to code, and analyze. After transcribing, I



emailed the transcripts to the participants for review and I went over the transcripts multiple times to ensure accuracy of the responses.

Once I finished transcribing and taking notes, I uploaded the interviews to the qualitative research software Dedoose to code and analyze the interviews. In the beginning, I used the interview questions as a guide to start coding. Each interview was coded as closely to the interview questions as possible and coded according to any additional information I did not specifically ask but was shared by a participant. After initial coding, I used the research questions to guide further coding and placing subcodes under parent codes. I generated 28 codes from the process and completed coding after three cycles of coding. During these cycles, I identified six common themes individual experiences influencing using traditional healing and biomedicine, individual and interpersonal experience seeking type 2 diabetes education and management, positive and negative experiences when using traditional health and biomedical health services, policy factors that impact use of traditional healing and biomedical health services, and policy and education recommendations.

Thematic saturation was documented through coding and analysis of 13 transcripts. The most common codes from the participants were western biomedicine, traditional healing, family, policy, community, and access. All participants did not specifically discuss all categories and not all participants addressed some codes. Of the 13 participants, one was male and above 60 while the rest were women and between 20 to 39. Examples include urban living, early age of diagnosis, tribe, disconnection to tribe, mental health, and food and exercise.

### **Evidence of Trustworthiness**

Qualitative research requires that there is evidence of trustworthiness. It is critical that validity approaches “align with the research questions, goals, and contexts” (Ravitch & Carl, 2020, p. 188) of each study. Four concepts of trustworthiness that I utilized were credibility, transferability, dependability, and reliability.

To safeguard credibility, I integrated member checks, transparent recruiting, open discussion regarding discrepancies in the findings, and reflective commentary. During the interview, I gave the opportunity for each participant to verify responses and to elaborate if needed based on our discussions. I emailed each transcribed interview to each person to review and make any corrections needed. This allowed each participant to elaborate on any answers they gave or correct mistakes in the transcription. The allotted time for interviews was 90 minutes but most interviews lasted between 20 to 30 minutes with the exception of one lasting 90 minutes. Each participant had time to share their experiences in detail. I posted recruitment flyers on social media pages, sent out emails to contacts, and asked personal contacts to share the recruitment flyer. Throughout the interviewing process, I journaled about my impressions and made connections to other participants each time I conducted an interview. Discussion of discrepancies in the finding will be discussed in chapter 5.

Transferability is based on context and how the results can be used in a broader context while maintaining the context richness of the findings. To ensure the possibility of transferability, thick description was used including participants, the setting, sample, sample size, sociodemographic characteristics, inclusion and exclusion criteria, interview

procedure, and any changes to interview questions that were determined based on the iterative process (Korstjens & Moser, 2018). For recruiting, I relied on purposive sampling specifically snowball and convenience sampling as described in Chapter 3. Purposive sampling was used to recruit participants since the study was reliant on a specific small population that required sensitivity. Each possible participant was asked questions to confirm eligibility to participate. After the second interview, several participants contacted me about participating based on the experience of their friend or family member who interviewed previously. This pattern occurred off and on for about five months. This type of sampling ensured the ability to interview thirteen participants exceeding my goal of ten interviews. The recruitment flyer explained the purpose of the study, the criteria to participate, the possible length of the interview, and my contact information. It also explained that a \$10 gift card and an Indigenous made craft would be given to those who participated in the study.

Dependability was created through consistent and stable data collection (Ravitch & Carl, 2021). Each interview provided answers to the research questions and supported the importance of using the social ecological model to better understand the reciprocal relationships between levels. Different levels contribute to how individuals find and use traditional healing and biomedicine to receive education and manage type 2 diabetes.

To establish confirmability, I carried out reflexive journaling after each interview and after coding several interviews during a sitting. Within this journaling, I noted my thoughts about the types of participants that were interviewed and the responses that did not conform with my expectations. I found the actual data in many cases was very

different than expected and the type of person who responded to the recruitment flyer was different from the expected participant. For instance, many of the participants were of mixed ethnicities with a recent immigrant or a Black parent. The reflexive journaling document is provided in Appendix H. I took notes by hand then typed them in the document for each participant and added an additional box for impressions that were hard to categorize within the research questions. Another aspect of confirmability is connected to the audit trail where a researcher describes the reasons for making judgements about the data analysis such as how codes were created and applied to data (Bloomberg & Volpe, 2019). Field notes are part of the audit trail which were part of the reflexive journals. Feedback from my committee members contributed to the audit trail by redefining emergent themes and analytic categories.

### **Results**

The purpose of this interpretive qualitative study was to provide a deeper understanding of urban AIs/ANs who use traditional healing and biomedical services living with type 2 diabetes who live in metropolitan areas in the United States. I analyzed each transcript from the participant's responses to the open-ended questions and follow up questions to identify emergent themes. These themes were categorized based on the research questions. When reading these transcripts, I kept in mind my own biases and knowledge I had about urban AIs/ANs who use both traditional healing and Western medicine and my interpretations of the results. I took time to find consistencies between interviews and noting responses that were not typical with other responses. The following section includes the research questions and the raw data of responses of the participants.

An interpretation of the data centered on the research question and themes is presented in Chapter 5.

## **Research Questions**

### **RQ1 & RQ4**

To better understand how living in an urban area affects the use of traditional healing and biomedicine, the first research question was: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes? It has been noted that 70% of the 3.7 million AIs/ANs live in urban areas and only 25% live in counties that serve this population through urban Indian health programs (IHS, 2019). This indicates that a large portion of the AI/AN population does not have access to culturally appropriate healthcare. All 13 participants in general did not use traditional healing and western medicine at the same time throughout their lives. As minors, 10 of the participants used both and 9 of them predominantly used western medicine as adults. Only 3 of the participants used traditional healing and Western medicine at the same time as adults. Their use of each was denoted by various times in their lives and exposure to using traditional healing differed in each participants life.

The fourth research question elaborated about positive and negative experiences with both traditional healing and Western medicine. To better understand experiences of urban AIs/ANs, the fourth research question was: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes? Previous

findings support the lack of opportunity for urban AIs/ANs to give feedback about their experiences with traditional healing or biomedical healthcare (Hartmann et al., 2014; James et al., 2018). The fourth research question generated two subthemes which are addressed after the emergent theme.

***Emergent Theme: Individual Experiences Using Traditional Healing and Biomedicine***

Each participant was asked to share their background regarding how they grew up and what tribe they were affiliated with, how their identity influenced their use of the two healing modes, and how living in a city influenced their use of the two healing modes for their type 2 diabetes education and management. Access was a common factor for all participants when deciding to use western medicine because they lived in an urban area. Previous research has found that urban AIs/ANs have more access to biomedical health services and are more likely to utilize it in the urban environment (UIHC, 2007; Moghaddam et al., 2015). The following six participants commented about living in an urban center and its influences to use western medicine. P7 commented, “Now being in an environment where I'm in urban center, I'm attending and I'm in school. Oh, it influences me to use the western medicine because it's...it's more convenient.” P4 shared, “I feel like my identity as an Appalachian living in a metropolitan area, I think I am more inclined to the scientific because just the mere fact of living in an urban area.” P11 further elucidated, “My identity right now being an Appalachian and being a woman, I feel like where I am currently more inclined to using the western medicine compared to the traditional medicine, because I feel like it's working more effectively.” P13 commented about access, “Because I am an urban person now, I'm able to access the

facilities, the medical clinics, its mental health, nutrition services, and many other emergency response services. So, I feel like being in an urban area, it's quite accessible.”

P9 explained, “For me, it was suburban environments, and I kept on like, traveling back and forth from that to here. So, I didn't have that connection to the traditional religion.”

P2 elaborated,

I am more inclined on the modern medicine. And I feel like it has been working for me over the years especially when I started thinking independently...So, the hospitals and medical centers are readily available. And I feel like the medicine that is given there is more reliable as long as there is proper diagnosis. So, being in a town center influences the decision on what to go for.

Ten of the participants used traditional healing when they were young and the family was taking them to see a traditional healer. For these participants, they felt like they did not have control over their health and did not always understand what was happening. It has been noted in previous research that personal connections AIs/ANs have with land and culture directly impact their spiritual, mental, emotional, and physical health (NB3, 2015; Satterfield et al., 2016). However, if there is a disconnection from tribe and land, there can be a lack of understanding about the importance of balance in traditional healing and health. The following participants explained how they felt when young and the family had more say about their health. P10 reflected about her childhood “...when I was young, I feel like we're more inclined to listen to what others had to say about my health issues and what will work and what will not work.” P2 remarked about her experiences as a child and using traditional medicine for her type 2 diabetes

I was living under my parents' roof and we had so many relatives living with us, and so many of them had so many opinions...And they would say that these traditional healing was helpful. There was a time I would take different tabs...it was a mix of so many things.

P4 confirmed a similar experience,

In the past, I had relatives from my father's side. Especially when I got diagnosed with diabetes. They wanted me to go to this healer. A spiritual healer. I felt like I didn't really understand the whole process. Because for them who knew clearly what it was to help with. I wasn't informed, I wasn't told like in advance what to expect...

There were participants who chose to use traditional healing when they were older. Their use of traditional healing was both personal and influenced by friends or family. One person did not know he was Indigenous till he was in his 60s and two others had a connection to their tribes since they were young and felt traditional healing had some positive effects for them. Past research has found that urban AIs/ANs may lack connections to their tribes but desire to reconnect to their cultural heritage (James et al., 2018). The following is their perspective on how traditional healing is important for them. P1 discussed his experiences with tribes that he was not officially a part of,

...when I came to Chicago, it was the Ojibwe and the Cree that invited me to begin to come into the circle of the medicine people. And through them the first few years, 10 years, I was going periodically to sweat lodges, and getting to seeing the healing effects of some of the medicines, such as bear grease. Bear



grease is a very interesting thing...the bear is considered the healer, among other things. And his fat is used, because it contains roots, leaves, stems, berries, everything. And that resides in the fat. So, when you put it on you, you're putting on a medicine, a multi-level medicine to work with. And the first time I did it, it helped with my arthritis.

This same participant, P1, went on to explain another aspect of traditional healing he felt was important to the healing process,

But, you know, the sweat lodge itself has so many healing powers to it is not just you go in there and you sweat. It's more than that. It's a spiritual experience. And it reconnects you with the creation itself, which we have divorced ourselves from in our world.

P3 added her perspective about the approach of traditional healing, "I feel like the traditional is very important. But it has a lot to do with mental health...And I feel like traditional medicine, the traditional approach is very healthy." P12 shared how her friend influenced her decision, "And they said it was the traditional healer because I was referred to by a friend. I just was curious."

Several participants talked about how it took a lot of time to go see a traditional healer because most of the time the healers were not in an urban area or the healer only had specific meeting times for appointments. If schedules did not coincide with the healers, then it was difficult to receive treatment. Previous research supports the practice of urban AIs/ANs seeking out traditional healing at the same time as biomedical healthcare (Moghaddam et al., 2015). The following four participants shared their

insights about their experiences when meeting with traditional healers while still using biomedical health services. P5 shared, “And we had to go for two days. Because it was a bit not very convenient place to like, travel back. And so, you had to stay there for two days.” P7 detailed her experience with a traditional healer,

...I think she had to come; she was coming to our town. So, I think I was not the only one waiting to see her. So, I didn't have to like travel...Just prepared to go on there...where she was going to be based, like it was a sort of a certain place this time designed for her. Um, it got a little bit inconveniencing because, for example, if you opted to have these regular sessions with her at times, she's not available.

P12 described her experience,

Okay, for me, traditional healing has been kind a not so I don't have a lot of experience because it's something I was recently trying out. But it turns out that wasn't like so much like in terms of reliability. To end in terms of access to this traditional healer, because I think she travels a lot. She's not like having a place, a constant place where you can easily find her. So, it was like a trial and error.

P6 explained her encounter with both biomedicine and traditional healing as a young person,

So, when I was told I had diabetes I got some support in the hospital setup. But there was also some form of traditional healing that was applied to me. That included the holistic approach, considering some beliefs, some interactions and spiritual orientation. Like it was something that was more of a spiritual thing. You

know, you get some spiritual awakening and you are made aware about some cultural practices that are done. I've had to see a counselor [biomedical health services]. I remember, I saw a counselor and the psychologist at one time. And they also had so many medicines, in terms of like a daily, daily medicines that I have taken also take a good diet. I remember there was so much included in these clinics that I attended.

Table 3 specifies RQ1 and the organization of the codes related to the emergent theme of individual experiences using traditional healing and biomedicine.

**Table 3**

*Emergent Theme Related to RQ1*

Research Question	Codes	Emergent theme
RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas when using both traditional healing and biomedical services to address type 2 diabetes?	Identity Ethnicity Nutrition Exercise Self-empowerment Well-being Mental health Tribe Disconnection from tribe	Individual experiences using traditional healing and biomedicine

**Subtheme: Positive and Negative Experiences When Using Traditional**

**Healing.** Each participant was asked about their differing experiences using traditional healing when providing health support for type 2 diabetes. All participants shared their experiences using traditional healing for their type 2 diabetes. Ten of the participants had experiences with traditional healing at a younger age which was influenced by family. Three participants chose to use traditional healing when they were older. The following positive experiences were shared about traditional healing and healers. The experiences revolved around communication and attentiveness to their needs. It has been found that use of traditional healing varies across tribe and region due to connection to cultural practices and tribe (James et al., 2018). P3 commented on interactions with traditional healers, “I feel like I can use it when it is right for me and some is not. But I use what is right for me yeah.” She further added, “[it] has to do mainly with communicating. And your own well-being. Meditation, talking to people, treating people and not doing things just for the sake but doing them with a purpose.” P1 conveyed his experiences with ceremony and a traditional healer,

And for me, I also use an interesting thing about the Sundance. I was not supposed to take any my meds. And my wife, she questioned the medicine man very carefully about this whole idea of me fasting and having no food or water what was going to happen because I also have other ailments that require medication. And he said everything will be taken care of I will be watching everybody and if I sense anything wrong... Well, dancing, one of the times I started feeling, you could tell that I was starting to wane... And he gave me a

licorice stick, licorice root...and I chewed on it. And later on, I felt fine almost immediately.

The following negative and challenging experiences were shared about traditional healers and healing. The experiences revolved around lack of communication and inaccessibility. P2 related her experiences with a traditional healer,

We would go to a certain traditional doctor. Then after that we would have some sort of prayers. For me it was kind of weird, because I wasn't all that traditional. And because I had been brought up in a town center...So, it took me a lot of adjustment to what people are saying and what is happening. And remember at that time I was young too...back then was a challenge because I remember we had to travel to a far place to get to the traditional healer.

P12 expressed, "...the traditional healer, I kind of felt like she was not available every time. I'll call and be on hold so many times, so I actually give up." P8 further elucidated her about her experience, "...traditional healing at times doesn't have to work automatically. And also, it is quite hard to access these people." P4 noted, "The traditional healers are so much bureaucratic. There are so many procedures to follow. They are not straight forward some of them." P5 explained how traditional healers may be talking with other family members that are not at the appointment, "Traditional healers at times will not understand what is going on...like they're communicating with people who are not there are times. You will not like understand the language at times. So, it's a challenge." P6 commented, "I think the traditional healer doesn't give you so much detail.

Like you even don't get introduced in what you're going to be undergoing.” P9 elucidated about not having immediate access to traditional healers,

...you could just go there and feel like you...went at the wrong time. So, I feel like the availability and the accessibility, and the convenience is a bit different ... also in terms of the herbs, and things, this traditional medicine could harm you more than do you good.

P10 mentioned, “...as opposed to the other one [traditional healing]. So, I barely understood anything. It's like they were disclosing to the parents on it.” P10 further explained her experience with the traditional healer, “Was such a very bad experience. Because now, when we are there...I'm supposed to take some medicine from him.”

**Subtheme: Positive and Negative Experiences When Using Biomedical**

**Health Services.** Each participant was asked about their experiences using biomedical health services when providing health support for type 2 diabetes. All thirteen participants shared their experiences using biomedical health services for their type 2 diabetes. The following positive experiences were shared about biomedical health services and practitioners. The experiences revolved around communication and accessibility. Previous research has found biomedical health services vary across tribe and region based on access and connection to cultural practices (James et al., 2018). P3 related her experience with biomedical healthcare providers, “I feel like once I am contacting them, it feels like I am able to communicate with them on how I feel. I am able to like get help.” Additionally, P3 mentioned her medical health providers would take note of traditional medicines, “They ask you what have you been taking and tell

them things that are related to traditional.” P2 elaborated about learning how to take care of herself, “...I found very reliable doctors. I’ve also managed to take care of myself to learn the processes and procedures given. And taking the right medication at the right time...” P4 explained her thoughts about Western medicine, “...scientific medicine is mostly effective and it’s quick...if you want to handle pain, it’s very quick. And another thing is that I feel like scientific medicine should be used in the first, in the early intervention.” P10 expounded on her diagnosis stage as a child, “...during the diagnosis stage, there was someone like explaining to you that this, and this is what is happening, you need to take care of yourself, your life is gonna be a bit different from the other kids...” P12 related her experience with her doctor,

I feel like the doctor that I've been seeing currently I have seen him for a while now. So, I feel he's so qualified. And he has connected me to so many resources that I need mental health resources in terms of, of support groups, and from the support groups. I've made friends.

Five participants commented about biomedical healthcare being convenient and accessible while living in an urban environment. P6 noted, “I feel like Western medicine is more convenient. It's more accessible.” P7 confirmed a similar experience with Western medicine, “I feel like one is more convenient. One, it's more accessible. The ability to get the information you have on both, like definitely this on the medicine, medicine is all over.” P5 commented on her interactions with Western health personnel, “The time it takes, the convenience, and it's not so much to have to make a process in having like, care from a hospital setup.”

P9 elucidated,

For the case of the doctors, you don't need to prepare yourself in terms of when to go like, actually just go tomorrow, without even having to book an appointment later on in the day or earlier on the day... This is California, so that's why I'm more inclined to use that on those hospitals compared to any other services.

P8 explained feeling safe with Western medicine, "I feel safe when there was some medicine, because this is someone I'm seeing very often. I feel it's more accessible. I feel it's affordable... And it's convenient to like, be near hospital for us..."

Two participants mentioned a couple of negative experiences with biomedical healthcare and providers. P13 revealed that Western medicine is expensive but efficient with monitoring her condition, "I think it's [Western medicine] very expensive, but honestly, it's supposed to make me feel better, and these frequent monitoring, honestly, I will just choose that." P1 further elucidated on experiences with biomedicine,

You go in, you're only allowed so much time. And that's the time it's not really spending time with you...And that always bothered me because I try to be as informative as I can with the limited amount of time I have in the doctor's office because they only want to hear certain things...And there's always the fear if you don't follow what they say they're not going to serve you anymore.

Table 4 specifies RQ4 and the organization of the codes related to the subtheme of positive and negative experiences when using traditional healing and biomedical health services.



**Table 4***Subtheme Related to RQ4*

Research Questions	Codes	Subtheme
RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?	Accessibility Inaccessibility Communication	Positive and negative experiences when using traditional healing and biomedical health services

**RQ2**

It has been noted there is variation in the use of traditional healing and biomedical health services amongst urban AIs/ANs (James et al., 2018). Some reasons are disconnection from tribe or family members due to movement to urban centers for employment. To better understand how living in an urban area affects urban AIs/ANs experiences in seeking type 2 diabetes education or management, the second research question was: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?

***Emergent Theme: Individual and Interpersonal Experience Seeking Type 2 Diabetes Education and Management***

Each participant was asked how family influenced use of traditional healing and biomedical health services, how experiences differed between traditional healers and biomedical personnel, and how personal interactions with traditional healers and biomedical personnel affect use of their services. Each person was also asked to share

experiences with traditional healers and biomedical personnel. Research has found that interpersonal relationships with family and friends influence identity and socially acceptable norms (Sallis & Owen, 2015). P8 detailed her experience when she was young and her family took her to a traditional healer,

I think my parents were frustrated on the thought that I had been diagnosed with that [type 2 diabetes]. So, it wasn't something very easy to deal with... ..this is not something that they [my parents] had really anticipated. For me now is a lot of attention that I don't know why, I don't really understand. There was a time I was to take the medicinal herbs that are prescribed by a certain traditional healer, who happened to be a friend to my one of my uncle's... they were very bitter.

P3 indicated that she is influenced by both her Indigenous identity and her non-Indigenous identity when utilizing healing methods for her type 2 diabetes,

I am saying that the traditional method has been influenced by the fact that I am a part of the Apache community. And I feel like ...taking part in the traditional. This part is from my cultural community that uses the traditional medicine. My mom is already white so that is the reason why I use the bulk of it from the medical field.

P4 noted her preference for Western medicine, "...for me I'd say I have tried to access the traditional...honestly...I don't really understand it...because of the effect of living in a metropolitan area most of the time I tend to be going to the hospital..." P5 talked about her parent's thinking traditionally and how she became more modern when she lived on her own,

For me, to be honest, being a part of the Native American, I feel like my parents are the ones who relate more...they are inclined to that traditional thinking...Now, I feel like things have changed. Modern technology has influenced people's thinking. Initially, when I was diagnosed, I was taken to a hospital...when people in my family started finding out that I had this underlying condition, some now took upon themselves like advice...more information on the traditional path of learning. So, I had to, like, undergo so many, like journeys going back and forth...

P6 explained about the influence of her family when she was younger and how later moving to a city changed how she utilized biomedical services,

Yeah, he's [Dad] the one most of the time who that would go with appointment [traditional healer]. But also, there was some aunts of mine who are involved on his side. So, it was a group of people...I didn't have like an influence on whether to go or not, like it wasn't up to me...I think when we move to the city, it got even better and convenient for me to use just medicine and to attend the normal counseling sessions in the city.

P7 related her experience when she was young when her family decided to use traditional healing services once based off a television advertisement,

Yeah, it happened to be this time whereby it was being advertised on the TV and everywhere, and many people knew about this traditional healer. So, you see, everyone was talking about it and some friends of my parents now recommended it to him [Dad]. I don't know, I kind of feel like they felt like it wasn't something

very consistent. So that's why they even wanted to like be taking me to, to hospitals always.

P9 noted, "I think family now comes in whereby they're supposed to help with going to appointments, or maybe with being with me at home. So basically, we also for the medicine." P11 commented on the involvement of her extended family and using a traditional healer,

The traditional healer would come like on Fridays...I think for like an hour in a month, you will see him twice or once. So, basically, his availability depended on when and...where he was. So, it took a long time...many people around us were insisting that this traditional healing practices are really working.

P13 stated, "I have friends who are also in the medical health sector, they really encouraged me to take services from them." P12 explained she was trying traditional healing, "Okay, for me, traditional healing...I don't have a lot of experience because it's something I was recently trying out. My family is more inclined today to use Western medicine. I grew up being taken to the hospital."

Table 4 relays the relationship between RQ2 to generated codes then into the emergent theme of individual and interpersonal experience seeking type 2 diabetes education and management.

**Table 5***Emergent Theme Related to RQ2*

Research Question	Codes	Emergent theme
RQ2: How do urban AIs/ANs living in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?	Influence of relatives Age diagnosed Traditional healing Western medicine Traditional healer Western healthcare providers Doctors	Individual and interpersonal experience seeking type 2 diabetes education and management

**RQ3**

Research has affirmed living in urban areas creates a more dispersed AI/AN population and community (Rutman et al., 2016; UIHI, 2019). There are less opportunities to gather with fellow Indigenous community members in the urban environment and more likely everyone will be from different tribal communities. To better understand how urban AIs/ANs interact with community, I asked the third research question: How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?

***Emergent Theme: Community Factors That Impact use of Traditional Healing and Biomedical Health Services***

Each participant was asked how community influences their use of traditional healing and biomedical health services. Most participants did not have a specific community but commented on the types of situations where they thought community influenced them. P1 shared his thoughts on his learning community, “Well, as far as education goes, right now, most of my stuff is working with things like the Center for World Indigenous Studies.” P2 explained, “For me the community are people who I associate with. So, I feel like they influence me more to focus on the biomedicine. Because there is a lot of modernization. So, I use more biomedicine than the other.” P3 had a different experience and commented on her two communities

I'm seeing the traditional method has been influenced by the fact that I'm from all part of the Apache community. And many people embrace this. Some of them don't take their medication, but they mean really rely on and I feel like travel influenced me, like want to take part in taking part in the traditional. So, this simple community helped me to, like also improve the traditional medicine that we own. I feel like in my friends' group, most of them. In fact, they also rely on [bio]medicine so much.

P4 noted that the community she lives in affects her choices, “I feel like my community is very modernized in the urban center. So definitely, I'm more inclined on the scientific medicine and they are more insisting on the scientific medicine, then they trust it more.” P5 commented on her community surroundings, “Where I am, it's modernized. And the

hospitals are there, they're well equipped. So definitely opt for that.” P6 is a part of support group, “When I go to these support groups and seeing what people are doing for themselves in terms of going to work, and also engaging in some form of workout routines, it encouraged me. I love doing yoga...[and] exercises...” P7 noted, “My community is now more inclined to their western medicine. Because remember, we are in an urban center. And another thing, the accessibility of the services is quite important. So definitely, most of the people prefer that.” P8 shared, “I think it's makes me like continue using it because it has worked for others. Why not continue? I don't find any challenges with it. I just love Western medicine.” P9 clarified about community in general, “I think for me in the community that we are in a modern environment, so you will barely get someone like you're bound to make your own decision currently.” P10 mentioned, “My community is basically everyone around us that is using the Western medicine.” P11 commented about her neighbors, “My neighbors most of them, they are from other communities. So they are, I think most of them go to the hospitals. And also, my sister stops by, she also lives quite nearby.” P12 shared about people around her, “But only those people around me use Western medicine.” P13 remarked, “Honestly, for me, I feel yes. And especially in the social media, because I'm on social media paths and I love social media. So basically, I think I get influenced by that.”

Table 6 relays the relationship between RQ3 to generated codes then into the emergent theme of community factors that impact use of traditional healing and biomedical health services.

**Table 6***Emergent Theme Related to RQ3*

Research Question	Codes	Emergent theme
RQ3: How do urban AIs/ANs living in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?	Urban Center Western medicine Modern	Community factors that impact use of traditional healing and biomedical health services

**RQ5**

Once an Indigenous person moves to the city, there are policies that may either no longer allow them to use IHS or there may not be an IHS health clinic in the area they live (James et al., 2018; UIHC, 2007). Additionally, AIs/ANs have to be registered in a federally registered tribe for access to an IHS health clinic. There may be other policies from non-Indian clinics that may impede or encourage use. To better understand how policy affects use of health services, the fifth research question was: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and nonIndian clinics?

***Emergent Theme: Policy Factors That Impact use of Traditional Healing and Biomedical Health Services***

Each participant was asked how policy effects the use of traditional healing and biomedical health services for their type 2 diabetes health and any issues around the disease. Twelve of the participants did not comment about Indian Health Services or



Indian health organizations for healthcare needs. One participant directly commented about urban Indian health organizations for health services. P1 shared,

...The New York Superior Court decided that we were no longer Indians...And so, we are not recognized in any way. Not even federally because we don't have even the state recognition...I do not have access to any Native American hospitals, or treatment centers.

All participants commented about using nonIndian clinics based on biomedicine. Eleven participants detailed that policy was written towards modernization and biomedicine. P2 commented on modernization, "In terms of policy, many policies are geared towards modernization so I wouldn't say it affects me so much. It is actually a positive thing...the government is inclined to provide the best modernized medicine." P3 explained, "I don't think they [policy] have much since, if I think I need services I have access to them. Because the same people have always been there for me." P4 elaborated about access in Western medicine, "I feel like Western medicine there are policies that are there, like having insurance. Many people have insurance because it is cheaper that way. So, insurance is a good thing. So, they go hand in hand. P5 commented, "I think, policymaking in our way, affects, like your option to like go for this healthcare, because you will positively influence you to like access this healthcare...Because the policies are smoothening the whole process." P6 stated,

Possibly, for me, it's policies that encourage access and affordable cost and non-discrimination in accessing service is what really is gonna be something that is gonna motivate you to go for the services. Health insurance is now making things

quite accessible. Like you're able to access services as long as you have this health insurance which caters for your bills. It [traditional healing] isn't accessible.

P8 confirmed present policies support Western medicine, “Okay, policies have made Western medicine may be seen more favorable in terms of access in terms of cost, is also in terms of like getting the qualified personnel. I think these policies are really helped.”

P9 indicated policy is influenced by politicians and Western science,

...I feel like politicians...they're more inclined towards their urban environment and also in the scientific medical sector. So more of the policies are mainly affecting, are mainly affected through the policies, like the policies are mainly aimed at helping them defend the hospitals and the clinic as opposed to the other side. Traditional healing may lack, like a lot of markets.

P10 elucidated, “In terms of policy making by the government, possibly they are doing a lot more western medicine to make sure that there is free access and people are using insurance. So, it's more like making it affordable.” P12 indicated that access to healthcare for her is uncomplicated, “...access to healthcare from hospitals, it's been easy. And I also have insurance...I've learned to take good care of myself through a healthy diet by the help of a nutritionist, and...to access people who I can talk to...”

P13 detailed some issues regarding policy,

For me I feel like...there are no proper policies to ensure that people have that right. For me, I'm lucky enough I get it. For someone else, it's different. So, I feel

like policy is just making work easier by getting staff and making sure that hospitals are open, they're being run by good management.

Table 7 relays the relationship between RQ5 to generated codes then into the emergent theme of policy factors that impact use of traditional healing and biomedical health services.

**Table 7**

*Emergent Theme Related to RQ5*

Research Question	Codes	Emergent theme
RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and non-Indian clinics?	Accessibility Inaccessibility Insurance Recognition of tribes	Policy factors that impact use of traditional healing and biomedical health services

**RQ6**

Most health educators in the biomedical health system have little to no experience with traditional healing practices or Indigenous world view (Moorehead et al., 2015).

There are other types of health traditions that have been integrated into the biomedical system such as yoga, meditation, acupuncture, and acupressure, which are derived from Ayurvedic and Chinese medicine. To better understand how to integrate an Indigenous world view about health, the sixth research question was asked: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?

***Emergent Theme: Education Recommendations***

Each participant had the opportunity to give suggestions about how biomedical personnel could be more attentive and responsive to feedback from AIs/ANs concerning healthcare services. Participants did not comment directly about health educators. However, a few did share their ideas about incorporating traditional healing and healers to be a part of health education. P1 shared his thoughts about providing holistic health services, "...the whole idea was to build it in such a way that you had your medicine people as part of the doctoring that they were there. Because they were going to do the holistic approach..." P7 explained her thoughts on including traditional healing and healers,

But I feel like if, if more can be done, to bring on board...The traditional village to be part of it alone has to do with many people who have to be aware of what is going on in their traditional healing. Let it not be something quite, like complicated to get.

Additionally, there was mention of not letting biomedical healthcare workers know traditional healing was being used at the same time as biomedicine. P1 explained about not telling his healthcare providers he used traditional healing, "When I do healing, that's not contemporary. I don't tell them because I feel that I don't want to be poopood about it. Because...you will not hear any encouragement...I keep those things to myself..." P3 mentioned one concern about biomedical personnel, "...like issues of discrimination from healthcare workers because of your race or something...maybe the accessibility

these services have, how flexible are they, and how fast are they able to get to you? And is telehealth being used?”

Table 8 relays the relationship between RQ6 to generated codes then into the emergent theme of education recommendations.

**Table 8**

*Emergent Theme Related to RQ6*

Research Question	Codes	Emergent Theme
How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?	Communication Integration	Education recommendations

**Summary**

In conclusion, the data analysis provided support that urban AIs/ANs using both traditional healing and biomedicine have consistent access to biomedical healthcare but may not have consistent access to traditional healing. Living in an urban environment allowed them to access biomedicine but limited access to traditional healing and tribal connections. Additionally, for nine of the participants their experience with traditional healing was predominantly when they were younger and family took them to see traditional healers. Three of the participants utilized traditional healing as adults because it was both important to be connected to their Indigenous traditions, and they felt traditional healing helped them with their type 2 diabetes. The data and research findings

can provide a deeper understanding and insight into the decisions of urban AIs/ANs who are seeking health education and management services for their type 2 diabetes.

The SEM provided a framework for participants to explore their personal experiences of using traditional healing and biomedicine for their type 2 diabetes health education and management. Each level was examined through questions that addressed the intrapersonal, interpersonal, community, institutional, and policy aspects of their experiences. Individual identity and connection to family were strong factors that influenced their use of both traditional healing and biomedicine. Convenience and easy access contributed to the use of biomedicine which was influenced by community, institutions, and policy. All 13 participants experienced a disconnection to tribe due to limited access to their Indigenous communities and living in urban communities sometimes far away from their tribes.

In this chapter, the results of the study were presented including the setting, participant demographics, data analysis, evidence of trustworthiness, and the results based on each research question. In Chapter 5, I will provide interpretation of the findings, limitations of the study, recommendations, social change implications, and conclusions.

## Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to better understand the intrapersonal, interpersonal, institutional, community, and policy levels of SEM regarding the experiences of urban AIs/ANs who live in metropolitan areas in the United States who use both traditional healing and biomedical services addressing type 2 diabetes health. Foremost, AIs/ANs are more likely to be diagnosed with type 2 than other ethnic groups (CDC, 2017). Subsequently, living in an urban area does not automatically change diagnosis of type 2 diabetes, even with more access to healthcare services (Dennis & Momper, 2016; Fiedeldey-Van Dijk et al., 2017; Jacob et al., 2015; Pollak, 2017; Rutman et al., 2016). Though there are some promising studies that show there is a decrease in some aspects of type 2 diabetes within the urban AI/AN community, there is still a concern that there is disproportionate diagnosis of type 2 diabetes in the population (Fiedeldey-Van Dijk et al., 2017; Jacobs-Wingo et al., 2016; Jernigan et al., 2020; Satterfield et al., 2016). One aspect that can contribute to understanding the world view of health for urban AIs/ANs is to find out their perceptions about health. One viewpoint is there are reasons for using traditional healing and Western medicine for type 2 diabetes. This study endeavored to answer the following six research questions using the SEM framework.

RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?

RQ2: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?

RQ3: How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?

RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?

RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and non-Indian clinics?

RQ6: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?

A basic qualitative research design was chosen to understand the viewpoints of the participants who use both traditional healing and biomedical services to manage type 2 diabetes. Descriptive qualitative design serves studies looking for participants viewpoints better than other designs (Rodriquez & Smith, 2019). In this case, the purpose was to better understand the perspective of the participant's use of two healing modes for their type 2 diabetes education and management.

Data collection for this study was conducted through 13 interviews of adult urban AIs/ANs living in different areas of the United States who agreed to be a part of this



study. Twelve of the 13 participants were female, of the 12 female participants, 10 used traditional healing as children under the direction of family members. Three of the participants used traditional healing as adults. All 13 participants used Western medicine throughout their entire lives. The one male participant, who found out he was Indigenous in his 60s, had a significantly different experience than the female participants. Though there were some commonalities with two of the female participants who used traditional healing as adults that were more closely aligned to the male participant. Significant findings from this study included disorientation when being diagnosed with type 2 diabetes, lack of self-empowerment as a child, self-empowerment as an adult, reliability and access to healthcare, influence of family and friends on health decisions, disconnection to tribal community, and convenience of biomedical health services.

**Table 9***Alignment of Findings with Previous Research*

Findings	Previous Research
Individual Level: Access to biomedical health services Diagnosis with type 2 diabetes under the age of 18 Disconnection to tribe or tribal community Reconnection	Moghaddam et al. (2015): living in urban environment and access to biomedicine Dong et al. (2016): high rate of type 2 diabetes diagnosis in children & youth Satterfield et al. (2016): personal connections to tribe impact spiritual, mental, emotional, & physical health
Institutional Level: Culture not talked about No mention of being Indigenous Share about herbs and supplements	Dennis & Momper. (2016): need for culturally competent services & health providers Rutman et al. (2016): uncomfortable sharing use of traditional healing with biomedical provider
Interpersonal Level: Family support Support groups	Scarton & Groot. (2017): family & community support increase positive type 2 diabetes outcomes UIHI. (2018): the importance of community and mental health
Community Level: Little connection to tribe No connection to AI centers	Pollak. (2017): community assists with type 2 diabetes care Jernigan et al. (2020): host community provides support
Policy Level: Easy access to biomedicine Traditional healing use	Pollak. (2017): lack of healthcare targeted to AIs/ANs Rutman et al. (2016): limited resources provided to AI/AN IHS facilities UIHI. (2019): limited health facilities available through Indian Health Organizations
Education: Communication Cultural education	Jernigan et al. (2020): need for culturally sensitive information to increase communication Rutman et al. (2016): cultural differences & lack of communication Kesler et al. (2015): health care students' education about different types of healing

### **Interpretation of the Findings**

The main themes that emerged through the iterative process of data reduction aligned with the six research questions. Before these themes were determined, there were several coding cycles where codes needed to be identified as individual, interpersonal, community, institutional, or policy levels. Once the themes were determined, I was able to create emergent themes. The following are those themes: individual identity influences using traditional healing and biomedicine, individual and interpersonal experience seeking type 2 diabetes education and management, community factors that impact use of traditional healing and biomedical health services, positive and negative experiences when using traditional healing and biomedical health services, policy factors that impact use of traditional healing and biomedical health services, and access to healthcare and cultural competence. For analysis, I used the emergent themes as analytic categories. Table 10 presents the alignment of emergent themes and analytic categories with the research questions.

**Table 10***Emergent Themes and Categories Aligned with the Research Questions*

Research Question	Emergent Themes & Subthemes	Analytic Categories
RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?	Individual experiences using traditional healing and biomedicine	Individual factors
RQ2: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?	Individual and interpersonal experience seeking type 2 diabetes education and management	Interpersonal factors
RQ3: How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?	Community factors that impact use of traditional healing and biomedical health services	Community factors
RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?	Positive and negative experiences when using traditional healing and biomedical health services	Institutional factors
RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and nonIndian clinics?	Policy factors that affect use of health services	Policy factors
RQ6: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?	Education recommendations	Education

**Analytic Category 1: Individual Factors**

The intrapersonal level of SEM includes the attitudes, experiences, beliefs, and knowledge of the individual that affects health behaviors (Kilanowski, 2017). These attitudes and beliefs are developed from relationships, experiences, and self-reflection of each individual (McElfish et al., 2016). All 13 participants had used biomedicine consistently throughout their lives however, the use of traditional healing was used at certain times in their lives.

All participants were not expecting to be diagnosed with type 2 diabetes. One was diagnosed in his 60s and one was diagnosed during pregnancy. Ten of them were diagnosed when they were under 18 and some of them were diagnosed between 11 to 15 years old. This correlates with previous research that AI/AN youth are diagnosed at 1.74 per 1000 or 76% a higher rate than other ethnic groups (Dong et al., 2016). As young people, they did not understand why they had type 2 diabetes or why they had to change their eating habits or take medicine. There were feelings of confusion, worry, fear, and nervousness. During adulthood, the participants found biomedical healthcare facilities, doctors, and other support services to address their diabetes. Past research acknowledges the need for ongoing diabetes self-management education and support for an individual to continue to implement skills, education, and behavior (Beck et al., 2017).

Three of the participants made conscientious efforts to utilize traditional healing as adults. Prior research has found that urban AIs/ANs may try to connect with their culture through traditional healing (Hartmann et al., 2014; James et al., 2018). All participants used Western medicine throughout their entire lives. Additionally, access and

convenience to biomedicine were noted by 12 of the 13 participants as a reason to use it and the services provided within the system. This finding supports past research that urban AIs/ANs utilize modern medicine due to accessibility to the services (UIHC, 2007; Moghaddam et al., 2015).

Their personal attitudes changed with their ability to create relationships with their doctors and nurses as adults to learn to care for themselves while living with type 2 diabetes. Three participants shared the opinion that their health could be managed better in the urban environment and access was easier. There were feelings of empowerment to seek biomedical services for type 2 diabetes due to living in an urban area and the services were accessible. Another concept was the ability to access doctors, nutritionists, and mental health workers without struggling to find the services or healthcare workers. Though previous research found a need for psychosocial support that is culturally centered regarding AI/AN cultures (Rosas et al., 2016), a final opinion was the support groups within the biomedical system were accessible. There was no knowledge of any support groups addressing the use of traditional healing for type 2 diabetes from any of the participants. All participants explained the need to eat a healthy diet and maintain exercise schedules to keep their type 2 diabetes in control. This opinion was shared whether an individual was using traditional healing or biomedicine or both. Research supports the need for multilevel interventions (Jernigan et al., 2020) including ways to access a healthy diet and exercise (IDF, 2020; Lin et al., 2020).

All of the participants felt they were able to access traditional healing or biomedical healthcare for their type 2 diabetes. Twelve of the thirteen predominantly

utilized biomedical health for their type 2 diabetes as adults. Three of the thirteen combined the use of traditional healing and biomedicine for health issues including type 2 diabetes. Ten of the participants commented on their relationship with their Western medical doctors. The three following examples are participant's experiences. P8 commented that she found the medical doctors to be very reliable and knowledgeable about the medications she needed to take. P5 noted her doctors encouraged her to be diligent about self-care regarding her type 2 diabetes, remembering to eat healthy food and to take medication when prescribed. P13 explained that biomedical doctors tended to write her prescriptions and advise her to receive nutritional counseling. From these interviews, ten participants predominantly used biomedicine for their type 2 diabetes and were influenced more by the Western healthcare personnel.

Another condition that effected all participants was each participant lived in an urban area as an adult. Due to the convenience and accessibility of Western medicine within hospitals and health clinics, all were more likely to use biomedicine. Two participants clarified that there was more independent living in the town center and hospitals were easily accessible. Additionally, living in an urban center made it easier to access medical clinics, mental health, nutrition services, and emergency response services. It was noted in previous research that living in urban areas influences urban AIs/ANs to access biomedicine and its services (UIHC, 2007; Moghaddam et al., 2015). Three of the participants thought it was important to continue to use traditional healing alongside Western medicine while living in an urban environment. They felt that it helped with their treatment of type 2 diabetes and provided connections to their tribes.

Studies confirm that urban AIs/ANs who have disconnections to tribe may use traditional healing to sustain those connections (Hartmann et al., 2014; James et al., 2018).

Living in an urban environment provided all participants with easy access to biomedical healthcare services. Most of the participants commented about modernization of healthcare in the hospitals and health clinics influenced them to use the facilities. Some participants were part of support groups and therapy sessions which helped them make connections with others who had diabetes. Another aspect regarding community was other people around the participants were using Western medicine which influenced them to do the same. All participants agreed that the people around them motivated them to use either traditional healing or biomedicine. The participants all experienced disconnection to their tribes and did not have a support group within their tribal community. Previous research supports the importance of connection to culture and land, and confirms disconnection contributes to the changes in health to the individual AI/AN (Isaac et al., 2018). Ten of the participants felt that living in an urban area supported their feelings of independence. For two of the participants being able to live on their own and make their own decisions was self-empowering. Living in close proximity to all types of services created a self-reliant capacity and attitude.

### **Analytic Category 2: Interpersonal Factors**

The interpersonal level of SEM includes family, friends, and social circles that can influence health decisions of an individual (Lee et al., 2017). For these participants the strongest interpersonal connection was the family and later friends and social



networks informed health decisions. Additionally, the participants shared their experiences with traditional healers and biomedical healthcare personnel.

Most of the participants used traditional healing and healers when they were young due to family influence. Ten of the 13 participants primarily used traditional healing when they were young and at home where their families took them to traditional healers or invited them into their homes. Though all participants knew of their Indigeneity, there was a disconnection of tribe and not a full understanding of traditional healing and other cultural aspects associated with their differing tribes. Studies support the findings in this study that urban AIs/ANs may have disconnection to their tribe and culture including traditional healing (Fiedeldey et al., 2017; James et al., 2018). Three participants shared their experience regarding their lack of knowledge about their tribes or tribal healing practices. One participant identified as African American, only finding out he was Indigenous when he was in his sixties. Another participant noted her lack of knowledge to her tribe by only knowing basic traditional healing remedies and how they use them along with a few Indigenous words. Past research has found that the lack of education regarding food gathering and preparation by parents and grandparents to their children could result in a possible increase in developing type 2 diabetes (Keith et al., 2018). The third explained that there was disunity in her family and that the distance from the Indigenous side creates a break in connecting to her tribe. Researchers have also found urban AIs/ANs have disconnection to tribe and tribal customs and knowledge due to the long distances between urban areas and tribal communities or homelands (James et

al., 2018). Those relationships described above influenced the attitudes towards type 2 diabetes and how the individuals seek biomedical healthcare.

For 10 of the participants, health decisions were made by family when first diagnosed with type 2 diabetes, since they all were diagnosed when they were young or still lived with family in their late teens around 18 years old. The families of the participants were active in providing healthcare and management of the disease for them. Each family was intricately involved in supporting them through their diabetes journey. The families went out of their way to provide health support for type 2 diabetes using biomedicine and traditional healing. Both as children and adults, family support was essential to maintain the management of their type 2 diabetes. Past research indicates social support from family and community produced positive type 2 diabetes outcomes (Scarton & Groot, 2017).

Each family integrated traditional healing alongside biomedicine to different degrees. The following three participants remarked about their experiences using both. P6 related her experience going to a traditional healer with her dad at first and later with her aunts while using biomedicine. P7 explained that she only saw a traditional healer for three months but stopped after she had challenges meeting up with the healer feeling biomedicine was more accessible. P11 stated that the traditional healer came on Fridays and many times it was a group effort from her family to attend the meetings while she also had to go to biomedical appointments at the hospital. Past research indicates that using traditional medicine is a way to stay connected to the tribal community (Hartmann et al., 2014; James et al., 2018), and using biomedicine is due to access to the health

services in the urban environment (UIHC, 2007; Moghaddam et al., 2015). Early interactions with traditional healing were predominantly carried out by the parents or family members of these participants who did not have in-depth interactions with the traditional healers. These participants were minors and the family included seeing traditional healers in addition to using biomedicine for type 2 diabetes.

Some of the participants were part of support groups or therapy/counseling that were part of their healthcare for diabetes. Several of the participants were entered into support groups either immediately or after they were diagnosed with type 2 diabetes for a while. Four of the participants shared their experiences. P4 noted that the need for therapy developed due to depression about her financial challenges for healthcare needs, and trying to find people who could help take care of her as an adult when needed. P5 elucidated that her mental health is affected by the deterioration of her physical health and it is essential to seek help through therapy or support groups. P6 shared how she loved her support group for diabetes where participants shared their stories and struggles with diabetes. P9 explained how being diagnosed with type 2 diabetes disrupts self-image and that it is important to be a part of a support group which understand and not relying only on family. These examples are supported by previous research regarding the challenges of having type 2 diabetes and its effect on mental health impeding positive health outcomes (UIHI, 2018).

### **Analytic Category 3: Community Factors**

Community factors are the connections that organizations have to communities that influence health decisions. The host community provides essential support to the

individual and should not be seen as unimportant (Jernigan et al., 2020). Three of the 13 participants had interactions with a tribal community as adults. Ten of them did not interact with a tribal community as adults. These interactions directly affected their use of traditional healing and biomedicine.

Eleven participants always lived in urban areas as children and adults. One lived in a rural area outside of the United States and one lived rurally in the United States as children. Eleven of them have lived in the same urban area throughout their lives in the United States. P1 moved several times and made connections to other Indigenous people while living in the Chicago area. He explained that he made friends with a medicine man who provides traditional healing and has developed a community connection through this individual. P8 lived abroad in Africa which was more rural and later her family moved to the United States living in California and New York in Manhattan.

None of the participants commented on connections to cultural centers as a place to connect to culture. It cannot be specifically determined how disconnection from tribe affects the health of these individuals. One common experience was little connection to an urban American Indian community. There was more connection to immediate and extended family and friends of the same tribe.

Participants were asked how community affects their use of traditional healing and Western medicine. Three described that living in an urban environment where biomedical health services are readily available created easy access to Western medicine. P9 commented about living in a modern environment which influences the use of biomedicine. P12 clarified that the people she is around use biomedicine, so she is

influenced by those people. P13 mentioned she is influenced by social media to use biomedicine in addition to having access to those services.

In a previous study, it was found that incorporating community assisted individuals to make lifestyle changes regarding type 2 diabetes education (Pollak, 2017). Two participants commented about their ties with traditional healing and their communities. P1 noted he is part of a learning group of world indigenous studies that contributes to his knowledge about aspects of traditional healing. P3 commented about being influenced to use both traditional healing and biomedicine depending on the groups of people she was around at different times. She shared traditional healing was important for her mental health and the community helped her better understand traditional healing. These findings support previous research that encouraged the need to look at the community where AIs/ANs live to better understand the importance of community (Jernigan et al., 2020).

#### **Analytic Category 4: Institutional Factors**

The institutional level of SEM includes institutions that are influenced by policy such as schools, worksites, community organizations, hospitals, and health clinics (IHS, n.d.). In this study, the institutions that most affected the participants were hospitals and health clinics in the urban environment where each one lived that had no connection to Indian health services or organizations. Hospitals, health clinics, and doctor's offices are influenced by policy because these places are part of the biomedical health services supported by policies by the dominant culture. There was no culturally sensitive programming provided by the urban healthcare centers or hospitals that was noted by the

participants. The policies support Western medicine and science in these places. P9 mentioned that biomedical healthcare personnel could be easily accessed and at times she did not need an appointment. P10 further elucidated how medical personnel explained the kinds of changes that needed to happen after her diagnosis of type 2 diabetes. P2 similarly explained that procedures were clearly explained about her diabetes and how to take care of herself.

However, P1 felt the biomedical personnel were always in a hurry to get him through his appointments, as if he was a part of an assembly line and there was limited time to talk with them. Though older research found that urban AIs/ANS were not comfortable sharing aspect of their use of traditional healing (Rutman et al., 2016), one participant felt comfortable sharing information with her biomedical provider. P3 explained that her medical doctors would take note about the herbs and supplements she was taking when they asked about other medications. Furthermore, previous research conducted found that participants wanted more culturally competent services such as traditional healing, and the incorporation of whole body and mind within the services provided (Dennis & Momper, 2016). At the same time, P13 felt that cost was high for Western medicine but access was available everywhere so she would use it for this reason. The participants did not mention that there were any support groups for urban AIs/ANs or that there were culturally sensitive health programs. They participated in the groups that were available in the hospitals and clinics. The participants did not talk to the biomedical healthcare workers about their indigeneity.

**Analytic Category 5: Policy Factors**

The policy level of SEM encompasses the laws and regulations that affect access to healthcare (Lee et al., 2017) including traditional healing and Western medicine. Additionally, this included policy regarding access to the IHS and culturally competent healthcare providers within the biomedical health system. P5 explained how policy influences the use of Western medicine since policy is written to support it. P4 discussed the concept about policy supporting the availability of insurance and the use of Western science. Furthermore, P6 felt that policy encouraged people to use insurance and that it reduces cost for individuals. Policy in general supports Western medicine and the drugs and therapies used in its implementation. Though most of the participants noted the ease of accessing biomedicine, there were many times that going to a hospital or health clinic was not planned. There were descriptions by participants that an individual could go at any time when needed. P7 mentioned that walk-ins were available at the University health clinic and other biomedical facilities. P3 remarked that biomedical services were always available and flexible.

Another aspect that one participant mentioned was the lack of easy access to traditional healing or connection to tribal communities. P1 shared that he did not have access to the IHS hospitals and clinics because his tribe was not federally recognized. He additionally commented about how Indigenous individuals and some organizations in the Chicago area did not fully accept some urban AIs/ANs if they were not considered full blood. He felt that because the policy originates from the U.S. government, it has created divisions in the AI/AN community as a whole. He further noted that funding for IHS

facilities does not last a full year, and individuals dependent on the system for healthcare are at risk of becoming sicker as the year progresses. Studies support lack of availability of healthcare due to federally or non-federally recognized tribes (Pollak, 2017; Rutman et al., 2016). For example, the IHS provides 1% funding to Urban Indian Health Organizations (UIHO) that provide services for urban AIs/ANs (Rutman et al., 2016).

Most participants concentrated on the policies that provided them access to biomedical healthcare. Almost all commented about the convenience of accessing Western medical hospitals, offices, and health clinics. Most specifically found the biomedical services helped them with their type 2 diabetes education and management. This supports previous findings that there are limited hospitals and clinics in all states that provide medical services to AIs/ANs through the Indian Health Organizations (UIHC, 2007; UIHI, 2019). Three felt there could be better policy to include traditional healing and healers into the policies of Western medicine. Two participants felt there was not always room to discuss traditional healing with their biomedical healthcare providers. Without this knowledge, those healthcare workers do a disservice to their patients.

Three participants spoke about traditional healing and the need for it to be a part of the biomedical healthcare system. Studies support that Native wellness emphasizes a holistic approach to address the whole person including mind, body, and spirit (Dennis & Momper, 2016; Fiedelday-Van Dijk et al., 2017). P1 noted the need to have healthcare that was holistic and that did not require proof of being an AI/AN. Anyone could come for health assistance and traditional healing would be part of that system. P7 further explained that traditional healing should be easier to access by decreasing the



complications to accessing it presently. P8 reported the need to include traditional healing into policy. The WHO (2013) stated as a goal from 2014-2023 that governments should implement traditional and complementary medicine in policy to provide a more comprehensive health system. It was noted that traditional medicine is used and trusted by numerous individuals around the globe (WHO, 2013).

### **Analytic Category 6: Education**

In order to implement social positive change, it is vital for health educators to use findings from this study to integrate into type 2 diabetes education and management. Participants commented on the need to integrate the use of traditional healing and biomedical health services into the dominant system when seeking care for their type 2 diabetes health and any issues around the disease. P1 shared a time when he was part of an Indigenous group that wanted to make holistic health available to all AIs/ANs that was culturally sensitive and flexible. In previous research, it was found that there is a need to provide information to health educators about the need to be culturally sensitive which can increase better communication (CMMS, 2018; Jernigan et al., 2020; Auger et al., 2016). Health educators could provide a more safe and secure place for AIs/ANs to share their views of health by using both traditional healing and biomedicine for their type 2 diabetes. Past research has documented difficulties with cultural differences that impact communication with providers, trust, lack of confidence to access healthcare, bias, differing views, beliefs, and attitudes towards healthcare (Rutman et al., 2016). Though most of the participants felt they received appropriate healthcare, most never mentioned to their healthcare providers about ever using traditional healing. If health educators were

aware and educated about AIs/ANs culture and history, there may be better health outcomes for type 2 diabetes education and management.

Twelve of the 13 participants stated how convenience to biomedicine resulted in almost always using the health services in the urban centers. P3 felt it was important to look at where health centers are located in the community and to look at issues of discrimination from healthcare workers regarding race. In a previous study, it was found that those who had experienced healthcare discrimination and used traditional spirituality, preferred to use traditional services (Aronson et al., 2016). Additionally, she noted the need to evaluate the accessibility, flexibility, and speed of services as well as telehealth availability.

Health educators who have been educated about other cultures and implicit bias are more likely have better communication with individuals of another ethnicity. Health educators could reduce assumptions and be more open to learning about other modes of healing. One program was developed for medical students at the University of New Mexico which included traditional healing education to have a better understanding about different types of healing (Kesler et al., 2015). P1 explained how he did not let his biomedical healthcare providers know he was using traditional healing or changing his diet to align more with traditional foods. He felt there was no interest in his culture from those providers and did not feel comfortable sharing his experiences. His experience aligns with previous research. Typically, Western healthcare personnel are not aware of different cultural practices or know how to address health concerns distinctly part of the AI/AN community (Auger et al., 2016; Moghaddam et al., 2015; UIHC, 2007). However,

there is a possibility of an increase in knowledge about AI/AN health and culture. In a past study, it was found that it was possible to have a meaningful increase in knowledge among health professionals, health students, and community regarding AI/AN health issues, including historical perspective and health disparities (Carney et al., 2019).

### **Limitations of the Study**

There were limitations to the study that impacted the results. First, urban AIs/ANs are from diverse tribes and have a wide range of varying experience depending on the urban environment they live in and connections to tribal communities. I predominantly recruited from August 2021 to June 2022 because there was not a lot of response to the flyers or emails. Once individuals became active participants, most were recruited through snowball techniques which resulted in participants with similar experiences. Most of the participants were from the Appalachian Cherokee tribe though there were individuals who identified as other nations: one Apalachee, one Apache, and one Natick Algonquin and Narragansett. Additionally, almost all participants had relatives or a parent from other countries and several of the participants lived in other countries for a part of their lives when they were young. Seven of the thirteen participants identified as Black, one as East Indian, one white, one mixed, and three did not disclose their other ethnicities. I mention these identities since being Black as an American Indian is not a common experience nor is living in another country outside of the United States. Since I opened the recruitment to the entire United States, there are many different experiences that were missed in this study. The results of this study can only be described as the experiences of the participants and cannot be generalized to other urban AIs/ANs.

It is the beginning of acknowledging that being an AI/AN in an urban environment is not one experience and can look different for each location whether it is a state or a city or living in both.

### **Recommendations for Future Research**

Type 2 diabetes continues to be a concern nationally in the United States and especially to the urban AI/AN community due to the age and percentage of individuals diagnosed with the disease (CMMS, 2018; Pollak, 2017). This study concentrated on the experiences of urban AIs/ANs who use both traditional healing and Western medicine for type 2 diabetes management and education. Many diabetes programs only address the individual (Jernigan et al., 2020), however integrating the SEM into this study provides a way for health educators to look at all aspects of urban AIs/ANs that affect their type 2 diabetes management and education.

Data from this study provided insights into the urban AI/AN experiences of using traditional healing and Western medicine for type 2 diabetes healthcare. Since the United States is not made up of the same types of people, it is essential for more studies to be implemented to better understand how more than one mode of healing may be used for type 2 diabetes especially for urban AIs/ANs. It is important that individuals feel free to talk with their biomedical healthcare providers about their use of other healing systems. Education is essential for increased communication and to provide a space to discuss other modes of healing that may help or hinder the healing process. Additionally, education will increase more positive health outcomes due to open communication and understanding of the complexity of Indigenous health (Carney et al., 2019). Conducting

both qualitative and quantitative studies in urban areas where individuals do not have access to IHS services is critical since most research is based on AIs/ANs who have access to those services. The participants in this study did not have access at all to IHS services or connections to AI/AN organizations.

### **Social Implications and Recommendations for Future Initiatives**

This study can contribute to positive social change by improving awareness and understanding of health educators regarding urban AI/AN populations health needs. Understanding the perspective of the participants and the reasons for using two modes of healing will increase communication and understanding between health educators and AI/AN patients. Increased communication between urban AIs/ANs and health educators will create a more comprehensive type 2 diabetes health program. Many times, AIs/ANs are misidentified due to assumptions about how the individuals present physically or the lack of asking the right questions in a sensitive way. Attitudes about healing modes that are not part of the dominant health system can show unknowingly preventing an individual to share about traditional healing. My research focused on how the individual, interpersonal, community, institutional, and policy factors impact the use of traditional healing and biomedical healthcare services for type 2 diabetes. The data will be presented using the levels of SEM.

At the individual level, all participants noted that biomedical healthcare services were easily accessible and were convenient to use for their type 2 diabetes management and education. Ten of the thirteen participants were diagnosed under the age of 18 and did not fully understand the reasons for their change in health. Developing health

programs for children and youth in schools or communities that focus on nutrition, planting gardens or participating in community gardens, and learning to cook creates ownership of personal health outcomes creating a healthier community. In past research, it has been found that nutrition education in school and community increases fruit and vegetable consumption in children (Davis et al., 2021; Taniguchi et al., 2022). The CDC (2021) in collaboration with 17 tribal areas developed and implemented a diabetes program focusing on traditional foods and culture that address health. The 17 programs were successful in promoting AI/AN culture as a source of health including making local fresh fruits and vegetables available and playing traditional games to promote health and prevent disease (CDC, 2021).

I recommend that the information on the CDC website detailing these diverse programs could be adapted to be used in urban environments where AIs/ANs live and may not have connections to AI/AN organizations. Creating programs that increase self-empowerment and pride in their culture could increase individual ownership to make healthy food and exercise choices. These programs may integrate the family into the curriculum supporting the interpersonal level to educate the family about including fresh fruits and vegetables in their meal planning. The education of children in 8 AI/AN communities used the Eagle Books in their curriculum to increase knowledge about physical exercise and nutritional knowledge about food (CDC, 2021). The results found the children advocating in their families and communities for healthier food and more exercise.

At the community level, all participants did not have connections with urban AI/AN organizations. My research indicated that only one of the participants specifically mentioned a local urban American Indian center but did not feel welcomed by the members. Twelve of them did have some connection to tribe through family and two of them had connections in the wider community as adults. The disconnection to tribe was felt by all participants but at different levels. At least 3 of the participants, showed interest in traditional healing, while 10 were more interested using Western medicine for their type 2 diabetes management and education. Creating more welcoming environments and gathering places for Indigenous Americans could be created as a place to reconnect and learn about Indigenous culture, such as health practices that support type 2 diabetes management and education. Urban AI/AN centers could adapt the materials created from the traditional foods project as presented in the previous paragraph.

At the institutional level, health educators could learn more about AI/AN communities and the use of traditional healing with Western medicine. Being proactive as health educators, could reduce misunderstandings about AIs/ANs using traditional healing and Western medicine for type 2 diabetes health. I advocate that AI/AN traditional healing and medicine be included in ongoing training and education for health educators. The NNACoE hosted an AI/AN health series seminar that demonstrated that healthcare students, faculty, and community members increased their knowledge about AI/AN health issues and historical trauma (Carney et al., 2019). It was also found that students mostly non-Indigenous gained an interest in pursuing careers that would contribute to improving wellness of Indigenous people.

At the policy level, it is essential to advocate for policy that positively affects urban AIs/ANs to access healthcare for type 2 diabetes. All of the participants shared about the convenience and accessibility to biomedicine in the urban environment resulting in the use of biomedicine for their type 2 diabetes. One of the participants remarked about including traditional healing and healers in the biomedical system. Previous studies have found that many AIs/ANs prefer to use both traditional healing and Western medicine (Fiedeldey-Van Dyk et al., 2017; Moghaddam et al., 2015; Pollak, 2017). Though ten of the participants only used biomedicine for their diabetes health as adults, it was noted it was convenient and available. It was shared that biomedicine is part of policy and the policy makes biomedicine accessible. Seven participants shared that they used meditation with both traditional healing and Western medicine for self-care. Three participants explained that they used both yoga and meditation as a way to reduce stress for self-care which was encouraged by their Western doctors. These types of supportive self-care methods are commonly accepted today.

Expanding policy to include AI/AN traditional healing and healers would provide a more comprehensive health system and make utilization more accessible. The WHO (2013) created a document explaining the benefits of traditional healing and ways to integrate it into Western healthcare systems. Past research has found that Indigenous plants in the Americas have antidiabetic properties (Ferrier et al., 2017; Ferrier et al., 2018; Levy, 2019; Li et al., 2018). I advocate for local level AIs/ANs to conduct their own research, collaborate with researchers, and find studies that support Indigenous



knowledge about traditional healing and diabetes. These connections could contribute to policy change especially in local areas.

Finally, I advocate for creating conferences and seminars that focus on educating both health professionals and urban AIs/ANs about various topics based on this study's findings. Topics could include the rate of type 2 diabetes in the urban AI/AN community and the disconnection to tribe, the rate of use of biomedicine due to accessibility and convenience, age of diagnosis, using traditional healing and biomedicine for type 2 diabetes, and how family and community support self-care for type 2 diabetes management with AIs/ANs. Past research has found positive responses to a series of seminars about current health trends in AI/AN health by including health professionals and students, faculty, and lay people (Carney et al., 2019).

### **Conclusions**

My research identified the unique experiences of urban AIs/ANs when addressing education and management of type 2 diabetes. This group of Indigenous participants did not have strong connections with tribal affiliations throughout their lives. However, each one at some time in their lives had connection with aspects of their tribes. Each participant utilized traditional healing and Western medicine for their type 2 diabetes at different times in their lives. Many were diagnosed at a young age under 18 years old and some were diagnosed in their twenties or older. They all experienced using both types of healing, felt disconnected from tribe, were concerned about receiving the best care each could access, and had to travel to or look for access to traditional healing.

Using the SEM provided data that health educators can use to create more informed type 2 diabetes education and management. The data demonstrates that there is more than one level that influences urban AIs/ANs to seek out healthcare. Future research is needed to better understand a fuller spectrum of urban AI/AN experience. As noted, many of these participants also identified as being Black which is an additional unique experience in being Indigenous in the United States. There are assumptions that AI/AN look a certain way which implies these experiences may be overlooked if health educators and other providers are not aware of the diversity of experience.

Sharing data from this research with stakeholders and community organizations and partners is indispensable to better serve this population more holistically and with understanding of the variety of experiences. The information generated from this study will be shared in journals, at conferences, and with different urban AI/AN organizations and clinics. It was also generated to help health educators to develop more culturally competent diabetes education programs for the urban AI/AN community the United States. The intent of this study was to better understand the experiences of urban AI/AN who use both traditional healing and Western medicine for type 2 diabetes education and management.

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## Appendix A: Questionnaire to Determine Participant Eligibility

1. What is your age? \_\_\_\_\_
2. What tribe(s) do you belong to or were raised with both federally and non-federally recognized?
3. Do you have type 2 diabetes?
4. Do you use both traditional healing and biomedicine/Western medicine to manage your type 2 diabetes? (Biomedicine/Western medicine: A system that includes medical doctors and other healthcare professionals such as nurses, pharmacists, and therapists that treat diseases through drug therapies, surgery, and radiation; other names are allopathic, mainstream, conventional, and Western medicine. Traditional healing: The incorporation of life balance with self, family, and community; living in harmony with others and the land including connections to food by making and providing it; and an individual's physical, mental, emotional, and spiritual health.)
5. Do you use both traditional healing and biomedicine for type 2 diabetes education?
6. Do you live in a metropolitan area? (concentrated core population of 50,000 or more with surrounding areas that have a high social and economic integration with the core).

## Appendix B: Interview Protocol/Guide

I would like to thank you for agreeing to be a part of my study. I am a PhD student from Walden University who is in the Health Education and Promotion program. I am conducting research about experiences as an urban American Indian or Alaska Native who uses both traditional healing and biomedical healthcare for type 2 diabetes. I chose to interview individuals who use both to hear your perspective and story. I will use the results of this interview in my dissertation, journal articles, and presentations.

This interview is a semi-structured interview which means I have predetermined questions, but the interview will allow for discussion that may not be directly asked regarding traditional healing and biomedical/Western medicine for type 2 diabetes. The interview will last for about 90 minutes regarding your experiences. Your participation is voluntary and if you do not wish to participate, you may stop at any time. I will be conducting the interview. The entire conversation will be recorded and only you and I will be present. All responses are confidential and are not discussed with others outside of this interview. Your name will be assigned a number to ensure confidentiality. When the recordings are transcribed, they may be transcribed with the help of a professional transcriber who does not know who you are and who must comply with a confidentiality agreement. Once the interview has been transcribed, I will provide you with a script for you to look at and confirm that you agree for me to use the information in my study. You can request any part of the interview to not be used in my study, just let me know what part. The recordings will be kept in a locked digital file that I will only have access to and will be destroyed five years after this discussion.

You can ask for an explanation or clarification at any time and I will take the time to explain them to you. If you have questions later, I will answer those questions. There are minimal risks associated with the discussion. You have been provided with a confidentiality agreement that must be signed in order to participate. If you have not signed it yet, please do so at this time. Do you have any concerns at this point that you would like clarified or addressed?

To begin this interview, I would like to ask you some questions about where you grew up and how you identify yourself.

### Background

1. Tell me about your background and where you grew up.

Follow up questions:

- How many years have you lived in this city/urban environment?
- Tell me about the tribe(s) you identify with.

Thank you for your responses. I would like to ask some questions about how your background and identity influence your use of traditional healing and biomedical/Western health services.

#### Intrapersonal level

2. How does your identity influence your use of traditional healing and biomedical/Western health services? Biomedical is the Western medicine health services utilized typically in a hospital or health clinic.
3. How does living in a city influence your use of traditional healing addressing type 2 diabetes?
4. How does living in a city influence your use of biomedical/Western health services and treatments addressing type 2 diabetes?

Thank you for your responses. I would like to now ask you questions about how family, friends, and health providers either traditional or Western influence your use of traditional healing and biomedical/Western health services.

#### Interpersonal level

5. How does family influence your use of traditional healing and biomedical health services?
6. Tell me about your experiences with traditional healers when seeking health advice for type 2 diabetes health.

Follow up questions:

- When do you decide to use traditional healing for type 2 diabetes health problems?
- How does using traditional healing practices influence your health decisions regarding type 2 diabetes?

7. Tell me about your experiences with biomedical health personnel when seeking health advice for type 2 diabetes health issues.

Follow up questions:

- When do you decide to use biomedical health services for chronic health problems?
- How does using biomedical health services influence your health decisions?

8. How do experiences differ when traditional healers and biomedical personnel provide prevention, detection, and treatment of type 2 diabetes health issues? Biomedical personal would include doctors, nurses, physical therapists, a certified nurses assistant, health educator, diabetes health educator, etc.
9. How do personal interactions with traditional healers and biomedical personnel affect your use of their services?

Thank you for sharing your personal experiences with friends, family, and health providers. The last three questions I would like to ask are about the influence of community and policy inform your use of traditional healing and biomedical/Western health services.

#### Community level

10. How does community influence your use of traditional healing and biomedical health services?

#### Policy level

11. How does policy affect your use of traditional healing and biomedical health services for type 2 diabetes health and issues regarding type 2 diabetes? An



example of a policy might be associated with being able to access health services at an Indian Health Services health clinic.

12. Is there anything else you would like to share with me about your experiences that I may have missed?

## Appendix C: Sociodemographic Data Questionnaire

Please circle the best response

1. What is your gender?

Female    Male    Other

2. What is your age? \_\_\_\_\_

3. What is your highest level of education, trade, or apprenticeship you have completed?

Some high school, no diploma  
High school graduate (diploma or GED)  
Some college, no diploma  
Trade/technical/vocational training  
Apprenticeship  
Associate degree  
Bachelor's degree  
Master's degree  
Doctorate degree  
Other

4. What is your marital status?

Single, never married  
Married or domestic partner  
Divorced  
Separated  
Widowed

## Appendix D: Aspects of an Interview Protocol

<b>Aspects of an Interview Protocol</b>	<b>Yes</b>	<b>No</b>	<b>Feedback for improvement</b>
<b><i>Interview protocol structure</i></b>			
Beginning questions are factual in nature			
Key questions are majority of the questions and are placed between beginning and ending questions			
Questions at the end of interview protocol are reflective and provide participant an opportunity to share closing comments			
A brief script throughout the interview protocol provides smooth transitions between topic areas			
Interviewer closes with expressed gratitude and any intents to stay connected or follow up			
Overall, interview is organized to promote conversational flow			
<b><i>Writing of Interview Questions &amp; Statements</i></b>			
Questions/statements are free from spelling errors			
Only one question is asked at a time			
Most questions ask participants to describe experiences and feelings			
Questions are mostly open ended			
Questions are written in a non-judgmental manner			
<b><i>Length of Interview Protocol</i></b>			
All questions are needed			
Questions/statements are concise			
<b><i>Comprehension</i></b>			
Questions/statements are devoid of academic language			
Questions/statements are easy to understand			

## Appendix E: Reflexive Journal for P1

Research Questions	Reflections/thoughts/ideas
RQ1: What are the experiences of urban AIs/ANs living in metropolitan areas in the United States when using both traditional healing and biomedical services to address type 2 diabetes?	Wants to share a lot about all types of medical needs outside of diabetes. Says takes meds for diabetes. Very interested in the overall use of traditional healing for health in general.
RQ2: How do urban AIs/ANs living in metropolitan areas in the United States describe their personal and interpersonal experiences when seeking type 2 diabetes education or management?	Did not know till he was an adult that he was indigenous. Sought out connecting with different tribes and utilizing traditional healing as an adult.
RQ3: How do urban AIs/ANs living in metropolitan areas in the United States perceive community factors that impact their decision to seek out type 2 diabetes education or management?	Did not have access to his tribe. He lives in a totally different place than his tribe. A local tribe took him in.
RQ4: How do urban AIs/ANs perceive their experiences, both positive and negative, when using traditional healing and biomedical health services for prevention, detection, and treatment of type 2 diabetes?	He shared that he never tells his western doctors that he does traditional healing or that he stops taking his meds sometimes.
RQ5: How do urban AIs/ANs perceive policies that are in place from Indian Health Services, urban Indian health organizations, and non-Indian clinics?	His tribe is not federally recognized so does not have access to IHS.
RQ6: How can health educators integrate feedback from urban AIs/ANs to create more culturally competent type 2 diabetes education and management programs and interventions?	The western doctors don't seem to be open to asking if other types of healing are being used. Didn't mention anything about nutrition from western medicine or mental health supports.
Additional thoughts/occurrences about the interview.	He did not want the gift card, only key chain and tobacco.