SUSTAINABLE HEALTHCARE PROVIDER OUD ASSESSMENT AND MANAGEMENT IN RURAL NATIVE AMERICAN COMMUNITIES (RNACs): PREVENTION, TREATMENT, AND RECOVERY APPROACHES

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In the US, rural Native American communities (RNACs) experience excess morbidity in mental health disorders and mortality from opioid use disorder (OUD). This study used mixed methods to evaluate and analyze the primary data from 76 healthcare providers (HPs) from 24 states across the US (physicians = 7%), to identify HP knowledge and training regarding available prevention, treatment, and recovery (PTR) programs in treating OUD, assessment and management skills, and networking and collaboration capacity among the RNACs they serve. The HP completed the Opioid Survey for Health Care Providers online. A majority of HPs reported a need for knowledge and training regarding OUD treatments (92%). Less than half of the HPs provide intensive outpatient treatment; 40% contracted out for medication assisted treatment/medications for opioid use disorder (MAT/MOUD) services. Recovery support was low at 33% for adults and 38% for youth. HPs reported use of Narcan to be effective in reversing overdose (87%). Qualitative responses supported survey findings and described barriers, including lack of resources, inadequate staffing, insufficient funding, lack of training and OUD knowledge, stigma, and lack of tribal involvement and support. The study findings indicate HPs' need for information and training about OUD and networking and collaboration of healthcare settings to meet the needs of the RNAC they serve. Efforts are needed to improve on recovery programs with an emphasis on the youth. Culturally adapted MAT/MOUD approaches are needed to sustain long-term recovery care.

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LIST OF ABBREVIATIONS

AI/AN	American Indian and Alaskan Native
HP	Healthcare provider
MAT	Medication-assisted treatment
MHD	Mental health disorder
MOUD	Medications used to treat opioid use disorder
NA	Native American
OUD	Opioid use disorder
PTR	Prevention, treatment, and recovery
RNAC	Rural Native American communities
SUD	Substance use disorder

CHAPTER 1

INTRODUCTION

Since the 1990s, the use of opioids has gone from a crisis to an epidemic. According to the Centers for Disease Control and Prevention (CDC), Americans Indians and Native Alaskans (AI/AN) make up less than two percent of the United States (US) population and are the smallest racial/ethnic minority group (United States Census Bureau, 2018). AI/AN have the highest past-year and lifetime substance use disorder (SUD) rates (Greenfield & Veneer, 2012). AI/AN have experienced the most significant increases in OUDs and opioid-related overdose mortality rates than any other population group in the country (Joshi et al., 2018a), twice as likely to face unmet treatment needs than the US general population (Chartier & Caetano, 2010), indicating that AI/AN experience a more significant burden and present the greatest need for SUD/OUD treatment (Gryczynski & Johnson, 2011a). AI/AN have higher mortality rates, psychiatric comorbidity, and multiple chronic diseases (Kwon & Saadabadi, 2021a).

AI/AN who live in rural areas and on reservations live in continuous adverse environments, which impact their psychological and physical health over a lifetime (Willows et al., 2012). Stress, discrimination, and intergenerational trauma are frequently cited as causes of substance use and barriers to recovery for many AI/AN (Skewes & Blume, 2019). Inequity in the treatment, prevention, and recovery interventions regarding SUDs and OUDs among AI/AN is well documented (Beals et al., 2005; Harris et al., 2006a; Priester et al., 2016a). The lack of trained healthcare service providers (HP) is a significant barrier to OUD management in rural Indigenous communities (RNAC) (Lister et al., 2020).

HP perspectives are critical to developing effective implementation strategies for SUD. Knowledge of substance use as well as the lack of knowledge, can and often does affect their

diagnoses, prescribing decisions, and care plans (McNeely et al., 2018a). Many of the barriers to SUD treatment, prevention, and recovery exist at the HP level, including lack of education and financial reimbursement, fear of losing patients, current workload, lack of time, lack of preventive services necessary, availability and lack of knowledge, slow adaptation to evidenced-based treatments, and not core to the job description (Anderson et al., 2014; Roche & Freeman, 2004; Saunders et al., 2019).

1.1 Study Rationale

One of the top priorities for Rural Healthy People 2030 is substance use, specifically surrounding opioid use, as it recognizes the challenges of accessing treatment in rural areas. However, there are considerable gaps in knowledge on optimal health systems for managing opioid use disorders (OUD) and opioid-related mortality. Specifically for OUDs among rural AI/AN communities (RNAC). Hence, this study aims to focus on the perspectives of healthcare providers (HP) in these communities regarding their knowledge, competency, resources, attitudes, and beliefs toward treatments, prevention, and recovery of opioid-related issues. In addition, HPs are often the first point of contact for AI/AN seeking treatment for substance use, and their cultural safety and security practices with AI/AN patients are unclear.

HP must examine the realities, beliefs, and attitudes influencing their interactions with AI/AN. Cultural safety is defined by the consumer's experience of the care environment and processes rather than the health professional's worldview (van Ryn & Saha, 2011a). Cultural safety in health for AI/AN is also about all aspects of one's life, including control over the physical environment, participation in the community with dignity, and social justice. Health for AI/AN is not merely providing doctors, hospitals, medicines, or the absence of disease and incapacity.

Cultural security goes beyond behavior changes by individuals and involves systemic changes. Unfortunately, due to the diversity of AI/AN across the US, it is difficult for outsiders to understand each community's belief systems and politics and develop a working rapport. The lack of understanding may result in insensitive and culturally inappropriate interventions, despite the positive personal intentions of a healthcare provider. Cultural security is achieved by developing accessible and effective healthcare systems for AI/AN based on acknowledging the right to self-determination, empowerment, and an understanding and responsiveness to cultural views, beliefs, and knowledge systems. This may be integral to AI/AN adherence to health care services. It is a viable strategy to improve the links between access, equity, quality, and safety for improved health outcomes of AI/AN with the cost-effectiveness of health services (Phiri et al., 2010).

Inherently, sustainable opioid use health services geared towards AI/AN must adopt a cultural security and safety approach, recognizing cultural framing to the person with a sense of comfort. To achieve this outcome, OUD services for AI/AN must be holistic, culturally safe, and centered on respect and trust (Venner et al., 2018a; Zeledon et al., 2020a). These qualities can be achieved with AI/AN care providers on the treatment team to help minimize discharges against medical advice. For instance, cultural awareness programs have been in place by states and territories of the US for several decades. They aim to enhance understanding of best health service practices with AI/AN (Arndt et al., 2013a).

1.2 View of Substance Use Health

AI/AN have had a healthy and vibrant history of using substances for centuries representing ceremonial and traditional practices for many life situations. These traditions include medicinal healing, treating the spiritual issues of the individual, celebrations of life, and

celebrating nature. For AI/AN, using a substance with bodily ingestion builds boundedness with the substance's characteristics. The view of many AI/AN is that the body is connected to the environment, and there is a oneness to all things (Portman & Garrett, 2006). Tobacco and peyote are examples of numerous substances used for ceremonial practices. Often non-Indigenous cultures fail to understand that smoking is an act related to spirituality to all living things and the Creator, the practicing tribes. Rituals capture the heart of spirituality: all things are sacred, related, and bound together (Godlaski, 2013).

The concept of SUD is different among AI/AN. Being identified with a SUD would be shameful. The concept of shame is a specific cultural factor that is a significant response to health conditions among them. For many AI/AN, shame and dishonor are serious violations against the tribe, the family, themselves, and their sense of dignity and autonomy (Bigfoot & Braden, 1998). Shame refers to situations where a person has been singled out for any purpose from the security and anonymity of the group. Shame has long been associated with suicide rates among AI/AN (Davenport & Davenport, 1987). Being identified by other community members as being seen entering drug treatment facilities increases shame. Being seen as having a drug problem and being weak incurs shame, and knowing the stigma associated with addiction within the tribes also exacerbates a personal sense of shame (Gone & Trimble, 2012; Priester et al., 2016b).

The sense of shame can influence treatment care and recovery response with OUD, and some AI/AN may discontinue treatment and recovery services they perceive to single them out to be different and weak. For example, in 2019, suicide was the second leading cause of death for AI/AN between the ages of 10 and 34, with a rate of 20 percent higher than white adults. In addition, females ages 15-19 have a five times higher rate than white females in the same age

group (Centers for Disease Control and Prevention, (Heron, 2021).

Various OUD care approaches with AI/AN communities exist. However, with the recent spotlight on the pandemic of rampant OUD and overdose deaths among this population, more interventions are being sought to ameliorate this situation. An example of a sustainable approach would be implementing health workforce initiatives collaboratively within AI/AN communities. Such workforce development initiatives could include community members trained as peer leaders and mentors, university and non-university organizations, cadetships, short-term training courses, and school-based training and university scholarships (Watts et al., 2020). In addition, they are identifying funding sources to cover tuition costs in historically impoverished areas where higher education is not an option for many youths in RNAC.

1.3 Treatment Goals and Communication Issues

Independence may not be a critical OUD treatment goal or outcome for some AI/AN. Substance use safety would be viewed as a family and community rather than a personal problem (Gryczynski & Johnson, 2011b). That being the case, the management of OUD among AI/AN needs to be viewed through their beliefs and assumptions of a person with atypical substance use in the context of their culture and lifestyle. AI/AN prioritize sociability in their cultural membership and participation. Therefore, OUD HP must know these differences when deciding treatment goals.

Lack of culturally appropriate communication is another issue during the care and management of OUD with RNAC. Many AI/AN have culturally nuanced understandings of daily discourse from socialization in cultural scripts and intergenerational learning dating from colonial conquest experiences (Dixon et al., 2007). The assumption that common mainstream English words and phrases would have cross-cultural transportability can cause

misunderstanding and distrust (Mpofu et al., 2021a). With the different Indigenous tribes come different languages and dialects between them, and they are less known by HP, yet crucial for building sustainable health relationships. Even non-verbal communication innuendoes would be different for AI/AN, as some may avoid eye contact as a cultural gesture of respect. Some (but not all) would be uncomfortable with direct eye contact, especially if unfamiliar (Harper, 2011).

When used appropriately, telehealth services such as video conferencing are emerging as effective ways to complement local health services, assuming broadband availability and access in Indian territory (Alverson et al., 2008; Park et al., 2018a; Shore et al., 2007). Telehealth services have the advantage of reducing the need for travel for care, reductions in total costs for healthcare, providing timely access to services and specialists, improving the ability to identify developing conditions, helping educate, train, and support remote healthcare workers on location, offering of confidentiality and decrease in stigma, and supporting treatment of related risk conditions. In addition, improving the cultural awareness of health workers will further assist in developing culturally respectful health care (Park et al., 2018b).

1.4 Definition of the Problem

The literature regarding health care service provider status and practices with AI/AN is limited. Many federally recognized tribes have sustained generations of trauma and distrusted others outside their communities.

AI/AN experience a more significant burden of substance use disorder than other racial/ethnic demographic groups in the US (Gryczynski & Johnson, 2011c) and have the most significant increases in opioid-related overdose rates compared to all other US racial/ethnic groups (Joshi et al., 2018b). When examining the trends in OUD morbidity and mortality, AI/AN are second to whites in mortality related to overdoses (Venner et al., 2018b).

If satisfied with their services, AI/AN are more likely to use health services, participate in treatment, and adherence to treatment protocols. However, it is often the case that extant mainstream services are deficient in cultural responsiveness, calling for a need for collaborative work with them to develop models of care that are culturally appropriate and would meet the needs of AI/AN. An estimated 5.7 million AI/AN, comprising 1.7 % of the total US population. The 2016 Census reveals that 60 % of the AI/AN live outside tribal statistical areas. In addition, 22 % of AI/AN live on reservations or other trust lands (Lofthouse, 2020). Over one-third of the Indigenous population live in very remote areas, which compares to just 2% percent of the general population of the US (Rural Health Information Hub, 2010). Therefore, more than one model of care may be needed to help focus on AI/AN living in rural and remote areas of the country.

Medication-assisted treatment (MAT), or what is now being referred to as medication for opioid use disorder (MOUD), is the most intense level of care. MOUD provides a multidisciplinary team approach to enhance and restore function with OUD. MOUD sees positive results as they are often the first line of treatment for individuals who come into the emergency department to treat an overdose. MOUD may be provided in-patient initially for acute care need cases. The team's core would include a physician, nurse, mental health counselor, social worker, occupational therapist, and possibly a clinical psychologist while accessing the acute vascular unit for cases at risk for cardiovascular events. However, there are numerous problems with discharge planning from in-patient MOUD. This would be the case, especially for those from rural and remote communities. This is part is due to the lack of patient follow-up/outpatient services in rural and remote Indigenous communities (Kampman & Jarvis, 2015a; Volkow & McLellan, 2016a). Difficulties in outpatient clinic follow-ups cause delays in Review

and would affect functional recovery adversely. Thus, while outpatient MOUD is perhaps the most prevalent care for RNAC, service planning is challenged by staffing shortages to provide quality OUD services. Without a support program for preventing relapse or reoccurrence, research shows the individual will return to opioid use (Diclemente, 2018).

Community-based OUD management programs allow AI/AN in remote and rural areas to stay in their communities and involve collaborative relationships between HP, community-based workers, and the broader Indigenous community. They may involve non-medical intervention or be supplemental to MOUD (Joshi et al., 2018c). CBR offers an opportunity to address gaps in service delivery and provide OUD care services that meet the specific cultural and social needs of RI communities. However, recruiting and retaining trained OUD staff appropriately, nurses with OUD training, is a significant problem (Haffajee et al., 2018). Several workforce issues hinder the delivery of allied health services to rural and remote Indigenous communities. These include high staff turnover, highly stressful workloads, limited professional development support, inadequate recovery programs, and a highly likely return for treatments after overdose. In addition, the return to treatment often leads to patient bias by HP (FitzGerald & Hurst, 2017).

While there have been improvements, much is still needed to ensure sustainable systematic changes involving culturally appropriate treatments for AI/AN experiencing OUD. This can in part be augmented by having more AI/AN representation in healthcare, especially for treating OUD. Regrettably, AI/AN need to be more represented in the health workforce. According to the US Bureau of Labor Statistics, in 2019, the overall unemployment rate in the US was 3.7%. The jobless rate for AI/AN was 6.1%. AI/AN comprised only 1% of the total workforce, 1.6% of the healthcare workforce, although they account for 1.6% of the population (US Department of Labor Statistics, 2020).

1.5 Study Aims

The perspectives of physician and non-physician clinical staff are critical to developing effective implementation strategies for SUD. This study aimed to explore how HP perceived their knowledge of:

- Substance use disorders (SUD) and opioid use disorder (OUD)
- Medications and treatments used to treat OUD
- Experience and level of competency in providing OUD treatment
- Beliefs and assumptions regarding the effectiveness of available OUD treatment
- Culturally appropriate communication regarding treatment goals and program
- Implementation, sustainable management of OUD programs for treatment, prevention and recovery

This study also examined the suggestions and opinions of HP regarding providing best practices for implementing OUD education among RNACs.

1.6 Research Questions

Utilizing a quantitative-qualitative, mixed methods approach, this study explored health provider knowledge, beliefs, and competencies regarding OUD treatment, management, and education among RNACs. This study sought to determine the following:

1. Do HP serving RNAC have the education, training, and information to provide OUD treatment programs and services?
2. What needs do HP perceive for improved knowledge and gaps in OUD prevention, treatment, and recovery programs?
3. Do HP lack the culturally appropriate, safe, and secure models of care necessary to provide culturally appropriate medication for opioid use disorder (MOUD) and community-based programs for RNAC?
4. What training and information do HP need to provide better culturally appropriate MOUD and community-based programs for RNAC to ensure better outcomes related to engagement in OUD prevention, treatment, and recovery?

5. Can the use of networking to promote public health aid in sharing knowledge, encourage more RNAC with OUD to seek treatment, and help to allocate scarce resources provided to these communities efficiently?

6. Do HP possess the necessary capabilities to manage scarce resources, how are they managed, and what types of treatment are offered?

1.7 Research Hypothesis

H1: HP beliefs and assumptions regarding OUD treatments influence the decision to provide MOUD to RNAC with OUD.

H2: HP serving RNAC communities lack the training and information to provide OUD treatment programs and services in culturally appropriate, safe, and secure models of care for RNAC.

H3: HP must gain the knowledge and experience to manage OUD in RNAC.

H4: HP perceive a lack of and need for improved knowledge, education, and training regarding OUD prevention, treatment, and recovery programs.

H5: HP need education and training in culturally appropriate, MOUD and community-based programs for RNAC for better outcomes related to engagement in prevention, treatment, and recovery.

H6: HP need adequate, practical, available resources to provide OUD care that includes education and information for the RNAC members, not just those seeking treatment.

H7: HP need resources that support prevention and recovery, and these approaches must be culturally competent for the RNAC to adapt and adopt them.

1.8 Significance

The study findings are intended to provide essential leads on addressing HP cultural safety and security preparation and competencies for OUD prevention, treatment, care, and

recovery with RNAC. What makes this study important, relevant, and meliorating is the perspective from HP, who are on the ground and the frontlines with these communities. The perspectives will provide first-hand knowledge of the issues faced and the information and education needed for HP to provide OUD services where they are needed most. The HP perspective incorporates what they feel they need to be better providers, improve their skills in identifying and managing OUD within cultural competency, security, and safety, and the competence to sustain prevention, treatment, and recovery of their patients and their communities. The perspective allows care from the vantage point of HP working with RNAC facing OUD. By integrating cultural safety practices in health provider education and training, the needs of RNACs who use opioids will be better addressed.

1.9 Assumptions of the Study

Based on knowledge and experience with OUD, the overall assumption was that HP needs more resources, better training, additional trained personnel from within the RNAC themselves, and a concerted effort in recovery supports and better ways to promote prevention to indigenous youth. From experience within the counseling and behavioral health aspects in providing the required component to MOUD services, it was assumed that this aspect would be one of the missing parts for many RNAC. RNAC medical facilities are lucky if they have adequate personnel to work in these clinics. Access to culturally competent mental health care is often a luxury and the study showed this to be an oft occurring situation. Cultural competence and awareness of Indigenous culture were assumed to be higher within this survey than if not targeted towards HP who serve in RNAC. Though it was higher, there still exists a greater need to implement adequate training opportunities for HP before serving the RNAC and additional training and information once they are there.

Because HPs were asked about their experience, competency, education and knowledge, the assumption of over-reporting of higher levels possessed than might what be different should responses be verified for accuracy, was assumed. The validity of relying on self-reported measures to assess HP perceptions of the adequacy of their education or training is both an assumption and a limitation of this study. Self-report surveys reflect a single sample or snapshot in time and the perceptions held then (Leedy & Ormond, 2005). Without the possibility of verified responses, it would be assumed that the perception of ability and competence would be higher.

1.10 Limitations

Due to the nature of the research subject, limitations were the under-reporting of accurate OUD rates and incorrect or missing racial categories identifying Indigenous people on death certificates related to fatal opioid overdose. Over-reporting of patients seen and correctly identified as having OUD and provided treatment. Snowball sampling was time-consuming and required a vast number of surveys to be emailed to a variety of regions to get a better picture of OUD in RNAC in many different states. Because Indigenous populations tend to be closed and protect information coming in and going out regarding their communities, there were HP responses to the survey stating they only participate in Indigenous research among their tribes. Other limitations of the participants' comments were the length, repetition, and questions' similarity, as well as the focus on prescribing MOUD when most HP are not authorized to do, and there is a well-known shortage of clinics that can and do offer MOUD in RNAC.

The criteria for serving RNAC narrowed the participant groups, limiting the breadth of perceptions and findings related to providers who also experience many of the issues discussed in this study that would apply to urban Indigenous populations as well. This would have been

valuable in the findings related to networking and possible information and referral services across the triangle of care in prevention, treatment, and recovery services among facilities and providers. However, the generalizability or transferability of findings can be achieved in qualitative research (Tracy, 2010). Another limitation is though surveys are the most cost-effective and accessible way to reach a broader representation of participants, this increases the possibility of representation and measurement error (Gaille, 2020).

1.11 Definition of Terms

- *Addiction*: A primary, chronic disease of brain reward, motivation, memory, and related circuitry that leads to dysfunction and structural changes to the brain. This is reflected in an individual pathologically pursuing reward and relief through substance use and other behaviors (Crockford & Nady, 2011). With recent changes and awareness in how the language used to describe addiction has often led to stigma and discrimination, addiction is referred to as a substance use disorder (SUD).

- *Competencies*: Possessing a specific knowledge and skill or ability; a specific area of competence.

- *Cultural competence*: Awareness of one's beliefs, values, biases, awareness, and knowledge of the worldview of culturally diverse individuals and groups.

- *Diagnostic Statistical Manual for Mental Disorders,* fifth edition (*DSM-5)*: A guide that trained and experienced mental health professionals use to diagnose mental health conditions (APA, 2020b). All disorders have a coordinating ICD-11 code.

- *Drug poisoning death*: Also known as *fatal* overdose resulting in death from an unintentional or intentional overdose of a drug, being given the wrong drug, taking a drug in error, or taking a drug inadvertently.

- *Harm reduction*: Attempts to reduce the adverse consequences of drug use among persons who continue to use drugs and emphasizes practical rather than idealized goals; managed use vs. total abstinence. Harm reduction (HR) is grounded in public health and advocacy movements. It has repeatedly proven to be effective in treating drug use and long-term maintenance and support of the treatment and has gained acceptance, especially considering previous policy approaches that have failed for decades. The principal feature of HR is the acceptance that some drug users cannot stop their drug use at present. The essence of HR is to ameliorate adverse consequences of drug use while, at least in the short term, drug use continues (Single, 1995).
- *Healthcare provider*: A person or entity that provides medical care or treatment.
- *ICD10/11 code*: A diagnostic tool that provides codes for classifying diseases by the signs, symptoms, and external causes and is used as a framework for deciding health care or health management. These codes are also used for morbidity and mortality statistics worldwide.
- *Indigenous people*: Culturally distinct ethnic groups whose members are directly descended from the earliest known inhabitants of a particular geographic; native.
- *Medications for treating opioid use disorder (MOUD)*: This is an evidence-based standard of care used in treating OUD and is considered the golden rule regarding the effectiveness in treating and managing OUD. MOUD is an approach using tenets in Harm Reduction to treat substance use disorders. The standard treatment options include approved drugs such as methadone, buprenorphine, and naltrexone. They are also referred to as medication-assisted treatment (MAT) (Fendrich & LeBel, 2019).
- *Mixed methods*: A method used in research that integrates both qualitative and quantitative data (Creswell, 2004a).

- *Opioid*: A class of drugs that interacts with opioid receptors on nerve cells in the body and brain and reduce the intensity of pain signals and feelings of pain. Opioids are often the most effective form of pain management for acute and chronic complaints. Opioid pain medications are available legally by prescription. Opioids are potent and highly addictive (Sutherby, 2022).
    - *Natural and semisynthetic opioids*: Comes naturally from the poppy plant. Includes drugs such as morphine, codeine, hydrocodone, and oxycodone.
    - *Synthetic opioids other than methadone*: Man-made or laboratory-made, such as fentanyl, fentanyl analogs, and tramadol. Fentanyl is often made illegally and is the leading cause of drug-related overdose and death worldwide (DEA, 2020).
- *Opioid use disorder (OUD)*: A substance use disorder (SUD) that is a problematic pattern of opioid use that causes significant impairment or distress. It is a treatable, chronic disease that can affect anyone. A diagnosis of OUD is based on specific criteria, such as unsuccessful efforts to cut down or control use or use and failing to fulfill obligations at work, school, or home, among other criteria. It can even lead to overdose and death. (CDC, 2019a).
- *Overdose*: When a person takes a greater amount than normal of a drug that results in significantly depressed breathing and other harmful symptoms or death.
- *Perspective*: A particular attitude toward or regarding something; a personal point of view.
- *Recovery (relapse, recurrence)*: Returning to or falling back into a substance use disorder (SUD) pattern after treatment.
- *Rural*: Rural often includes all people, housing, and territories not within an urban area. These areas often need improvement and need more resources. Any area that is not urban is rural (Pahl, 1966).

- *Substance use disorder (SUD)*: Also referred to as substance abuse, refers to a clinical level of impairment experienced by an individual in domains such as work, school, and home due to the use of alcohol and drugs (APA, 2020).

1.12 Summary and Conclusion

RNAC carries a disproportionate burden of OUD and is at significantly high risk for mortality from a lack of timely and culturally appropriate treatment care. The complex interplay of the cultural, social, and environmental factors and the communities' rurality make it challenging to provide OUD care services. Cultural security practices can increase RNAC access to OUD care, increase the effectiveness of the care they receive and reduce disparities in health outcomes. Providing holistic and culturally safe OUD care services for RNAC is essential. Collaborative models like outreach substance use health and education programs offer excellent prospects to address gaps in service delivery, together with developing cultural competencies for all healthcare professionals and collaborating professionals, which would assist the sustainable OUD care among AI/AN, especially the historically under-served RNAC.

In summary, the intent and purpose of this research study and dissertation were to ascertain the needs and beliefs based on the perceptions of frontline HP who serve RNAC, how they believe the fight against OUD and mortality related to opioids can be better fought, helping to inform what the real RNAC needs are, and how can the needs be met. HPs see the damages on a consistent basis and are often unable to affect change, as they lack training and educational opportunities. They historically have constant shortages of assessment instruments, resources, and available treatments for OUD. Many understand the ravages of drug use and the multigenerational trauma perpetuating substance use. Research shows the social determinants of health predispose minority communities to high drug use, and though beyond the scope of this

study, the absence of mental health and behavioral counseling in RNAC, should be of great concern as they are pivotal in helping to address the cooccurring factors often found in OUD and are required components in the success of MOUD for OUD (de Saxe Zerden et al., 2021a; O'Grady et al., 2022a).

Any approach to treat OUD will be ineffective without prevention and recovery approaches being included in the treatment. As relapse is commonly known as a part of OUD, without having this necessary component added to the management of OUD, those having gone through treatment successfully will be set up for failure. They should go hand in hand. As the literature and studies show, evidenced-based practices of MOUD are considered the gold standard and most effective treatments. For this community, for buy-in and a willingness to accept the proposed approaches, healthcare providers should be aware and multiculturally competent from the perspective of the Indigenous way of life. Without these approaches being culturally appropriate for RNAC and in tandem with their beliefs and practices, the basic premise of more medication goes against the belief in living with nature and medication free. It is often seen as cultural blindness and disrespecting the Indigenous way of life. We cannot only focus on the perspective of the provider's needs. To effectively prevent, treat, and support recovery, we need to see the Indigenous patients' perspective.

CHAPTER 2

LITERATURE REVIEW

Substance use disorder (SUD) is a disease that affects a person's brain and behavior. It leads to an inability to control the use of a legal or illegal drug or medication despite the harm it causes (Mayo Clinic 2022). People initially use substances for different reasons, it can begin with the experimental use of a recreational drug, iatrogenic exposure to prescription medications, and occur on first use (Butler et al., 2016a; Cavicchioli et al., 2021; Thornton et al., 2012). There are competing theories on SUD, the most effective treatments for SUD, and what makes for sustained recovery among the many people who struggle with SUDS. Among the most widely disseminated theories on SUD, they include biomedical, pharmacological, psychosocial, and environmental.

This chapter provides a review of the literature regarding sustainable healthcare provider (HP) assessment and management of opioid use disorder (OUD) in rural Indigenous communities (RNAC). It begins this chapter by defining what constitutes SUD and OUD and the current opioid epidemic, and the methods of assessment or identification of an OUD diagnosis. Next the chapter discusses the theoretical implications regarding substance use disorders (SUD) and the change in focus on how SUD is viewed and treated. The chapter then discusses the importance of prevention, treatment, and recovery and the approaches available and necessary for the management of OUD. Next, this discussion leads to an overview on how OUD affect rural Indigenous communities (RNAC) who carry the burden of racial disparities in adequate diagnosis, treatment, and prevention for Opioid Use Disorders (OUD) per capita. Finally, the chapter discusses how HPs education and training for SUD, OUD, cultural safety and security, Indigenous representation in trained healthcare professionals, and the impacts of the adverse

experiences in treating rural Indigenous communities (RNAC) for OUD.

Education, training, and experience in SUD and Indigenous culture are crucial in the decisions and actions of HP in the assessment and management of OUD treatment within these populations. HP understanding what SUD is and how it is assessed may influence how it is treated. HP are the first point of contact for patients who are seeking treatment, yet there is little evidence on their training, knowledge and confidence and providing sustained prevention, treatment, and recovery for OUD in rural Indigenous communities (RNAC). Credible OUD care should include indigenous culture way of knowing, the triangle of care: prevention, treatment, and recovery approaches, and training programs for HP.

2.1 The Opioid Epidemic

According to the National Center for Health Statistics (NCHS), the drug overdose death rate in the United States climbed 376% from 2001 to 2021 and has quintupled since 1999 with much of that increase having occurred in the last two years. Rural America is especially at risk for OUD and fatal overdose is about 50 percent higher in rural areas than in urban areas, as these communities have limited access to health care, have lower populations, and more space between houses. Nearly 75% of the drug overdose deaths since 2020 involved an opioid and according to recent CDC figures, 187 people die every day from an opioid overdose (CDC, 2021a). And to bring to the forefront a long-term effect also related in part to the opioid epidemic, life expectancy fell to 76.4 in 2021 (New Report Confirms U.S. Life Expectancy Has Declined to Lowest Level since 1996, 2022). The overdose related life expectancy drop is not years taken of the end of life; it is the overall total of younger people being taken out in their younger years.

2.2 Opioid Epidemic Waves

The first wave of the opioid epidemic in the United States began with physicians

overprescribing the highly effective opioid pain medication OxyContin in the 1990s. At the time of its introduction to the drug market, the new drug was highly effective at reducing and managing pain. Unfortunately, Purdue Pharma promoted the drugs with guerilla-type tactics, and within a few months, there was no pain, medical, or healthcare setting in which these drugs were not used. What the manufacturers and drug reps did not tell the prescribers, the drugs were known to be highly addictive and intentionally described as being less addictive than other opioids such as oxycodone, hydrocodone, and morphine that were currently used for pain. The widespread overprescribing resulted in an unprecedented increase in substance use disorders (SUD), opioid use disorders (OUD), comorbidity with mental health disorders (MHD), and fatal opioid-related overdoses.

Figure 2.1

Opioid Overdose Mortality, 1990-2020

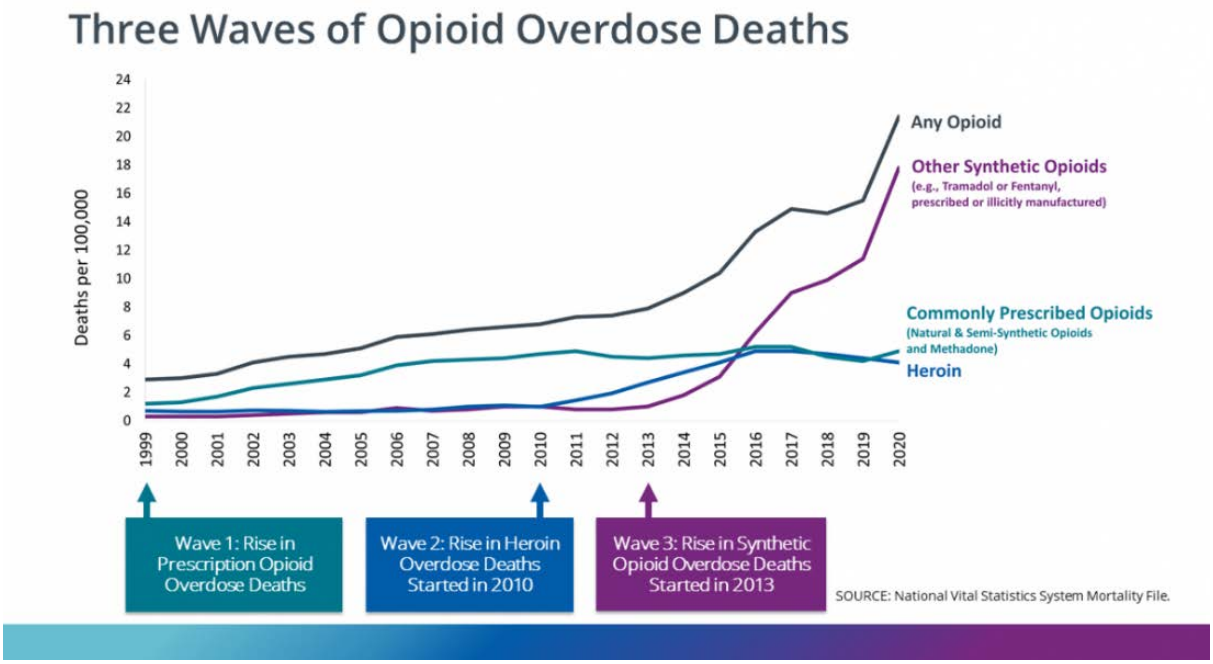


Figure 2.1 shows the four waves of the opioid crisis over a 20 year period from 2099 to 2020 with the first wave caused by the rise in opioid prescriptions in 1999, the rise in heroin use

because of lack of access to opioids in 2010, the rise in opioid overdose deaths in 2013, and the current fourth wave of fentanyl, tranq, and overprescribing of poly stimulant medications.

In 1999, attempts to stave off the rising SUDs and fatal overdoses due to prescription opioids brought sudden federal oversight and immediate regulation of prescriptions (Maclean et al., 2020). As a result, prescribers were forced to regulate the amounts of opioids they prescribed or lose their licenses. This resulted in thousands of patients taking these drugs for legitimate chronic pain, but without any relief (Simon, 2012). In addition, thousands were newly addicted and suddenly without access to previously available drugs (Karim & Chaudhri, 2012). This led to the second wave of the epidemic. The *second wave* came with the expansion and availability of heroin due to the immediate crackdown on opioid prescriptions in 2010 (Alpert et al., 2018). Though opioid prescriptions immediately decreased, overdose deaths from heroin did just the opposite. The lack of access to previous opioids fueled the heroin market, as heroin was cheaper, more potent, and more widely available (Humphreys et al., 2022). This led to increased intravenous drug use, the spread of blood-borne infections and disease, and fatal overdoses now caused by heroin.

The third wave started in 2013 with an alarming increase in OUD and fatal overdoses caused by illicit and highly fatal synthetic opioids, including fentanyl. Fentanyl is 100 times more potent than heroin (Armenian et al., 2018). This wave began just as a focus was placed on educating prescribers on assessing the risk for SUD. Progress was made in bringing awareness to opioid overdose and death among all younger racial and ethnic groups. Attention was finally moving the needle to highlight the high rates of OUD and the lack of available SUD/OUD treatments in marginalized populations. Moreover, harm reduction approaches implemented poorly across the US and failed. Prevention campaigns aimed at children were implemented

starting as early as elementary school. The campaigns were in part to alert children to the dangers of drug use, prior to reaching puberty avoiding the potential for abuse early on that would interfere with their biological and psychological maturation or growth, provide realistic information and to instill an attitude that “Drugs are bad” and to “Just Say No” to drugs (Reardon et al., 1989), and to give an alternative impression to adolescent thinking of “drugs are everywhere” and “everyone is doing them.”

The campaigns realized that young children are impressionable, and that peer pressure is the leading reason children began to experiment. Then the COVID-19 pandemic arrived in 2020, and access to SUD treatment programs stopped. Some clinics were closed temporarily for months, and some program sites and services ceased permanently. Access to healthcare changed, most notably in the interruption of resources allocated for SUD/OUD treatment as the more immediate focus was placed on the COVID-19 pandemic.

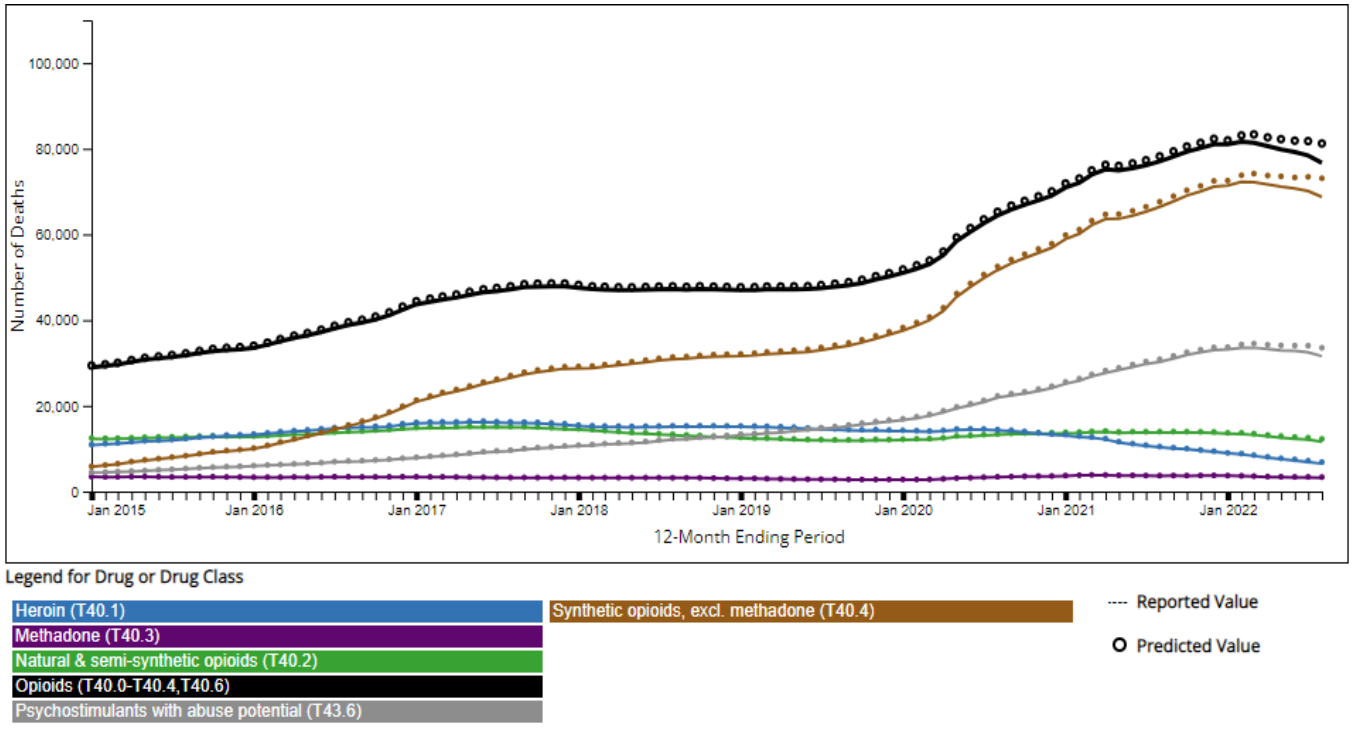
The US is in the *fourth wave* of the opioid epidemic, mixing stimulants such as methamphetamines and opioids (heroin + fentanyl) as the main driver (Ciccarone, 2021). The combination of each drug’s potency level, often laced or containing fentanyl, is often fatal. Ironically, this fourth wave of polysubstance use directly followed from increased prescriptions for anxiety, depression, and other mental health disorders exacerbated by COVID. According to the National Center for Health Statistics (NCHS), overdose deaths involving cocaine and psychostimulants such as methamphetamine, amphetamine, and methylphenidate also show similar increases (Hedegaard et al., 2021a). The cocaine-related death rate rose 22% from 2020 to 2021 and is up by 421% since 2012, while the corresponding increases for psychostimulant deaths were 33% and 2,400% (Frankl, 2023).

The fourth wave has shown the highest increase in OUD among Indigenous and black

communities (Entress, 2021). There were numerous exacerbations to the opioid epidemic caused by COVID, and as we are still in the pandemic, final numbers of fatal overdoses are unavailable. COVID forced many businesses to close, and many did not reemerge once the restrictions were eased, bringing high unemployment rates, isolation, loneliness, anxiety, depression, fear, and death. Many who were in MOUD treatment programs could not get the daily medications. Relapse or reoccurrence rates skyrocketed, as did continued use and initiation to first use (Sarvey & Welsh, 2020). COVID further fueled the illegal importing of fentanyl from Mexico and China. In Figure 2.2, the mortality rates according to the drugs used show a steady increase over a 12 month period, for seven years, from January 2015 to January 2022. The drugs which have proven to be the most closely related to death are opioids and synthetic opioids, where opioids are the leader.

Figure 2.2

12 Month Drug Overdose Mortality Rates by Drug 1999-2020



The SUD mortality rates steadily increased during the pandemic, especially in RNAC. Data post-COVID shows a steady increase in drug overdose deaths from opioids for all groups worldwide. Figure2.2 shows the 12 Month-ending Provisional Number of Drug Overdose Deaths by Drug or Drug Class from February 2023 (CDC, 2019b).

What makes this fourth wave so deadly is combining opioids with other drugs, as it increases the risk of overdose and can change the physiology of overdoses in ways that may lower the effectiveness of the antidote naloxone and the administration of Narcan. There are two new illegal synthetic drugs currently flooding the street drug market, and they are called isotonitazene or ISO and tranq or tranq dope. According to experts, ISO quickly flooded the street drug supply and has already had a driving effect on overdose numbers that have climbed exponentially in recent years (Langendorf, 2022a). Tranq dope is the street name for a powerful non-opioid that is mixed of heroin, fentanyl, and xylazine. Tranq is the nickname for Xylazine, a medication used as an animal tranquilizer and muscle relaxant not approved for human consumption, highly fatal, and in many cities becoming the drug choice cause of death (Barber, 2023). What makes this drug more dangerous that other opioids on the market being abused is tranq causes the skin to break down, rot, become necrotic, and leads to amputation and death. This is bringing a different kind of attention to the homeless population as this is where it is being seen the most (Thomson, 2023). Additional perils associated with this these new drugs are neither drug is responsive to Narcan (Kacinko et al., 2022). Getting in front of this wave will require a better understanding of the patterns and nuances of polysubstance use, tailored treatment approaches, and a redoubled focus on addressing underlying risk factors for addiction, such as homelessness and mental illness (Hainer, 2019).

The opioid epidemic is affecting populations worldwide, not only in the US. While there

is a demand for these drugs, the supply will continue to appear in one form or another. Closing one market or supply simply creates the opportunity for another. For marginalized communities the availability, ease of access, and need for drugs is high, but the availability of alternatives such as safer drug usage, testing strips, clean needles, access to mental health and medical services to combat SUD and OUD do not meet the needs; therefore, these communities continue to be affected (Rhodes et al., 2006), none more so than those in rural indigenous communities (RNAC) also referred to as first nations peoples, Native American (NA), American Indian and Alaskan Native (AI/AN). For this study, RNAC is the chosen term, however, due to the other names used to refer to this population, the other terms may be used interchangeably, especially when used in reference and citation.

2.3 Rural Native Americans Communities (RNAC)

The World Health Organization (WHO) describes Indigenous peoples as populations that identify as part of a distinct group or are descended from people who originate in areas that were their traditional lands that existed before establishing modern-day borders. Indigenous people are the original inhabitants of a geographical area or country before people from other countries or cultures arrived (Chung, 2021). Current estimates figure 476 million Indigenous peoples represent 90 countries, 7,000 languages, and 5,000 different cultures. Though they represent less than 5% of the world's population, they account for 15% of the poorest. For this dissertation, the focus is on the indigenous peoples in the United States (US), commonly referred to as Native Americans (NA) and American Indian and Alaskan Natives (AI/AN). Because this literature review often had to include all Native Indian communities in the US, due to the lack of research data and information, they may be used interchangeably as Native Indians (NI).

In Figure 2.3, we see what the state of the Native American population looked like

according to the tribes who had been living in what would become US Territories including Alaska and Canada in the 1700s. Indigenous peoples ranged from Canada to Alaska. Early estimates of these populations were over 50 million; 10 million in what would become the United States (History.com Editors, 2018).

Figure 2.3

Native American Tribe Territory Map in the 1700s

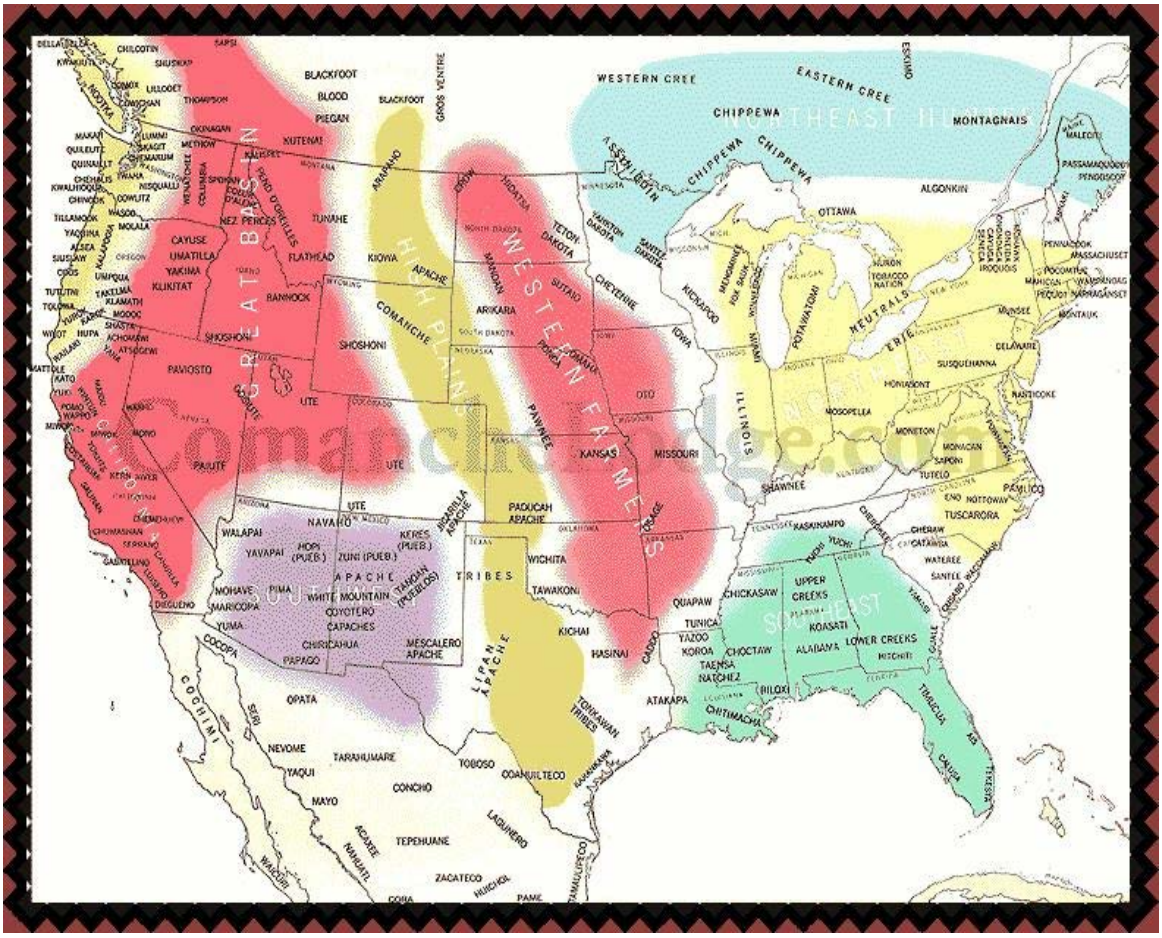
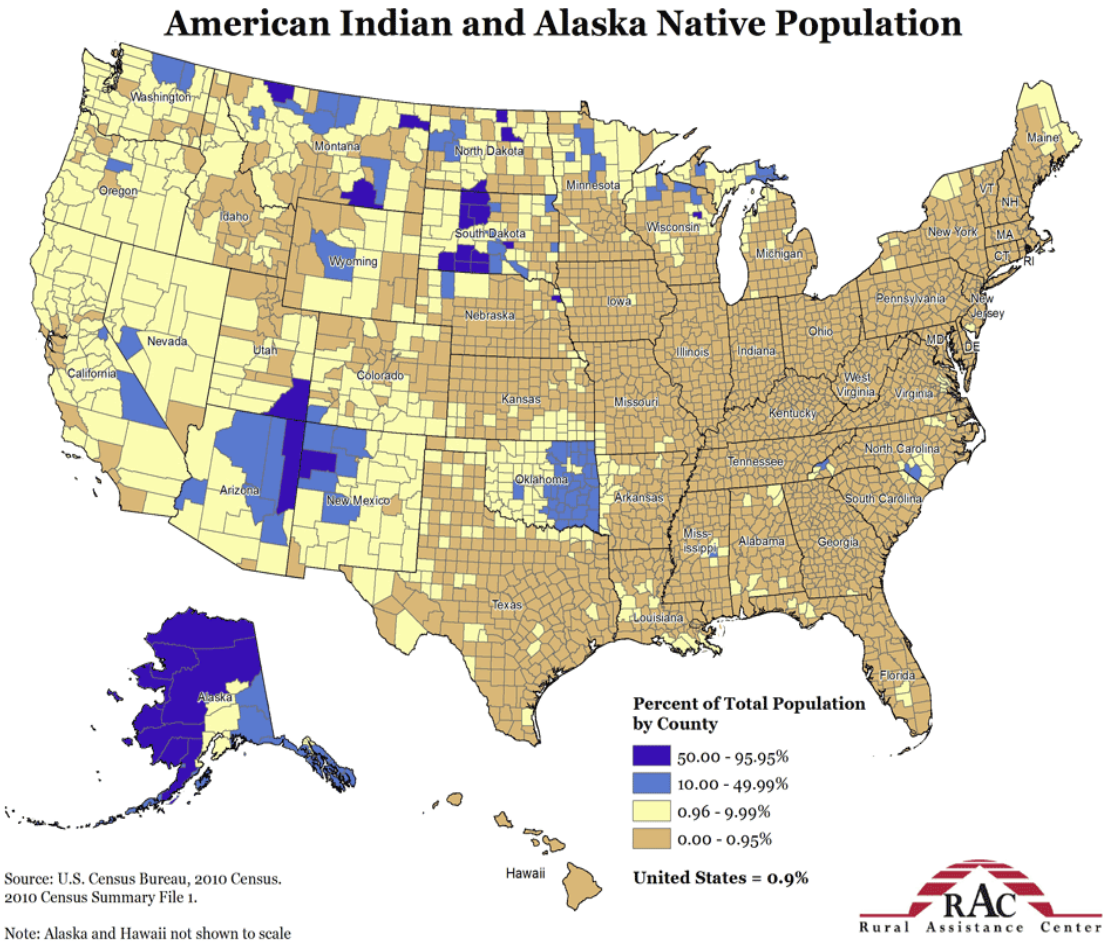


Figure 2.4 shows what the map of indigenous communities looks like two centuries later. What was once a vast proliferation across the territories of the United States, has been reduced to concentrations of native tribes and placed in areas that do not support nor provide for the native cultural way of life. Many of these areas called reservations are in remote areas that often do not

have basic amenities or provide for substance use treatment facilities. Historical maps depicting the numerous tribes throughout what would become the United States of America, extending beyond the boundaries of land, separated only by the oceans.

Figure 2.4

Map of Indigenous Communities in US Today



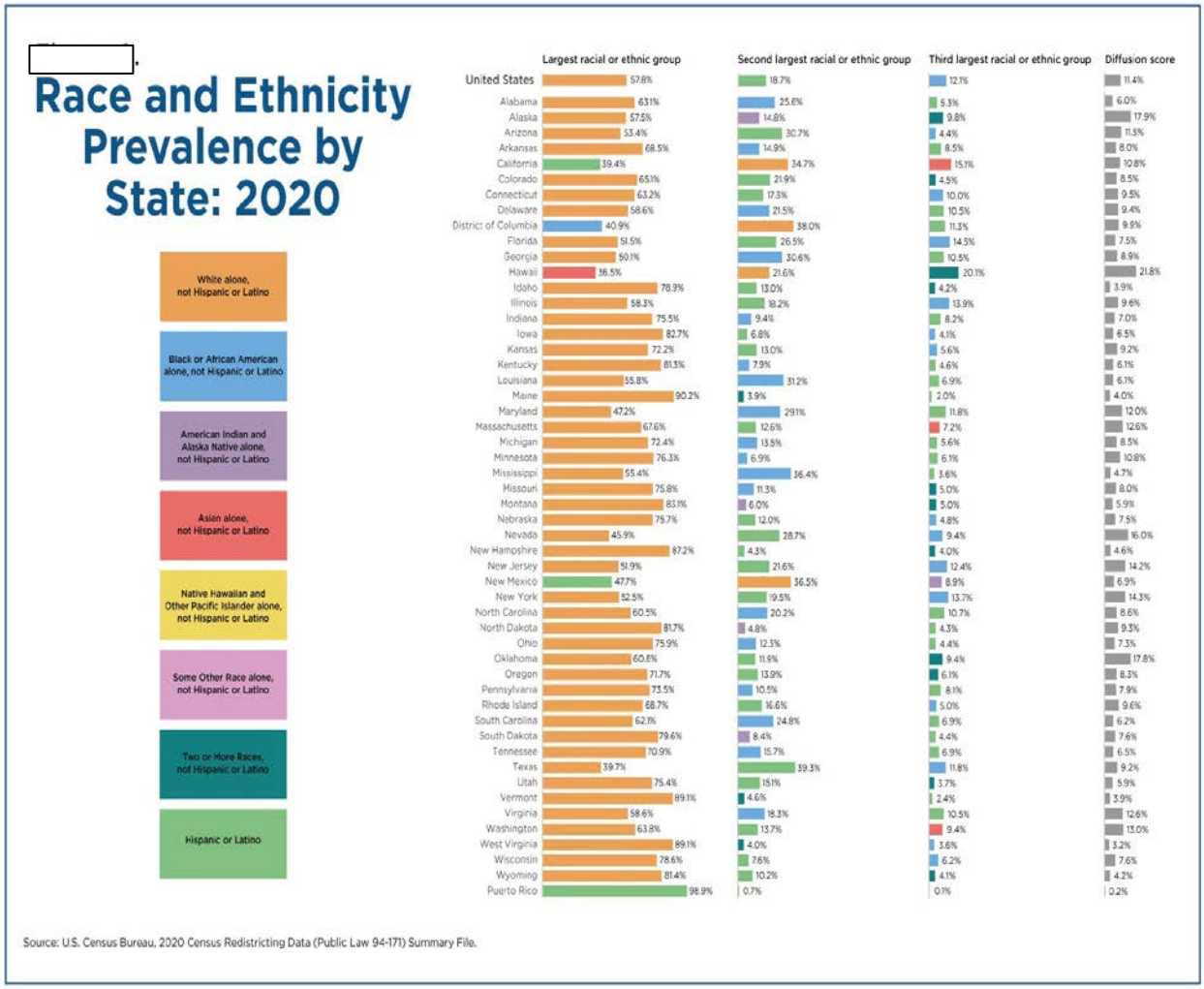
Source: 2010 US Census Bureau Summary File.

Figure 2.5 shows the prevalence of Native Americans as represented by the purple color according to the 2020 Census. The two states that even register an amount to be included in the Census Redistricting Data are Alaska and New Mexico. In Figure 2.4, the total populations according to the 2010 US Census attempts to convey what has happened to these first

inhabitants, where they have been relocated to, how dispersed they have become and the isolation that perpetuates this system. According to the current 2020 US Census, AI/AN make up less than 2 percent of the total population and as shown in Figure 2.5, based on prevalence, the original, indigenous peoples of what became the US, are shown in Alaska (14.8%), Montana (6%), New Mexico (6.8%), North (4.6%) and South (8.4%) Dakota (American Indians and Alaska Natives - by the Numbers, 2012)

Figure 2.5

United States Census Race and Ethnicity Prevalence, 2020



Note: American Indian and Alaska Natives only show in the largest concentrations of New Mexico, Alaska, Montana and North and South Dakota.

The once promised services such as land allotment, medical care, opportunity, employment, and access to education, show this same pattern of inadequate and unequitable provision towards SUD and OUD treatment. The maps illustrate a historical transgenerational pattern in which the social determinants of health affect these populations today. As the reader will see through this literature review, this too shows the lack of attention, continued inequities, especially in research, and with the lack of focus and attention, the rates of OUD will continue to soar and the generations to come will carry on the trauma which fuels the drug use.

Healthcare providers are the first contact for many people seeking treatment for substance use related issues. It is imperative they have the resources, education, and training to provide adequate help and treatment for OUD. Knowledge of OUD, medications, and programs available for treatment, prevention and recovery are necessities as is current, scientific based knowledge, which is ever changing especially regarding substance use and many of the newer treatments that are being promoted and provided. For this population, the understanding of culture and traditions must be understood and considered to increase engagement, retention, and achieve long-term successful results.

2.4 Substance Use Disorder (SUD)

SUDs can begin with the experimental use of a recreational drug, iatrogenic exposure to prescription medications, and occur on first use (Butler et al., 2016b). Not all substance use leads to a SUD diagnosis, and many people who use substances are not addicted. Some drugs have a higher addiction risk factor than others, including medications containing opioids for pain (Webster, 2017a). According to the National Institute on Drug Abuse (NIDA), fentanyl is a synthetic opioid, 80 times more potent than morphine, and can be fatal on first use. The following theoretical viewpoints are among many that help elucidate the causes of SUDs and

OUDs and future trajectories regarding the opioid epidemic.

The most abused substances are heroin, prescription opioids, nonmedical opioids, alcohol, marijuana, and tobacco (Lipari & Van Horn, 2013). In addiction treatment and prevention studies, there is a lack of consensus on the definition and measurement of what causes addiction and the most effective treatments and preventions (Carroll, 2021a). Understanding the etiology and presenting issues inherent to SUD behaviors and development helps make individualized treatment plans more effective from treatment and prevention perspectives. Gaps in the research evidence exist for (1) comorbidity among the AI/AN populations, (2) studies regarding OUDs in rural communities, (3) specific disparities of the AI/AN, (4) addressing perceptions of these communities preventing the application of evidence-based treatment programs, (5) a concentrated focus on early prevention of SUDs and OUDs, and (6) reliable epidemiological data (Mpofu et al., 2021b; Novins et al., 2016a; Rieckmann et al., 2012). The gaps in the literature indicate the needs and guide where research in addressing the issues should be placed. Research among AI/AN with comorbidity is relevant to my research and future practice in providing culturally appropriate, effective counseling in substance use and mental health disorders.

2.5 Opioids and Opioid Use Disorder (OUD)

Opioids are a class of psychoactive substances that resemble morphine or other opiates in their pharmacological effects (World Health Organization, 2021). Opioids work by binding to opioid receptors, which are found in the central and peripheral nervous system and the gastrointestinal tract. The receptors in these organ systems mediate both the beneficial and side effects of opioids. Although the term opiate is often used as a synonym for opioid, the term opiate is limited to drugs derived from the natural alkaloids found in the resin of the opium

poppy flower (Hemmings & Egan, 2018). An opioid is a general term for substances primarily acting on opioid receptors. Opioid dependence can develop with ongoing use, leading to withdrawal symptoms when discontinued. Opioids are known for their addictive properties and ability to produce euphoria, motivating some to use opioids recreationally. Tolerance to the effects of opioids is substantial. The experienced drug user can survive a dose many times greater than that which would kill a non-experienced user.

With long-term use, opioids cause hormonal imbalances in both men and women. Women experience a cessation of their menstrual cycle, infertility, mood disorders, and osteoporosis. Men experience reduced sexual function, decreased libido, and abnormally low levels of sex hormones, particularly testosterone (Brennan, 2013). This negative change in endocrine function in males can lead to reduced libido, erectile dysfunction, fatigue, depression, hypogonadism, reduced facial and body hair, decreased muscle mass, and weight gain. Another often observed long-term effect is hyperalgesia, an increase in the person's pain sensitivity. This is seen explicitly in chronic pain patients on high-dose opioid regimes. There is some evidence that NMDA antagonists like ketamine and opioids that are also weak, such as methadone, levorphanol, and tramadol, may help delay the onset of hyperalgesia or even revert it. Opioid Use Disorder (OUD) is a type of SUD where the drug(s) of choice are opioids natural and synthetic. OUD is characterized by compulsive opioid seeking and taking, intense drug craving, and intake of opioids despite adverse consequences (Opioid Use Disorder, 2022). This SUD is specialized in that opioids are effective but highly addictive. The synthetic and analog versions of opioids are becoming increasingly dangerous as they increase in potency. The most noted opioid drug related to fatal overdose is fentanyl which has been attributed to 75% of all fatal opioid overdoses (Langendorf, 2022b).

According to the American Psychological Association's *Diagnostic Statistical Manual for Mental Disorders*, fifth edition (*DSM-5*), SUDs are assigned a distinct disorder to the substance abuse. The ICD-10 code for OUD is F11.99: Opioid use, unspecified with the unspecified opioid-induced disorder. The ICD-10 code is also Z79.891-for long-term (current) use of opiate analgesic.

2.6 Rurality

Being rural brings additional and specific issues to drug use in how it affects prevention, treatment, and recovery services. For many HP, being rural brings professional isolation and lack of access to professional development and organizational support (McGrath et al., 2022), length and distance to other neighbors and towns (Smalley et al., 2012), scarcity of substance use treatment facilities (Young et al., 2015), unstable incomes, sparse social networks, and continuing high levels of social stigma around drug use (Hartley, 2004). Access to pharmacies poses an obstacle in obtaining Prescription drugs used in MOUD. The lack of pharmacies and pharmacists who dispense medications, educate patients, and ensure patient safety increases the risk and further harm to patients using MOUD. Rural community pharmacies face challenges in staying open, low volume purchasing, slim profit margins, unfavorable insurance practices, limited pharmacy workforce, availability or accessibility, lack of transportation, and extreme weather conditions. Rural pharmacies and pharmacists will continue to fill an essential and much-needed role in the health of rural people (SAMHSA, 2018). Lower costs, increased potency, and higher availability directly affect prevention, treatment, and recovery efforts. Wide accessibility makes obtaining drugs easier.

The fight to be counted exists in the allocation of resources that most RNAC are defined by RNAC are often left out of mainstream funders' program areas, causing money to be directed

away from these rural areas, where the populations often struggle with higher poverty rates and many other economic and social disparities (Cummins, 2005). In 2017 the First Nation Development Institute filed the Twice Invisible: Understanding Rural Native America report challenging the widely long held belief that most Indigenous peoples in the US lived in cities and urban areas, using 72% as the figure often reported by researchers. The resulting data showed a more accurate figure of 54% of Indigenous people, or a majority, live in rural and small-town areas (Institute, 2017). The incorrect figure caused numerous grants and funding opportunities to be awarded elsewhere and away from the communities that needed them. In addition, the report found that the majority of American Indians, or 68%, live on or near their home reservations (Institute, 2017).

2.7 How SUD and OUD Affect Minorities

Racial and ethnic minorities represent a third of the United States (US) population, yet half of the country's 50 million uninsured citizens are ethnic minorities (Braithwaite & Warren, 2020). Many have SUDs, comorbidity, and chronic illnesses (De Nadai et al., 2019). Though there are no significant differences in substance use among the three largest ethnic/racial groups in the US, Blacks, Hispanics, and Whites, there are significant differences in the consequences for SUDs (Sprague Martinez et al., 2018). In the US, although whites have the highest incidence of overdose mortality, people of color have been adversely affected and the rate of increase in opioid overdose deaths among blacks and Hispanics have recently become higher than Whites (Scholl et al., 2018). The burdens of drug use and morbidity and mortality rates fall disproportionately on minority communities (Ly et al., 2012). As a result, ethnic minorities have poorer quality of care (Tai et al., 2021), poorer overall health (Flentje et al., 2020), and experience more severe forms of serious illness (Maura & Weisman de Mamani, 2017; Wheeler

& Bryant, 2017). Although gender alone is not a reliable predictor of treatment completion or outcome, disparities in gender present barriers that affect women more than men (Pinedo et al., 2020).

AI/AN experience higher rates of SUDs than any other population group in the country (SAMHSA, 2019). They have higher mortality rates, psychiatric comorbidity, and multiple chronic diseases such as high blood pressure, obesity, diabetes, and especially juvenile diabetes (Kwon & Saadabadi, 2021b). AI/AN make up less than two percent of the population and are the US's smallest racial/ethnic minority group (Mpofu et al., 2021c). Racial and ethnic minorities have faced ongoing challenges historically from missed and misdiagnosed SUDs that have continuously led to widening the gap and disparities in care and outcome.

2.8 Healthcare Providers

The primary care setting and HP are often the first points of contact for people seeking treatment for substance use. The lack of knowledge by HP regarding proper assessment is one of the critical factors in the increasing number of fatal drug overdoses in the United States. A lack of knowledge regarding evidence-based approved medications and their efficacy in PTR means they will not be prescribed. Efforts to expand MAT have included a strong focus on primary care physicians who can prescribe MAT to do so (Leshner & Mancher, 2019).

Opioid medications are often the most effective for managing acute (lasting less than three months) and chronic (lasting longer than three months) pain. When HP prescribe opioids for a reasonable duration based on the treatment protocol, they are typically not abused. Unfortunately, this treatment protocol by HP has significantly fueled the opioid epidemic. This assessment allows for the treatment to align with the diagnosis and prognosis. HPs need to manage patients returning for a follow-up visit to make sure they are recovering satisfactorily

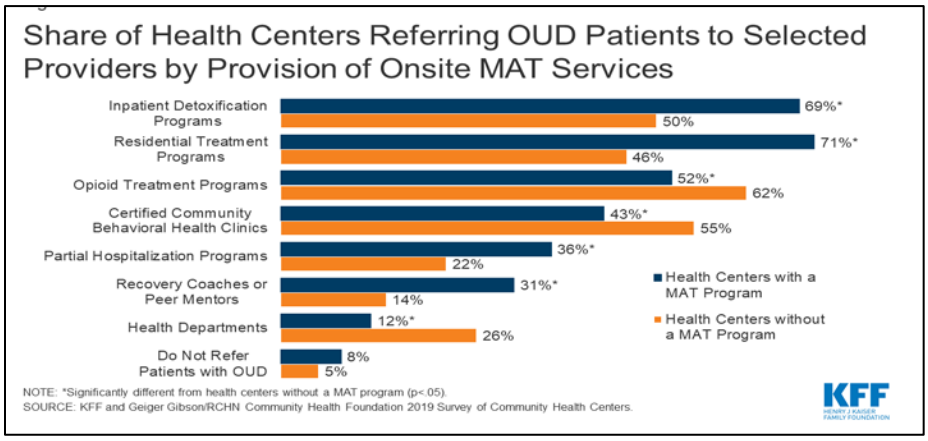
and prevent infection or recurrence. HP are trained in the medical model of care and follow a triangle of assessment, treatment, and prevention of recurrence. Unfortunately, this is not how HPs may perceive substance abuse disorders (SUD) are presented in primary and other healthcare settings. There is no one-size-fits-all “look” to a SUD, and the SUD is often hidden by other complaints both of a physical nature and as a mental health issue and is considered co-occurring or comorbid.

2.8.1 Healthcare Provider Networking

Through networking and sharing knowledge of available services and resources, HP can discuss prevention, treatment, and recovery (PTR) options and approaches with other providers and their patients. Identifying OUD at the screening stage may lead to a more in-depth evaluation and the opportunity to inform patients about the available PTR services. HP suggesting screening without discussing the need for culturally appropriate screening instruments misses the forest for the trees. This would allow an inaccurate assessment for NIC, based on accuracy assessments based on non-RNAC. Through networking, HPs have more options and access to others who provide OUD services (see Figure 2.6).

Figure 2.6

HP Referrals to MAT/MOUD Services



2.8.2 Healthcare Provider Attitudes and Belief

Quite a bit of research has been studied regarding attitudes and beliefs of HP working with SUD patients. HP often have negative attitudes towards SUD patients, they do not believe these patients stay engaged in treatments and drop out, confidence or lack of in the treatment success of SUDs, a persona belief that those who use substances are weak, the stigma that is prevalent among HP, is expected to influence their attitudes (van Boekel et al., 2014) Shine and Dumas (1984) presented a questionnaire to 94 random physicians and medical students at a large hospital. They asked about their training, specialty, and knowledge of OUD and attitudes toward patients with SUD. The study showed that attitude was unrelated to training and knowledge. However, HP wanted to avoid getting involved with the additional protocols and risk assessments necessary in providing OUD medication. They stated they were aware of the dangers of prescribing, which aided in their decisions not to provide MAT.

The perspectives of physician and non-physician clinical staff are critical to developing practical implementation strategies for SUD. Conversely, lack of knowledge of substance use can and often does affect their diagnoses, prescribing decisions, and care plans (McNeely et al., 2018b). SUDs are under-treated in the specialty addiction treatment system and under-recognized in medical settings (Rehm et al., 2016).

Due to limited options and a high relapse rate, most physicians treating SUD are driven to avoid addiction and write the patient off as an “addict” rather than identifying OUD as a disease and having to provide treatment. Instead, HP should recognize that the behavior results from the disease rather than moral, ethical, or social inadequacy on the patient’s part (Savage, 1996).

2.8.3 Healthcare Provider OUD Knowledge and Training

HP, who treat in RNAC, need to be trained in identifying and assessing OUD through

available screening instruments, intuition, education, knowledge of substance use, and training. Individuals with OUD may seek treatment for other symptoms, such as infection, injury, or pain, rather than for substance use. With knowledge of screening for SUD and OUD, this will likely be an effective way to identify individuals whose disorder would otherwise have been unidentified. Without training and knowledge in screening for OUD, the opportunity to identify individuals with OUD is lost, and their condition remains untreated. Because the disorder was not identified and treatments broached as an option, individuals will continue to use it, thus increasing the likelihood of a fatal overdose. The lack of trained HP has been a significant ongoing barrier to OUD assessment and management in RNAC (Lister et al., 2020).

2.8.4 Healthcare Provider Mental Health Disorder Knowledge

Many HP lack mental health literacy, as do many RNAC, and the general population. Most see mental health disorders as stigmatized, dehumanizing, and incurable. The implied and overt stigma of mental health issues is one main reason people do not seek treatment. There is distrust among many AI/AN towards others who are non-native, with generations of reasons and continued reiterations of why they should not trust others, especially Americans. There are numerous citations throughout this literature review and all other parts of this research study to support statements regarding stigma, lack of cultural knowledge and history of the indigenous peoples. Because of the pervasive (and reiterated) lack of attention to this population, specialized treatment programs for mental health disorders (MHD), many of which are false and derived from misinformation. Because the pervasive negative reputation of persons with mental health disorders is so abundant and ever present for many, participating in treatment programs is generally not considered. Where this pervasive attitude is especially troublesome is that SUDS often co-occur at high prevalence with mental disorders (Brooner et al., 2013).

Qualified mental health professionals are specifically trained in assessing and diagnosing mental health disorders. Because OUD is an MHD, it often co-occurs with others, such as anxiety, depression, and trauma. This comorbidity requires a dual diagnosis and is treated by a mental health professional. Disparities exist in both mental health care access and quality for racial and ethnic minority groups. These include the underutilization of psychiatric services, problems in treatment engagement and retention, and high rates of SUD and completed suicide among Native Americans (Vega & Rumbaut, 1991). Compared to other ethnic groups, this population has a high rate of post-traumatic stress disorder, SUD, and OUD (Vega & Lopez, 2001; Bassett et al., 2013). Without attention to preventing minority health and health disparities, the gap between those needing help and those getting help will widen.

2.8.5 Healthcare Provider Perception of Assessment

Many providers often express they do not feel prepared for assessment, use of available assessment tools, providing a diagnosis, prescribing, or providing the evidence-based treatments of medications for OUD (MOUD), and the lack of knowledge regarding the crucial component of recovery management and support. According to the sparsity of existing literature regarding AI/AN, the prevalence of OUD among the many tribes, they often feel faced with numerous barriers beginning with a lack of training and experience, lack of knowledge regarding assessment tools, trained staff in dealing with SUD, stigma and bias, limited options regarding assessment, whether by lack of training and experience in using the assessment tools or using tools that contain bias of Western culture, and often a culmination of both.

Many HP lack specific knowledge regarding opioids, opioid use disorder, and proven treatment and management approaches for OUD. This situation is made more difficult by insufficient awareness of cultural competence regarding AI/AN culture and practices. For many

HP, these communities' stigma, discrimination, and health disparities make assessment and management arduous and exhausting. Amplify these issues, concerns, and barriers and place them in rural AI/AN communities; the triangle of prevention, treatment, and recovery is often unrealistic and unsustainable. Most healthcare providers know their biases, attitudes, beliefs, knowledge, and behaviors regarding substance abuse, especially concerning vulnerable populations. If a problem is identified, strategies should be developed to overcome bias and identify gaps in knowledge regarding opioids, OUD, and overdose.

2.9 Screening and Assessment

Screening is the first step in identifying and addressing substance use as part of routine medical care. Many demographic, physical, and psychosocial factors can predict OUD in patients. Screening for such factors and understanding how they affect patients can help primary care clinicians identify patients at risk for substance misuse (Hah et al., 2017). Assessment and identification are prior knowledge and skills areas required of HP. Individuals seek the services of HP to assess various symptoms, identify the cause, and provide appropriate treatment or care according to their education and training for treating the issue. Providers use these symptoms to make a diagnosis that typically leads to a plan of treatment or care. When providers are not trained or aware of specific symptoms, the initial opportunity to diagnose a condition is missed. As a result, it can often lead to a misdiagnosis or no diagnosis at all. This is often the case with substance use, both from a medical standpoint and a mental health one.

Substance use leading to addiction is a medical issue considered a disease and is comorbid with a mental health issue and a substance use disorder (SUD). Proper assessment of a SUD is critical and, if diagnosed correctly, leads to SUD treatment and care. Nontreatment for SUD increases the likelihood of continued use, increased chance for overdose, and an increase in

drug-related deaths. Currently, the US is experiencing the most significant rates of SUD, the highest rates for opioid use disorder (OUD), and fatal overdoses from opioids. For this review, the SUD of focus is opioids and OUD. Prior to HPs prescribing an opioid medication, they can use a variety of screening and assessment tools available to detect a current SUD, OUD, and risk for possible or future OUD. Though numerous screening and assessment tools can be used, only the most common ones used to assess and screen for OUD will be mentioned in this literature review.

2.9.1 International Classification of Diseases, Tenth Revision - ICD-10

With the changes in how SUDs are diagnosed, so have the definitions or criteria for SUDs. The World Health Organization (WHO) recently changed its International Classification of Diseases, Related Health Problems, 10th revision (ICD-10) system definition and criteria for a SUD diagnosis. The former six diagnostic criteria have been combined into three pairs, and two of the pairs must be met by one symptom to meet the criteria for the diagnosis. Harmful drug use and substance dependence remain separate diagnostic categories, and a slight rewording from "persisting substance use despite clear evidence of overtly harmful consequences" to "substance use often continues despite the occurrence of problems" (Reed et al., 2019; WHO, 2021).

Based on actual structure and function changes, which is a common assumption within the medical field as to what qualifies a condition as a disease, repeated exposure to addictive drugs cause the brain to change and become diseased (Leshner, 1997a). This diagnosis is further defined by whether drug use causes loss of control, impairments in cognitive functioning, compulsive drug seeking, and repeated use, even in the face of adverse health and social consequences (Everitt & Robbins, 2005). Therefore, the ICD-10 diagnosis code for SUD is F19.95: Other psychoactive substance use, unspecified with a psychoactive substance-induced

psychotic disorder. The ICD-10 code for MHD comorbidity with OUD is F11.14: Opioid abuse with an opioid-induced mood disorder, unspecified, will be discussed in the mental health section, along with the *DSM-5* criteria necessary for assessment and diagnosis.

2.9.2 *Diagnostic and Statistical Manual for Mental Disorders,* fifth edition (*DSM-5*)

According to the *DSM-5*, SUDs are assigned a distinct disorder to the substance abuse such as stimulant use, hallucinogen use, caffeine use, cocaine use, inhalant use, opioid use, cannabis use, and alcohol use (American Psychological Association, 2020). In addition, the *DSM-5* and recent *DSM-TR* refers to diagnostic criteria that fall within four categories; social impairment, ability, or inability to control usage amounts, level of tolerance and severity of withdrawal, and risk-taking behaviors and are further defined based on levels of severity ranging from mild, moderate to severe (Grant & Chamberlain, 2016).

Each disorder listed in the *DSM-5* has stated criteria that a client must meet a certain number to receive that diagnosis specific to the symptoms and criteria listed. The diagnosis is considered with the objectives or goals the client would like to achieve, and a treatment plan is prepared. The plan includes the therapeutic techniques that will be used, and the tools clients will learn, and this plan is followed throughout therapy. Clients meet weekly or biweekly until the issue(s) that brought them to counseling have been resolved. Counselors realize that almost everyone experiences a mental health dilemma or issue. Some issues are situational and short in duration, while others can be much harder to resolve and are longer in duration. Therefore, counselors and clients are bound by confidentiality.

2.9.3 *DSM-5* Criteria for SUD diagnosis

According to the Mayo Clinic's version of the *DSM* criteria (2022), assessment and diagnosis for SUD are based on criteria defined in the *DSM-5* and from statements made by the

client. The pervasive symptoms or behaviors commonly seen with SUD are:

- Feeling that you must use the drug regularly – daily or several times a day
- Having intense urges for the drug that block out any other thoughts
- Over time, needing more of the drug to get the same effect
- Taking larger amounts of the drug over a longer period than you intended
- Spending money on the drug, even though you cannot afford it
- Not meeting obligations and work responsibilities or cutting back on social or recreational activities because of drug use
- Continuing to use the drug, even though you know it is causing problems in your life or causing you physical or psychological harm
- Doing things to get the drug that you normally would not do, such as stealing
- Driving or doing other risky activities when you are under the influence of the drug
- Spending a good deal of time getting the drug, using the drug, or recovering from the effects of the drug
- Experiencing withdrawal symptoms when you attempt to stop taking the drug

There are 11 symptom criteria in the *DSM-5* to assess for a SUD, and a person needs to meet at least two criteria for a SUD diagnosis. The more symptoms a person has, the level of severity increases. With 2–3 symptoms met, the SUD is mild, 4-5 is moderate, and six or more are severe. Symptoms must be present within the past 12 months, leading to clinically significant impairment or distress (*DSM-5*, 2013). Commonly occurring or comorbid disorders with SUD are mental health disorders (MHD). In treating SUD and MHD, the *DSM-5* and ICD-10 have codes for each, but they also require mental and behavioral health that simultaneously treats both. When comorbidity is present, patients are given a dual diagnosis.

2.9.4 *DSM-5* Criteria for OUD Diagnosis

OUD is considered a chronic disease of the brain characterized by the persistent use of

opioids despite the harmful consequences caused by their use. Patients typically have a loss of control over their use as well as physical dependence, and this causes clinically significant distress or impairment (Dydyk et al., 2020; *DSM-5*, 2015). OUD is a relapsing disorder; those who stop using opioids are at increased risk of returning to use, even after years of recovery. The *DSM-5* defines a diagnosis for an OUD if the following criteria are met: (1) within the past 12-month period, they have experienced physical dependence and tolerance to opioids; (2) experience withdrawal symptoms if they stop using opioids; and (3) lose control over how much or for longer than planned. They devote a considerable amount of time in pursuit of acquiring, using, and recovering from opioids and the compulsion to use them again.

Figure 2.7

DSM-5 Criterion for Opioid Use Disorder

DSM-5 Criteria for Diagnosis of Opioid Use Disorder

Diagnostic Criteria*
These criteria not considered to be met for those individuals taking opioids solely under appropriate medical supervision.

Check all that apply

	Opioids are often taken in larger amounts or over a longer period of time than intended.
	There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
	A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
	Craving, or a strong desire to use opioids.
	Recurrent opioid use resulting in failure to fulfill major role obligations at work, school or home.
	Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
	Important social, occupational or recreational activities are given up or reduced because of opioid use.
	Recurrent opioid use in situations in which it is physically hazardous
	Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by opioids.
	*Tolerance, as defined by either of the following: (a) a need for markedly increased amounts of opioids to achieve intoxication or desired effect (b) markedly diminished effect with continued use of the same amount of an opioid
	*Withdrawal, as manifested by either of the following: (a) the characteristic opioid withdrawal syndrome (b) the same (or a closely related) substance are taken to relieve or avoid withdrawal symptoms

Total Number Boxes Checked: _____

Severity: **Mild**: 2-3 symptoms. **Moderate**: 4-5 symptoms. **Severe**: 6 or more symptoms

*Criteria from American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition,. Washington, DC, American Psychiatric Association page 541. For use outside of IT MATTTRs Colorado, please contact ITMATTTRsColorado@ucdenver.edu

The consequences of opioid use interfere with relationships with family and friends, completing duties at work, home, or school, risk-taking behaviors, and continuation of use regardless of the mental or physical harms the drugs pose. As in the *DSM-5* criterion for OUD (Figure 2.7), the more criteria or symptoms an individual has, the greater the severity of OUD. OUD is one of the SUDs listed in the *DSM-5* and the focus of this research study.

2.10 Screening and Assessment Tools

Effective diagnosis and implementation of a treatment plan begins with effective screening for risks associated with a SUD. Screening helps to recognize unhealthy substance use patterns in general health care settings (Hawkins et al., 2012). The use of brief validated screening instruments is critical to ensure both valid and effective screening (Bradley et al., 2009). There are numerous ways to screen for SUD/OUD and many of the existing tools or assessments make diagnosing easier and are often self-reporting. Depending on the type of HP and the setting, HPs should ask all clients about their substance use and related problems (Drake & Mueser, 2000).

2.10.1 Alcohol Substance Involvement Screening Test (ASSIST)

This assessment supports the various interventions mentioned in the ICD model for substance use treatment. The ASSIST screens for problems or risks for ten psychoactive substances, producing a score for each substance that falls into either a low, moderate, or high-risk category. The ASSIST is an effective generalizable tool aimed at identifying and reducing risk for OUD and can be linked with many SUD-related assessments used by WHO (Humeniuk et al., 2012).

2.10.2 Pain Medication Questionnaire (PMQ)

The PMQ is a 26-question survey that predicts the future risk of opioid abuse, treatment adherence, and drug-seeking behaviors based on whether the scoring determines a low-risk (L-PMQ) or high-risk (H-risk) for abuse. This survey has been gaining popularity and preference by both patients and providers due to its reliability, brevity, and ease of use in a primary care setting and a telehealth or telemedicine format many providers used during COVID-19 for precaution procedures in delivering patient care.

2.10.3 Brief Risk Questionnaire (BRQ)

The BRQ is a 12-question survey for patients considered for opioid therapy for chronic pain management. This survey is used for determining patients at risk of abusing opioids and often serves as an initial intake or structured clinical interview.

2.10.4 Opioid Risk Tool (ORT)

The Opioid Risk Tool (ORT) is a brief, self-report screening tool designed for adult patients in primary care settings to assess the risk for opioid abuse among individuals prescribed opioids for treatment for chronic pain. The tool can be given and scored in a minute. Unfortunately, this assessment cannot be used in non-pain populations.

2.10.5 Tobacco, Alcohol, Prescription Medication, and Other Substance Use (TAPS)

The TAPS is a two-part test that identifies the risk of substance use. First, it identifies the specific substance(s) use and risk level, ranging in severity from “problem use” to more severe substance use disorder (SUD). It can be self-administered or as an interview with a healthcare provider. The tool generates a risk level for each substance class and suggested actions in scoring.

2.10.6 Adverse Childhood Experiences (ACEs) Assessment

Adverse childhood experiences (ACEs) assessments are one of the best-known and widely used screening and assessment tools in primary care settings to predict a need for behavioral health and substance use services for children (Choi et al., 2019). Screening and assessment for substance use in children and adolescents in primary care settings still need to be improved. This tool can be used for children to the age of 17. This tool is highly efficient in identifying risk behaviors during a time-limited clinical visit and is an essential step in providing holistic care to a challenging population (Pardee et al., 2017). Substance use and misuse have many theories explaining the causes or factors that lead to substance use disorders (SUDs) or addiction.

Due to the heterogeneity of SUDs and the people who have them, no one definitive theory explains the whole gamut of addiction from initiation or beginning substance use to sustained recovery (Carroll, 2021b). Theories explaining SUDs range from biomedical, pharmacological, psychosocial, and environmental. For example, studies explaining SUDs through the lens of Biomedical Theory suggest that individuals possess specific characteristics that cause addiction.

The assumption is that the susceptibility to addiction can be based on biomarkers, inherited conditions, and genetics unique to the individual. Pharmacological Theory research focuses on addictive drugs, their effects on the brain, and their influence on essential learning (Burkett & Young, 2012; Wikler, 1973). Psychosocial Theory focuses on interactions between individuals and their social environments (Brown & Prinstein, 2011).

2.10.7 Cascade of Care (CAC)

The CAC is a public health framework for measuring population-level OUD risk,

treatment engagement, treatment retention, and recovery outcomes, which can help communities monitor the impact of responses to the OUD epidemic and identify where treatment and recovery-related barriers and facilitators exist.

2.11 Theories of Substance Use Disorder (SUD)

Theory studies relationships in the environment such as family dynamics, social class, drug exposure, and chronic stress (Saah, 2005). Similarity between these theories is the effects of internal and external factors on a person's behavior change-a predominant focus of addiction research (Bogdanowicz et al., 2015a; Shaffer et al., 2004).

Regarding the opioid epidemic and fatal overdoses, Fentanyl was involved in 75% of cases (Hedegaard et al., 2021b). Current substance abuse and addiction explanations have been used theories to examine behavior change. Incentive Sensitization and Addiction as a Brain Disease theories are widely cited theories involving addiction (Leshner, 1997b; T. Robinson, 1993) and have led to many effective treatments and relapse prevention resulting from addiction.

2.11.1 The Brain Disease Theory

The brain disease theory of addiction amalgamates many previous theories and disciplines. This Theory uses evidence from neuroscience in neuroimaging from electromagnetic technologies such as functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) that shows the changes inside the complex systems in the brain's inner workings, compared with brains that are not addicted. From social science in the importance of social and cultural factors that determine or influence the health of individuals, as well as effective treatment, prevention, and maintenance of all-over health and wellness, not only for the individual, but for the families, the communities, and the societies as a collective.

The medical model shows the level of severity based on neurobiological processes

associated with the loss of control, compulsive drug taking, inflexible behavior, and negative emotional states associated with addiction, that is, the determination of changes to the actual structure and functioning of the brain, consistent with a disease. Based on brain structure and function changes, common assumptions within the medical field as to what qualifies a condition as a disease, repeated exposure to addictive drugs causes the brain's structure and functions to change and become diseased (Leshner, 1997c).

2.11.2 Incentive Sensitization Theory

The risk of addiction and how quickly a person may become addicted can be attributed to the individual's genetic predisposition and the neurological activity susceptibility to the effects of the substances and the drug of choice (Blum et al., 2000). Genetic predisposition and neuro-susceptibility are explained through incentive sensitization (Berridge & Kringelbach, 2015a). This Theory assumes that continuous use of addictive drugs causes functional and structural changes in the brain's mesocorticolimbic (midbrain) circuitry. The changes cause impairments in the locus of control over behavior, decision-making, inability to shift thoughts and actions away from drugs and drug-associated stimuli, and executive functioning, which are the hallmarks of addiction (Berridge & Robinson, 2016; Flagel et al., 2009).

The brain becomes hypersensitive or sensitized to the effects of the drugs and the stimuli or cues associated with the drug use. The increased sensitization to the drug's effect, caused by repeated use, is an essential assumption in the user going from casual or recreational drug use to compulsive drug use. The motivation or incentive is to obtain the drug. According to Berridge (2016), the incentive to use is associated with a compulsive "wanting" or incentive salience

The conditioned response heightens the compulsion to use the rituals involved in meeting the expectancy outcome when the drug is used. The effects of the drug reward the behaviors, and

the message are reiterated every time this process occurs, or the user is (Berridge & Kringelbach, 2008b). Further studies along this framework showed that dopamine is responsible for mediating desire more than pleasure (Salamone & Correa, 2012) and was not as much about like. Therefore, it is essential to understand that "wanting" is about the cue. The cue is a trigger to obtain and use the rewards, the drugs. The authors used multiple aspects of Pavlovian conditioning to explain the responses to stimuli associated with drug use. This conditioning defines addiction as a chronic, pathological, compulsive, and relapsing pattern of drug-seeking and drug-taking behaviors, which consumes an inordinate amount of an individual's time and thoughts and persists despite adverse consequences (Hasin et al., 2006). The experience is often referred to in episodic memory regarding addiction as an example of "chasing the first high" (Leganes-Fonteneau et al., 2018). A vital assumption of incentive sensitization is that the alteration in the brain processing circuitry can be reactivated long after a person has stopped using (Kawa et al., 2016).

The reactivation explains why some may relapse when exposed to a cue or stimuli associated with previous drug use, which activates the sensitized neurotransmission. The cue stimulates craving or wanting of the drug, especially when the brain experiences situations that stimulate dopamine, such as stress, intoxication, relevant appetites, and emotional excitement (Badiani et al., 2018; Hickey & Peelen, 2015; Marlatt, 1992).

2.11.3 Hi-Jack Theory

Addiction is a brain disease, uses evidence of many theories from IST, neuroimaging from electromagnetic technologies such as functional magnetic resonance imaging (fMRI), positron emission tomography (PET), and the dopaminergic hi-jack theory (Leshner, 1997d; Volkow & Li, 2004). Including concepts and principles of multiple smaller systems, such as

social and environmental influences and their interactions with SUDs, relies on social systems theory (Lander et al., 2013; Von Bertalanffy, 1972). Discoveries using neuroscience explain the changes in the brain circuitry caused by SUDs (van Holst et al., 2010). The authors state that the addicted brain differs from the non-addicted brain. Significant effects of chronic drug use have been identified for most addictive drugs, from molecular, cellular, structural, and functional levels (Krupitsky et al., 2011a).

Based on brain structure and function changes, common assumptions within the medical field as to what qualifies a condition as a disease, repeated exposure to addictive drugs causes the brain to change and become diseased (Leshner, 1997e). This diagnosis is further defined by whether drug use causes loss of control, impairments in cognitive functioning, compulsive drug seeking, and repeated use, even in the face of adverse health and social consequences (Everitt & Robbins, 2005).

2.11.4 Trend Theory

Trend theory has been used to explain the integration of epidemiology and control of health outcomes or disease on the pattern or frequency of determinants of health outcomes in specific populations (CDC, 2019b). According to Trend Theory (TT), by comparing historical data with current data, the presence of a health concern or disease within a population can indicate frequency or a pattern to see if there have been changes over time. For example, using TT with OUD overdoses indicates the frequency of use and drug overdose are not decreasing; they are increasing. The epidemiology of OUDs was historically more frequent in disadvantaged populations, are now seen across all populations. Though medical use of opioids has decreased because of the crackdown on prescribers, nonmedical use has increased across all sectors of populations (McCabe et al., 2014; *Products - Data Briefs - Number 457 - December 2022*,

2022). TT regarding drug use often shows changes not only in the types of drugs that are trending but also in the characteristics of those using. Drug use increases in certain groups, mostly among marginalized populations, due to changes in existing drug policies, groups with access to drugs, and commonly those with mental health issues (comorbidities) (Agar & Reisinger, 2001a).

Since the 1990s, opioid use has gone from a crisis to an epidemic, and as reports emerge from COVID-19-related drug use, according to the CDC, drug overdose deaths rose 9.1 percent from March 2019 to March 2020 or 67,726 to 73,860 (*Drug Overdose Deaths - Health, United States*, 2022). In addition, a 248.7% increase in the use of nonmedical opioids in the general population was seen from 2003 to 2014 (Mital et al., 2018). Overdose from opioids in 2010 was 21,088, rising to 49,860 in 2019 (Forati et al., 2021).

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) uses substance use data from most European countries. It applies TT to see where drugs are coming from, where they are going, who is using them, and what new drugs have appeared. Their 2021 Trends and Development Report showed that drug consumption decreased during the COVID-19 lockdown across Europe but increased as restrictions were eased. Interestingly too, benzodiazepine use has increased. The report attributed the increase to the low cost and wide availability of medications for treating pandemic-related mental health issues (EMCDDA, 2021). This trend is also seen in the US (Jalal et al., 2018; NIDA, 2021).

2.12 Health Disparities in SUDs

In choosing to research mental health (MHD) and substance use disorders (SUD) among AI/AN understanding the disparities that contribute to the high rates of SUDs and MHDs in the AI/AN population will be instrumental in developing OUD prevention and treatment strategies.

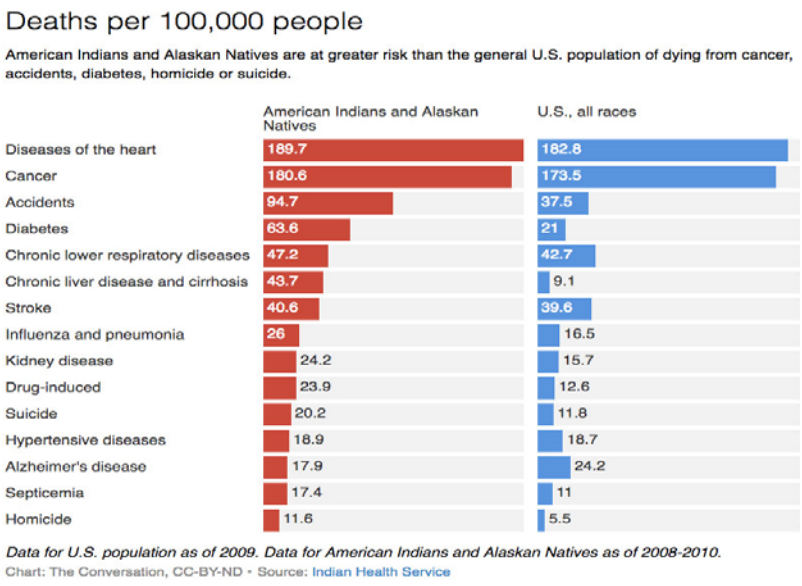
In addition, the relevance for future research will be beneficial in providing culturally appropriate comorbid mental health counseling for AI/AN.

2.12.1 Health Disparities Among AI/AN

Health disparities (HD) are defined as specific, preventable differences in the overall health of disadvantaged populations compared to advantaged populations. Disadvantaged populations are delineated by racial and ethnic identification, sexual orientation, people with disabilities, lower socioeconomic status, and gender (Office of Disease Prevention and Health Promotion, 2020), of which AI/AN bear a disproportionate burden. Lack of access to healthcare has caused a continuing health disparity gap, making preventive care almost non-existent for these groups (Thakur et al., 2020). Many AI/AN on reservations live below the poverty level, experience lower life expectancy and quality of life, are victims of violent crimes, and experience a high prevalence of mental illness compared to the United States (US) population overall (Brockie et al., 2013).

Figure 2.8

Native American Deaths by Disease as of 2008-2010



2.13 Factors Affecting SUD and OUD

Substance use and misuse have many theories explaining the causes or factors that lead to substance use disorders (SUDs) or addiction. As mentioned above, because of the sameness in factors that are present in most SUDs and the people who have them, there is no one size fits all factor that explains why some people have SUDs and others do not, nor is there definitive answer explaining beginning to end from diagnosis to recovery (Carroll, 2021c). Theories explaining SUDs range from biomedical, pharmacological, psychosocial, and environmental.

2.13.1 Social Factors

One of the most influencing factors on health disparities and SUD treatment is the social exclusion of individuals with SUDs due to poverty, marginalization, and multimorbidity (Aldridge et al., 2018). The negative social factors experienced by minorities resulting from their environments have tremendous and long-lasting adverse effects on overall health outcomes (Williams & Mann, 2017). Successful treatment completion is a reliable predictor of outcomes (Brorson et al., 2013). In studies regarding treatment completion, findings show African Americans (AA), Hispanics (H), and AI/AN are less likely to complete OUD treatment than Whites. As a result, minorities with OUDs face increased wait times for accessing treatment and are more likely to leave treatment prematurely, placing them at greater risk for fatal overdose (Elms et al., 2018). This is significant with the increased presence of heroin and fentanyl across the US (Frank & Pollack, 2017).

Studies of women with SUDs showed that they were more likely to initiate treatment (Brown et al., 2011) but less likely to enter and remain in treatment. Women are more likely to have adverse consequences from SUDs (Hernandez-Avila et al., 2004), especially women of color (Mereish & Bradford, 2014). Women identifying as lesbian have significantly higher rates

of SUDs than heterosexual peers (Arterberry et al., 2020). One of the gaps noticed in the literature is that very few studies have been conducted using AI/AN women. In other studies, findings show that AI/AN women are often in abusive relationships involving alcohol and drug abuse and experience childhood trauma and violence (Saylors, 2006).

Access to SUD treatment and completion of treatment are often affected by geographic and demographic variables where an individual lives, supply, and demand of a drug, amount of insurance coverage, trends, and historical attributes regarding areas known for drug abuse (Arndt et al., 2013b; Stahler & Mennis, 2018). For example, compared with non-Latino Whites with SUD, Black adolescents reported receiving less specialty and informal care, and Latinos with SUD reported less informal services (Alegria et al., 2011a).

Disadvantaged populations frequently face barriers to accessing treatment (Bonevski et al., 2014). For example, lack of public transportation, funds to access transportation, funds to pay for treatment, lack of awareness of available services, geographic location in proximity to hospital or clinic, unstable living conditions, privacy, being waitlisted for services, and limited sober living opportunities are just a few of the barriers (Choi et al., 2014; Zeledon et al., 2020b). For SUD programs to have a greater likelihood of retention, treatment completion, and positive post-treatment outcomes, improved access to treatment services is needed.

2.13.2 Economic Factors

In a study regarding Medicaid coverage for SUD treatment required by the Affordable Care Act (ACA) for the Medicaid expansion programs (MEP), findings highlighted that many states did not elect to participate in the MEP and those that did elect to limit coverage of the required levels of care defined by the American Society of Addiction Medicine (ASAM) criteria for effective OUD treatment. This resulted in limiting treatment options and decisions for

providers, limiting the suggested treatments, and further added to the lack of access to needed services for many low-income populations (Grogan et al., 2016a). Substance misuse costs the US economy more than $600 billion annually (National Institute on Drug Abuse, 2018). In addition, the Centers for Disease Control and Prevention estimates that the economic burden of opioid misuse in the US is $78.5 billion a year. This cost includes healthcare, lost productivity, addiction treatment, and involvement in the criminal justice system (Shipley, 2021).

Indian Health Services (IHS) facilities often provide free or low-cost medical care to members of recognized AI/AN tribes. However, due to funding and budgetary restrictions, only direct services are offered, and patients are referred to outside facilities for specialty services such as SUD and OUD treatment, and the most effective evidence-based treatment for OUDs is medication-assisted treatment (MAT) programs (Zeledon et al., 2020c).

2.13.3 Political Factors

Stigma plays a large part for many people with SUDs in deciding to disclose or seek treatment for their SU*D.* Stigma exists in the primary care setting, hospital setting, the doctors, and ancillary medical professionals, and SUDs are more highly stigmatized than other health conditions (Zwick et al., 2020). Providers and patient interaction have been significant contributors to healthcare disparities. In a study attempting to look at patient experiences in an integrated healthcare setting between those with a SUD and those without, the disparities were worse for those with a SUD in the timeliness of follow-up on test results, overall provider rating, and provider communication (Hoggatt et al., 2019).

Mental illness and SUDs are common among minority populations and are often seen as double jeopardy in having both or comorbidity. The most significant predictor of OUDs is existing mental health issues (Webster, 2017b). Research shows that individuals with comorbid

disorders have worse clinical outcomes and have an increased risk of suicide, social and occupational impairments, and disabilities (Ehlers et al., 2008; McLaughlin et al., 2010). About half of the people who experience a mental illness will also experience a SUD at some point in their lives and vice versa (Kelly & Daley, 2013a). However, the reality of funding for these treatments does not match the need, especially for minority populations.

A large part of discrimination towards minorities and SUDs regarding law enforcement was fueled by the War on Drugs and the major contributor to the systematic mass incarceration of people of color in the US (Earp et al., 2021). The US imprisons more people for drug-related charges than other nations (Blankenship et al., 2018). In addition, drug laws show that people of color are far more likely to be criminalized than whites and six million people in the legal system have a diagnosed SUD (Legal Action Center, 2021). As a result, the judicial system and law enforcement place heavier burdens on minorities, affecting their ability to recover and maintain their lifestyle after an arrest or conviction (Vo, 2020).

2.14 Comorbid Conditions and Disorders with OUD

When two disorders or illnesses occur in the same person, simultaneously or sequentially, they are described as comorbid (Santucci, 2012). Comorbidity also implies that the illnesses interact, affecting the course and prognosis of both (Ross & Peselow, 2012). Comorbidity of SUDs are often seen with mental illness and physical health conditions. This is why access to mental health services is so crucial to successful OUD treatment in RNAC.

2.14.1 Chronic Medical Conditions

SUDs most often become increasingly worse over time without intervention or treatment. The adverse effects it has on a person’s life extend to friends and families, the community, and society. Long-term effects of SUDs are seen as contributing to the breakdown of overall body

systems and leading to co-occurring chronic mental and physical illness. These conditions are often made worse by prolonged use and are often correlated to not seeking medical help until the condition has worsened, becomes severe, or is life-threatening.

Stress from racial discrimination and historical trauma are frequently cited as causes of substance use, heart disease, and high blood pressure, as well as barriers to recovery for many AI/ANs.

The inequities can be seen in adverse health outcomes of preventable hospitalizations for OUD and other acute events. For example, AI/AN are twice as likely as non-AI/AN to be hospitalized due to the lack of access to outpatient, primary, and specialty services prior to hospitalization (Korenbrot et al., 2003; O'Connell et al., 2017). In addition, many Native Americans present later treat diseases in more advanced stages than the general population (Harris et al., 2006b).

2.14.2 Pain Management

In numerous studies regarding pain, the literature reflects findings that racial and ethnic minorities are consistently undertreated for pain. The gaps in this literature clearly show that AI/AN are often not even included among the ethnic and racial groups (Green et al., 2003). For most AI/AN, OUD would be from prescriptions for managing chronic pain conditions. AI/AN have an elevated risk, more than any other group in the US, for living with several chronic pain conditions (Palit et al., 2013). Due to conditions from poorer access to preventive health care services throughout the lifespan, pain has been a constant issue. A lengthy history of overuse of prescription opioids or non-prescription sources has long been established. Culturally appropriate education about managing chronic pain is imperative and can be helpful in prevention for future interventions.

2.14.3 Mental Health Disorders

Because substance abuse and mental/behavioral health conditions are often comorbid or co-occurring disorders, it is essential that treatment addresses both issues and is referred to as a dual diagnosis. Often mental health diagnosis comes from a psychiatrist or other mental health professionals, such as psychologists, counselors, therapists, and social workers, through a complete medical history and psychiatric evaluation. Mood disorders are the most commonly occurring mental health disorders. The most common types of mood disorders are major depression, dysthymia (dysthymic disorder), bipolar disorder, mood disorder due to a general medical condition, and substance-induced mood disorder such as OUD (Jezewski, 1990). In addition, racial and ethnic minorities have historically faced ongoing challenges from missed and misdiagnosing, leading to disparities in care and outcome.

According to SAMHSA, in 2022, 13.5% of young adults aged 18 to 25 had both a SUD and any mental illness in the past year and 46% of this group had either a SUD or mental illness. Nearly 1 in 3 adults had the same with either a SUD or mental illness as OUD often co-occurs at high prevalence with mental health disorders (SAMHSA, 2023b). Anxiety and depression are the most common disorders seen with OUD. These dual diagnoses are often bi-directional in that they exacerbate each other. They can originate from substance use, causing depression and anxiety, or mental health issues causing substance use.

This is especially concerning because most drug use begins in adolescence (Sheidow et al., 2012). The ICD-10 code for co-occurring MHD with OUD is F11.14: Opioid abuse with an opioid-induced mood disorder, unspecified and will be discussed in the mental health section along with the *DSM-5* criteria necessary for assessment and diagnosis.

2.14.4 Mental Health Disorders among AI/AN

Despite the plethora of research that has separately analyzed mental health or social determinants of health, there is a scarcity of research exploring social determinants of mental health in families of color, mainly from NA communities (Marmot et al., 2008; Ellis et al., 2019). The increased risk of OUD among AI/AN has been reported among those with mental health conditions (Baingana et al., 2015). The causes of these disparities are multifactorial, with the most prominent contributors related to social and environmental determinants of AI/AN (Nguyen, 2008). AI/AN communities experience relatively high rates of trauma, socioeconomic disparities, and mental health challenges (Wurster et al., 2019).

For many AI/AN, the traumas associated with these events and practices have resulted in disproportionately high generational psychological distress, mental health, and substance use challenges (Czyzewski, 2011). In 2017, Nelson and Wilson researched Indigenous peoples' mental health. Though they are prolific researchers from Canada, they often include the US and Australia as the lived experiences of these countries are similar and how the Indigenous peoples worldwide have been treated since first contact through colonization, assimilation, recognition for sovereignty, health determinants, discriminatory legal policies, interpersonal racism, land dispossession, ecologic degradation, cultural disruption, systemic violence, and stigma that exists today. Though most Indigenous peoples share these similar experiences, it is crucial to show continuous trauma. Though it may look different than what history portrays, repeated and similar lived experiences say otherwise (Nelson & Wilson, 2017). Many of the indigenous Native Indians in the United States are faced with treatments based on Western philosophy as the systems of care for mental health services. Most are neither culturally competent nor trauma-informed and are offered and provided from where institutional and interpersonal racism is daily.

It would be safe to say that the general population in the US does not fully grasp the traumatic history that has continued for generations since the first contact with Christopher Columbus. The education system in the US does not teach this but is a revisionist version where the Indians were a problem, and the US eventually took care of it. This has allowed for transgenerational stigma and discrimination that have persisted for thousands of years.

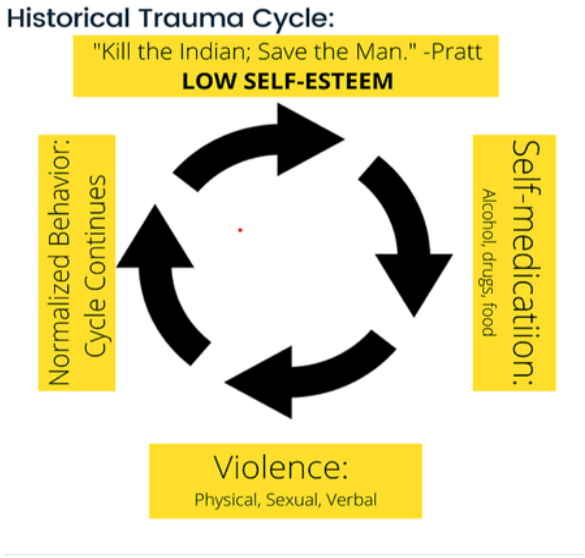
Mental illness and beliefs have different meanings and interpretations among AI/AN. Psychological complaints and concerns are not expressed in the same ways consistent with standard diagnostic categories listed in the *DSM-5*. Once again, the perspectives on how AI/AN can best be served, regarding mental health issues, by those who have caused and perpetuated them, with tools that are still oblivious to their heritage and culture, are not based on cultural awareness, cultural safety, and cultural competence. This will be discussed in further detail later in the review.

Without attention to preventing minority health and health disparities, the gap between those needing help and those getting help will widen (Bukstein & Horner, 2010). Mental health professionals should provide “culturally competent” services appropriately adapted to diverse client constituencies (Sue et al., 2009). For example, the cycle of historical trauma can be seen in Figure 2.9. For many AI/AN communities, this cycle explains the behaviors and how OUD provides self-medication that helps to normalize and numb the pain that persists from the trauma that exists in the environment in which they live. Mental illness plays a role in almost 90 percent of suicides, according to the National Alliance on Mental Illness, and such conditions are often treatable (NAMI, 2019). In the case of the RNAC, mental health resources are in short supply and don’t always reach them. The graph below shows the historical trauma cycle for AI/AN. From early teachings that the Indians were not even men, the attack on the sense of self made

self-medication an escape from the constant low self-esteem perspective. Violence was more likely to occur, and this behavior was normalized because they were not people, which begins the cycle again. If nothing changes, nothing changes.

Figure 2.9

Native American Cycle of Transgenerational Trauma



2.15 Harm Reduction

HR is a set of strategies relating to drug use and related disorders that minimize the risks or harms associated with SUDs without the expectation of abstinence (Resiak et al., 2016). Though abstinence is the ideal goal, it is not the driving force. HR has strong evidence showing interventions are safe, effective, feasible, practical, realistic, diverse, cross-cultural, and cost-effective (Bielenberg et al., 2021). HR programs do what they are designed to do by reducing drug-related harm and supporting addiction treatment efforts. HR is a public health alternative to the disease model of SUDs and recognizes abstinence as the ideal outcome but accepts practices that reduce harm (Szott, 2015).

With SUD being viewed as changes to the brain resulting from repeated substance use

and abuse, treatments available to treat this disease have become more widely researched. Various methods have come into play regarding viable solutions that offer prevention, treatment, and maintenance in recovery, as SUDs are chronic and known to have a high relapse rate or recurrence. A recent focus has been on the use of medications to treat SUDs, combined with behavioral support through counseling, as well as providing additional support that helps to address the causes of SUDs in social determinants of health, legal issues, culture, and changing policy allowing for new evidence-based treatments such as those found in harm reduction (HR).

Harm reduction (HR) programs offer various programs and services to mitigate the harms of drug use and have proven to impact individual and community health (Beyrer et al., 2009; Watts et al., 2020). According to the Centers for Disease Control and Prevention (CDC), more than 69,710 reported overdose deaths from opioids during the 12 months ending in November 2020 (CDC, 2021b). In addition, an estimated 12 million people inject drugs globally; one in 10 is living with HIV/AIDS, and 10 million people have chronic hepatitis C. Currently, 1.4 million Americans have opioid use disorders (OUDs) from opioid painkillers 438,000 have heroin-related OUDs. In the US, 1.6 million people, 12 and older, had OUDs involving opioids, heroin, or both (CDC, 2021c). Medication-Assisted Treatment (MAT) is one of the HR programs offered under the HR umbrella and is the most effective treatment for OUDs (Buresh et al., 2021).

2.15.1 Treatment for OUD

Treatment for OUD involves a set of evidence-based approaches to deal with the known effects and functions in the brain because of continued opioid use. Among the most effective treatments are the medications for treating OUD (MOUD) also known as MAT or medication assisted treatment. Other treatments involve opioid prescribing practices, expanding use of

naloxone (Narcan) to prevent overdoses, and extending use of MAT to treat OUD (Scorsone et al., 2020). Physicians can treat using buprenorphine by prescription as well. As of March 30, 2023, Narcan became available without a prescription and can be obtained over the counter from a pharmacy/pharmacist. Treatment with a planned after-treatment protocol for recovery support is crucial to the success of patients post treatment for relapse prevention.

2.15.2 Medication-Assisted Treatment

Medication assisted treatment (MAT) or medications for opioid use disorder (MOUD) is an evidence-based treatment program for OUDs that uses psychotropic drugs or pharmacological interventions combined with behavioral and psychosocial therapies to reduce opioid abuse, withdrawal symptoms, relapse, and fatal overdose (Connery, 2015a). Currently, there are three medications approved for use in MAT to treat OUDs by the Substance Abuse and Mental Health Services Administration (SAMHSA), the US Food and Drug Administration (FDA), and the US Drug Enforcement Agency (DEA: Methadone, Buprenorphine, and injectable Naltrexone. The disease is treated with opioid replacement therapy using buprenorphine or methadone, reducing morbidity and mortality risk.

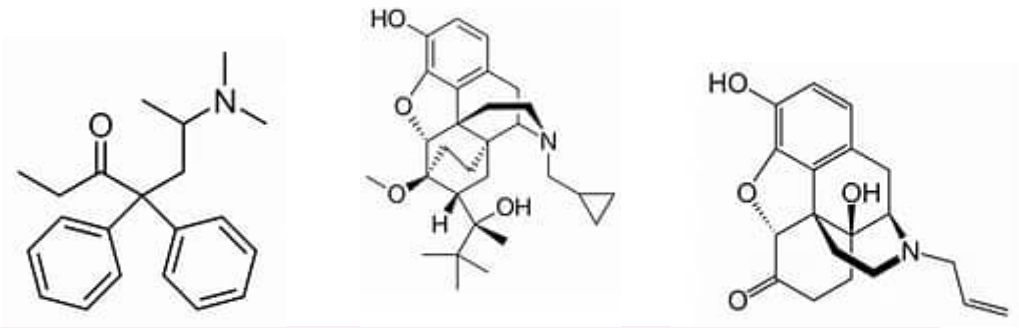
Methadone is used for treating OUD. Methadone blocks the brain receptors to the feeling of euphoria from opioids. It is also used to treat addiction to heroin or other opioids. Is the gold standard for treating OUD. It can be used to treat chronic pain, relieve cravings, and remove withdrawal symptoms. Naloxone is an antidote to treat opioid overdose (Behar et al., 2018) and is used to restore normal breathing and consciousness within 1 to 5 minutes of injection, or most common via intranasal spray with Narcan. Naloxone quickly reverses an overdose by blocking the effects of opioids. Giving naloxone can prevent death or brain damage from lack of oxygen. More than one dose of naloxone may be required when stronger opioids like fentanyl are

involved (CDC, 2021c). Naltrexone requires complete detoxification before starting this medication.

The medications are similar in composition (Figure 2.10) and affect specific parts of the brain that register pleasure and reward. The medications react by blocking the signals to the brain thus preventing the feeling of reward and euphoria. These medications aid in calming and mitigating the severity of withdrawal symptoms. They are highly effective in treating OUD and pain.

Figure 2.10

MOUD Drug formulary Compositions; Methadone, Buprenorphine, and Naloxone



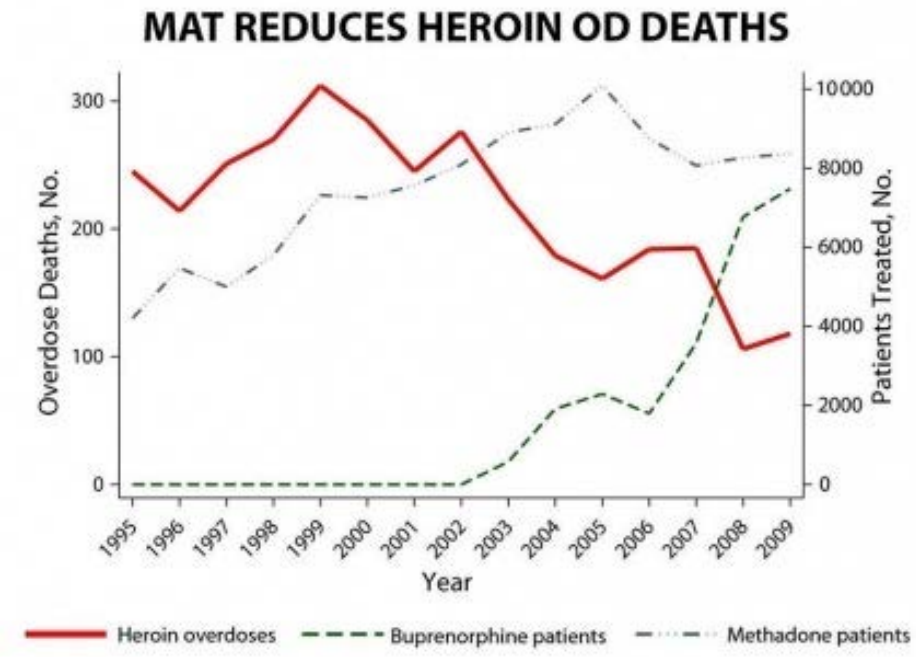
Methadone Buprenorphine Naloxone

These medications are used to block the euphoric effect of drugs, relieve cravings, and stabilize brain chemistry without the adverse side effects of the previously abused drug.The National Institute of Health (NIH) considers methadone and buprenorphine the *gold standard* for treating OUDs (Madden, 2019). In addition, the World Health Organization (WHO) considers both essential medications in treating OUDs (Kharasch & Greenblatt, 2019). The goals for SAMHSA and MAT programs are for a full recovery and the ability to manage and live a self-directed life. Unfortunately, according to the National Academies of Sciences, Engineering, and Medicine, Health, and Medicine Division (2017), more than 65% of persons with OUD in the United States do not receive any treatment, including recommended treatment with MAT.

MAT is based on harm reduction approaches and posits using a less harmful drug to help minimize the adverse effects of a more harmful drug (Enos, 2019; Kameg, 2019). As seen in Figure 2.11, use of MAT has an immediate effect on overdose and is effective as a prevention to overdose. MAT is used to treat addictions to opioids such as heroin and prescription pain relievers that contain opiates and alcohol use disorders. MAT uses medications to normalize brain chemistry and block the euphoric or high feelings of alcohol and opioids. As a result, MAT relieves physiological cravings, helps to normalize body functions without the harmful and euphoric effects of the substance used, and helps prevent relapse. MAT is the most effective treatment for OUDS (Venner et al., 2018c).

Figure 2.11

Effects of MOUD/MAT on Fatal Heroin Overdose



The rate of relapse and fatal overdose with OUD and SUDs is high post-release from MAT programs. Therefore, people can remain in treatment for years, depending on the individual and their specific treatment needs (Volkow, 2020a).

2.15.3 Evaluation of MAT Programs

The federal government heavily regulates MAT/MOUD programs. Federal Guidelines for MAT cover the best practices of administering medications, standards of operation, licensure, federal accreditation requirements, standards for patient-centered care, staffing requirements, assessment, medical care, and referral to social services. Record keeping is through SPARS, SAMHSA's online data entry portal, as MAT programs are constantly monitored and evaluated for effectiveness SAMHSA, the Department of Health, and Human Services (HHS), the Department of Justice (DOJ), and the Drug Enforcement Administration (DEA) oversee the certification and accreditation of 1,900 opioid treatment programs (OTPs) in the United States (DEA, 2018). Each location is considered a service delivery discretionary grantee and an outpatient service program. Each location is certified for three years; physicians can only be licensed to see 100 patients for the first year. As a result of COVID, rules regarding waivers for additional licenses have recently been relaxed for more people to receive MAT (DEA, 2020).

2.15.4 Behavioral and Mental Health Component for MAT/MOUD

MAT is the most intense level of care, which provides a multidisciplinary team approach to enhance and restore function with OUD. It may be provided through inpatient treatment initially for acute care need cases. The team's core would include a physician, nurse, mental health counselor, social worker, occupational therapist, and possibly a clinical psychologist while accessing the acute vascular unit for cases at risk for cardiovascular events.

As of 2022, according to the 2020 Census, there are 324 federally recognized American Indian reservations in the U.S. and 87 % of those who identify as AI/AN alone, or in combination population, live outside of tribal statistical areas; 13 % live on reservations or other trust lands (American Indian/Alaska Native - the Office of Minority Health, 2023). However,

according to the first Nations Development Institute, a commonly-cited but inaccurate statistic claims that 72% of AI/AN people live in urban areas, but he more accurate statistic is the opposite – a majority (54%) of AI/AN people live in rural and small-town areas, and 68% live on or near their tribal homelands (Dewees & Marks, 2017).

Many rural areas have significantly fewer MAT programs available (Hirchak & Murphy, 2017). AI/AN have experienced the most significant increases in drug and opioid overdose death rates and less than 30% of rural SUD treatment programs offer MAT (Novins et al., 2016b). OUDs often require MAT to continue and facilitate recovery (Volkow & McLellan, 2016b). Many AI/AN do not align with Western treatment philosophies and prefer traditional, more holistic practices (Venner et al., 2018d; Zeledon et al., 2020d).

The Bureau of Indian Affairs, Indian Health Service, federal agencies, and state and local governments are making a concerted effort to form partnerships to address the current and future opioid epidemics. The recent focus on disparities of AI/AN for SUDs has brought MAT programs to reservations, increased funding for SUD treatment, relaxed policies regarding MAT, educating providers, increased flexibility for pharmacists to deliver medication, and initiating buprenorphine via telemedicine (Lopez, 2022).

2.15.5 Costs of MAT Programs

The CDC estimates that the economic burden of opioid misuse in the US is $78.5 billion a year (Luo et al., 2021). MAT is cost-effective because total health care costs per individual for MAT versus little or no treatment for SUDs is $13,578 compared to $31,055 (Birnbaum et al., 2006). According to recent estimates by the United States Department of Defense, daily visits for methadone treatments cost, on average, $126.00 per week or $6,552.00 per year; buprenorphine twice-weekly visits cost $115.00 per week or $5,980.00 per year; naltrexone costs $1,176.50 per

month or $14,112.00 per year ("Medications to Treat Opioid Use Disorder Research Report," 2021). In addition, MAT has been proven to reduce inpatient and outpatient detoxification services significantly (Marshall et al., 2020).

2.15.6 Barriers in MAT

Full compliance with the set guidelines for MAT is often cited as barriers to licensure, shortages of trained healthcare professionals, locations of facilities, storage of methadone, operation hours requiring seven days a week, and the limiting of physicians to only 100 patients per license (Andrilla et al., 2018). Referral to MAT programs often involves delays in processing and is met with long waiting lists (Rosenblum et al., 2011). Acceptance into MAT programs are often made based on the severity of addiction versus meeting the specific criteria and capacity limitations placed on licensing (Knopf, 2018). State Medicaid programs limit which programs and services they will cover. Buprenorphine is becoming more readily available in provider settings; however, many providers do not accept Medicaid. Daily dosing often interferes with employment and is exacerbated by the proximity of facilities (Gryczynski et al., 2011). There is a lack of awareness of existing programs and services among healthcare professionals and nonmedical people (Alegria, M et al., 2017b). Gaps and inconsistencies in the literature were noticed based on those receiving MAT by race and ethnicity. Reports vary between whites and nonwhites in MAT regarding who is more likely to receive MAT (Krawczyk et al., 2017).

Nearly all U.S. states do not have sufficient treatment capacity to provide MAT to all patients with an opioid use disorder. Many of the facilities that offer MAT are, for the majority, inaccessible to RNIC. Numerous issues place these communities at a disadvantage—transportation issues are among the largest. Reports on lack of public transportation, available or lack of available transportation, the costs associated with public transit, and for many, it is a day-

long venture to the required daily presence to get the prescribed dosage. Facilities that provide MAT must also provide trained staff to operate the facilities, have proper storage for the medication, and provide the lengthy amount of recordkeeping required for MAT. Before COVID, physicians were limited in the licenses or number of patients they could treat. Though license restrictions have been lessened, for most, it has gone from 100 to 250 patients eligible for MAT. Other types of barriers to implementation are physician decision-making, patient preferences, and system-level barriers stemming from financing and public policy (Knudsen et al., 2011).

Placing MAT facilities in the areas where they are needed most and, in the communities, most heavily hit by opioid misuse will help to combat the opioid epidemic with evidence-based, cost-effective, and successful treatments and help to ensure prolonged relapse, long-term abstinence and better quality of life for those with OUDs (Carew & Comiskey, 2018; Degenhardt et al., 2017).

2.15.7 Guidelines for MAT

The American Society for Addictive Medication (ASAM) created specific guidelines for the administration and practice of MAT. ASAM's practice guidelines are widely accepted as the most effective use of MAT. Each medication must be essential for the most effective evidence-based MAT for OUD treatment. In addition, psychosocial treatments are required under the ASAM guidelines and OUD medications, and the treatments include counseling for SUDs, human immunodeficiency virus (HIV) disease transmission and prevention, referral to community resources, and education, vocational, and employment services (Kampman & Jarvis, 2015b).

According to the US Code of Federal Regulations (Federal Register: Request Access,

1986), which defines the general outline for MAT programs: patients can be self-referred, but most are referred from hospitals, clinics, and providers. Patients who go through an intake must be diagnosed with a current OUD based on the Diagnostic and Statistical Manual for Mental Disorders (DSM-V) criteria, have been addicted at least one year before admission, must voluntarily choose MAT, and provide written consent to treatment.

In addition, those under 18 must provide documentation that they have unsuccessfully attempted (twice) a detox or drug-free treatment within 12 months. Patients undergo complete physical and drug screening. During the program, patients receive medical, psychosocial, economic, legal, or other support services that they may need. Doses of methadone have carefully laid out schedules for receiving the dose.

Patients are seen on an outpatient basis, must receive and consume a daily dose in the facility, and must see a counselor before or after their dosing. The treatment protocol is broken down into three 90-day treatment stages. After the third stage (9 months of daily medication doses), patients enter a maintenance stage for the remainder of the year. The rate of relapse and fatal overdose with OUD and SUDs is high post-release from MAT programs. Therefore, people can remain in treatment for years, depending on the individual and their specific treatment needs (Volkow, 2020b; Williams et al., 2019).

2.15.8 MAT and Mental Health Disorders

SUDS often co-occur at high prevalence with mental disorders. Effective use of medications can also enable people with co-occurring mental health problems to function successfully in society (Whitley & Drake, 2010). Unfortunately, gaps in the literature show a continued lack of focus on the prevention of substance use and on identifying and addressing mental health issues prevalent among youth groups of all ethnic backgrounds. Without attention

to preventing minority health and health disparities, the gap between those needing help and those getting help will continue to widen.

During the program, patients receive medical, psychosocial, economic, legal, or other support services that they may need. Patients are seen on an outpatient basis, are required to receive and consume a daily dose of methadone, have carefully laid out schedules for receiving the dose in the facility, and are required to see a counselor before or after their dosing. Patients can remain in treatment for years, depending on the individual and their specific treatment needs. Since the rate of relapse and fatal overdose with OUD and SUDs is high post-release from MAT programs, the continued mental health support component is integral to the continued engagement and retention as well as helping to prevent relapse. In addition, for many patients participating in MAT, the environmental and societal environments place continued stressors on the individual. Therefore, behavioral support is vital in navigating life while maintaining success in the MAT program.

2.15.9 Native Americans and MAT

Less than 30% of rural SUD treatment programs offer MAT (Novins et al., 2016c). OUDs often require MAT to continue and facilitate recovery (Kampman & Jarvis, 2015; Volkow & McLellan, 2016b). Many AI/AN do not align with Western treatment philosophies and prefer traditional, more holistic practices (Mpofu et al., 2021d). The Bureau of Indian Affairs, Indian Health Service, federal agencies, and state and local governments are making a concerted effort to form partnerships to address the current and future opioid epidemics.

2.16 Cultural Competence and Awareness

Indigenous peoples are inheritors and practitioners of unique cultures and ways of relating to people and the environment. Most AI/AN see health and well-being as broader and

more holistic. Health is frequently viewed as an individual and a collective right, strongly determined by community, land, and the natural environment. Article 24 of the United Nations Declaration on the Rights of Indigenous Peoples recognizes the right of indigenous peoples to their traditional medicines, to maintain their health practices, and to access social and health services without discrimination (The American Declaration on the Rights of Indigenous Peoples | Indian Law Resource Center, 2016).

2.16.1 Culturally Competent Assessments

Culturally appropriate instruments involve culturally competent questions based on the sensitivity of AI/AN traditions and practices. HP should be aware of multicultural competence in using the assessments and providing the awareness, knowledge, and skills to work with people of diverse backgrounds, including attitudes and beliefs; knowledge is multicultural competence (Caldwell et al., 2005). Awareness of the AI/AN culture will allow for accuracy based on biopsychosocial perspectives. Culturally competent HP must be knowledgeable and confident to provide the approaches available to treat and manage OUD. and have access to the resources to do so. During the opportunity to screen for OUD, the same opportunity exists to screen for comorbid mental health issues that often co-occur with substance use, even more so in the RNAC.

There cannot be a one-size-fits-all approach to managing OUD when there is such a variety of those affected by OUD. The sustainability of practical approaches will occur when those who provide a variety of approaches understand the who, what, why, how, and when of substance use disorders, not only for opioids but for other substances that pose a danger with initial and prolonged use. The same can apply to providers who serve RNAC, as each tribe is individualized. There is no all-encompassing “One Tribe” that includes all AI/AN. There are

over 574 recognized Indigenous tribes in the US. Each with its rich heritage and culture. A basic understanding and awareness of the AI/AN culture and history will allow culturally adapted, evidence-based approaches to PTR to be more inclusive than exclusive, as research often elucidates this as the rule rather than the exception.

The need for cultural competence in how the approaches are offered can and often determine the acceptance or refusal of approaches by many AI/AN. Minimizing and alleviating barriers and obstacles based on cultural blindness will have a long-lasting and sustainable positive outcome. Therefore, research on preparedness and resourcing HP who serve AI/AN in rural communities is needed to inform the development of PTR services with the vulnerable AI/AN population. The study intention focused on the perspectives of HP who serve in AI/AN communities. The 76 participants who participated in the study responded to questions about individual perceptions regarding their competencies in assessing and managing OUD, knowledge of programs, understanding of AI/AN culture, and how to provide safe and secure PTR approaches culturally.

The study looked at the opportunities, gaps, and barriers in OUD PTR and what information and education were needed by HP to provide effective PTR programs. We looked at how healthcare providers use networking, resources, and capabilities to operate their clinics, office settings, models of care for OUDs (if any) and how they currently address the opioid crisis in their community.

2.16.2 Cultural Awareness

This can begin with the practitioner's acceptance of diversity and multiculturalism. Understanding the cultural disparities of the AI/AN people would benefit both practitioner and patient. Healthcare interventions must include race, culture, and gender, along with clinical skills

(Nahian & Jouk, 2021). Holistic strategies must incorporate an understanding of intergenerational trauma and the legacy of pain it has caused many AI/AN (Whelshula et al., 2021). It goes a step further in understanding the concept of cultural awareness, beginning with the basic understanding that there is a difference in effectively dealing with AI/AN and others of different racial/ethnic backgrounds (Doutrich et al., 2012).

2.16.3 Cultural Competence in Care

To achieve this outcome, OUD services for AI/AN must be holistic, culturally safe, and centered on respect and trust (Venner et al., 2018e; Zeledon et al., 2020e). These qualities can be achieved with AI/AN care providers on the treatment team to help ensure adherence and

Minimize discharges against medical advice. For instance, cultural awareness programs have been in place by states and territories of the US for several decades. While there have been improvements, much must be done to ensure sustainable systematic changes. Regrettably, AI/AN need to be more represented in the healthcare workforce (Adamsen et al., 2018). According to the US Bureau of Labor Statistics, in 2019, the overall unemployment rate in the US was 3.7%. The jobless rate for AI/AN was 6.1%. AI/AN comprised only 1% of the total workforce, 1.6% of the healthcare workforce, although they account for 1.6% of the population (US Department of Labor Statistics, 2020).

Using culturally appropriate chronic pain management may help AI/AN people educate themselves and begin educating families and communities about safe pain management. Many chronic health conditions are prevalent among AI/AN, such as diabetes, obesity, hypertension, liver disease, heart disease, and HIV/AIDS, and present significant pain management challenges, leading to a predisposition for overusing prescription opioids from non-prescription sources. AI/AN elders have a higher prevalence of arthritis and diabetes than the older US population

(Ramsden, 1993a). Culturally appropriate measurements for pain need also be a consideration for providers. Many AI/AN do not express pain as a numerical score, as in a Likert scale. This has been mentioned in numerous findings regarding underreporting of pain by AI/AN (Jimenez et al., 2011). For sustainable opioid use health solutions, health providers for AI/AN patients should prioritize cultural security and safety when engaging the services of cultural brokers. This ensures that the health provider's bias does not compromise the rights of the AI/AN people.

2.16.4 Cultural Brokers

Cultural brokers advocate or represent others in providing understanding and communication with agreements, conflict negotiations, or producing change. The brokers provide a link or bridge between groups and individuals and are often used when language and cultural barriers exist between the parties (Jezewski et al., 2001). Cultural brokers can aid healthcare providers by linking services to patients in a culturally appropriate way. Due to the diversity among the various AI/AN tribes, it is unrealistic to expect providers to be culturally aware of the variations and provide cultural competence, safety, and security with confidence and experience. Therefore, healthcare providers can use cultural brokers in various settings to help facilitate healthcare interventions in diverse communities (Wenger, 1995). With OUD, psychosocial adjustments are necessary to cope with everyday life situations. These psychosocial adjustments would span social functioning, discomfort, a sense of change in identity, and physical limitations. AI/AN share a view of physical and psychosocial health different from that of the general population. For instance, health and wellness are intertwined through all life situations, including the whole community's social, emotional, and cultural well-being. For this reason, it is essential to identify cultural security for the sustainable health of AI/AN individuals and their families (Churchill et al., 2020). The literature review on the disparities experienced by

AI/AN suggests a need to research the challenges further to deepen our understanding of the best strategy to adopt in recommending pillars for sustainable OUD among this population.

2.16.5 Cultural Safety

For opioid use health services for AI/AN to be sustainable, the approach from a cultural security and safety perspective will need to be adopted. Cultural security and safety are distinct concepts, although some use them interchangeably. These concepts are essential to all racial/ethnic groups, as cultural errors can threaten patient safety (Walker, 2012). The theory of cultural safety involves a basic understanding of patient-centered care, including the actors that threaten or disempower the cultural identity and well-being of individuals from diverse backgrounds. Showing respect, recognition, and acceptance helps to ensure that culture-based behaviors are not threatened. In addition, cultural safety includes the understanding that wrongful healthcare practices affect the individual, the family, and the community (Ramsden, 1993b).

Cultural safety is met when healthcare providers are mindful of and consciously address their patients' power relations, cultural differences, and consumer rights (Curtis et al., 2019). In doing so, healthcare providers must examine the realities, beliefs, and attitudes influencing their interactions with AI/AN people. Cultural safety is defined by the consumer's experience of the care environment and processes rather than the health professional's worldview (van Ryn & Saha, 2011b). Cultural safety in health for AI/AN is also about all aspects of one's life, including control over the physical environment, participation in the community with dignity, and social justice.

2.16.6 Cultural Security

Cultural security goes beyond behavior changes by individuals and involves systemic changes. Due to the diversity of AI/AN communities across the US, it is difficult for outsiders to

understand each community's belief systems and politics and develop a working rapport. The lack of understanding may result in insensitive and culturally inappropriate interventions, despite the positive personal intentions of a healthcare provider. Cultural security is a commitment to the principle that the nature and processes of health services in the healthcare systems will not compromise the legitimate cultural rights, values, and expectations of minority cultural customs (Gubhaju et al., 2020). Cultural security is achieved by developing accessible and effective healthcare systems for AI/AN people based on acknowledging the right to self-determination, empowerment, and an understanding and responsiveness to cultural views, beliefs, and knowledge systems. This may be integral to AI/AN adherence to health care services.

2.17 Gaps in the Research

In researching literature that focuses on substance use among the numerous AI/AN communities or tribes in the United States, a well-known sparsity in the literature is easily found. The most noticeable gaps were found in searching for studies that focused specifically on AI/AN populations and studies which included members from the populations themselves. This historic exclusion continues in the lack of awareness, focus, and allocation of resources to the vulnerable AI/AN people. Further gaps were found in how the AI/AN are often minimized, misidentified, or ignored in research studies. In instances where they were included, this racial/ethnic group is often considered among the category of "other."

There are very few major OUD studies involving this population. Researching OUD shows a general lack of knowledge of what constitutes a SUD/OUD, how to assess it, and the suggested treatment protocols. In articles that did include both OUD and AI/AN, most of the literature clearly stated the historically ongoing issues of substance abuse, transgenerational trauma, mental health concerns, poverty, the numerous health determinants, discrimination, and

lack of resources that have plagued this population since first contact of non-native explorers. The conclusions from the literature suggested a concerted focus on culturally sensitive assessment and treatment modalities.

The literature's questions are appropriate for why these issues are ongoing today. How do these issues affect RNAC? Why is OUD so prevalent in RNAC? If we know that OUD is intricately linked and considered comorbid with mental health disorders (MHD), what are the most effective ways to treat both MHD while treating OUD for RNAC? Why are they not being facilitated? Considering that OUD is so pervasive with the numerous adverse effects on the person, the family, and the community, how can research help to promote change, mitigate, and reduce the consistent increase in opioid use, OUD, and death from a fatal overdose? The questions can, in part, be answered within the triangle of 1) prevention, 2) treatment, and 3) recovery approaches within a framework that is culturally sensitive, apropos, competent, and easier to sustain, with the design being viewed as long-term.

Next, who are the ones that can facilitate this triangle of care, what are their barriers and obstacles, and what tools do they need to overcome them? This can only be answered by those involved in providing prevention, treatment, and recovery approaches. Hence this research study focused on Sustainable Healthcare Provider Opioid Use Disorder Assessment and Management in Rural American Indian and Alaskan Native Communities: Prevention, Treatment, and Recovery Approaches. There are significant gaps between treatment need and capacity which exist at the state and national levels. Strategies to increase the number of MAT providers are needed (Jones et al., 2015). There is a general lack of knowledge of

- Available proven, evidence-based medications to treat OUD (MOUD)
- What harm reduction is and the purpose behind harm reduction approaches
- Why does the opioid crisis continue to increase despite numerous efforts to mitigate it

- What are the factors that help to fuel the epidemic

Many HP feel they are not trained on how to assess the risk of drug abuse, the dangers of using opioids to treat and manage pain, and lack of knowledge, training, and experience regarding the cultural nuances of the various Indigenous tribes and how to be culturally competent in providing prevention, treatment and recovery services treating OUD among the communities they serve.

OUD and opioid-related fatal overdose rates continue to increase despite the evidence-based treatments that effectively treat OUD (Burke et al., 2022). OUD affects all populations, racial/ethnic groups, genders, ages, and socioeconomic status and OUD exists in every state in the US (Pouget et al., 2017). Unfortunately, because many HP is not trained in identifying and treating substance use disorders (SUD), they often lack the necessary skills to identify, assess, treat, manage, prevent, and support the necessary aftercare for sustainable recovery and prevention for recurrence of return to OUD.

This review will discuss substance use and opioid use disorder (OUD) assessment and management, the gaps and barriers to diagnosis, the available treatments for OUD, and the barriers to providing them. This review will discuss the perspectives of the HP who serve the AI/AN populations and with whom the expectations of ability, knowledge, and training to assess and treat OUD lie. It is essential to discuss the many factors that have led to Indigenous populations continuously experiencing the highest rates of OUD, youth suicide, and fatal overdose from opioids, as this further highlights the lack of inclusion in the existing research.

Without cultural awareness and competence to treat these populations and communities, there cannot be effective prevention, treatment, and recovery from a “one-size-fits-all” mindset. Therefore, a considerable focus must be placed on the triangle of treatment and care for OUD prevention, treatment, and recovery. Without this triangle of care, the epidemic will continue to

increase as the services and resources react to the need for repeated treatment. They will remain in treatment mode rather than preventing new use and supporting those trying to break the cycle of OUD.

2.18 Summary and Conclusion

At the conclusion of the literature review, the paucity of research studies including Indigenous peoples is evident. From beginning the research dissertation journey to now, evidence of attention and efforts to find culturally competent ways in which to help this group find ways to heal and grow in recovery and resilience, but also in sustainability, is the most successful when they are allowed to do this in the best way for the community. They know the issues; only they can be the ones to make OUD treatments work for them. They understand the need for prevention, especially with the youth, but they are also dealing with the past and the present simultaneously. To not allow modifications in the fidelity of the design of EBPs, renders them not based in cultural competence and awareness. Without these modifications, they will not work, they do not work, and many in the culture are familiar with imposing non-native cultural values and philosophies. The collectivist mindset is not based in cultural competence. Most evident is in providing solutions to the issues these cultures face, without having included them in discussing the problem.

In the goal of finding ways to better prepare HPs to serve these communities, the take-away to consider and which places an additional responsibility on the HPs is to have a better understanding of how these communities cope, succumb, ignore, and thrive through the adversities they face. The assessment of an OUD should also involve the assessment of the mental health issues that encourage and perpetuate substance use. Without addressing the intrinsic and extrinsic pain the environments the youth grow and develop in; the suicide rates

will continue to soar. The continued loss of life of the children, along with the increasing disappearance of Indigenous women, the violence and SUDs in the men, the culture cannot survive. The continued discrimination and loss of identity increases the trauma.

Why do we still punish the native people? What did they do to deserve this? Yet it is continuing to happen. We talk about taking the drugs away, but this is one of the only things that is a respite from their lives. Take away access to drugs but replace them with employment, decent housing, grocery stores, education, a rec center, anything, something. Is heroin and fentanyl worse than suicide? There is a choice, however, it is irrelevant as all are deadly. These communities need to see commitment, sustainability, and significant changes to the social determinants that keep them "stuck."

Continuing the undeserved punishment of being born into a non-dominant culture, and not given the opportunity to reprieve or to affect change, leads to hopelessness and helplessness. More egregious is being told of the support and help to come, knowing not to trust or believe, but in the hopes of something better for the future, you sacrifice once more, as everyone else before you have, for the same reasons. Then you find that nothing has changed, the realization that nothing will change, and having to be okay with that or cease to exist. For the minimization of the importance of identity to continue and for that to be threatened versus supported, drug use will continue to be a more reliable solution, even if possibly a deadly one. That is not a choice, it is the criteria for suicide. Mental illness plays a role in almost 90% of suicides, and in these communities, mental health resources are in short supply (*Disparities in Suicide | CDC*, 2022). Research supports this and even if there were mental health professionals, the resources do not always reach them.

The data shows the issues mentioned throughout this review and in this study to be

continuing. A very recent study focused on increases in youth suicide rates where Indigenous youths were substantially higher, they were “othered” into a group that had consistently low rates and the inclusion or exclusion if you will, was statistically insignificant. The Indigenous group was not the focus on the study therefore it was easier to add them to another group than it was to focus on the consistently high rates of youth suicide. There is no better reason to increase efforts into prevention of OUD than the sheer fact the children are dying from it. The increase in death rates is further minimized in the often-occurring misidentified race categorization on death certificates, the fact it is often difficult to determine whether the death was intentional or unintentional, suicide versus overdose.

We know how effective MAT is in treating SUDs and OUDs, but do not truly make them accessible to this group. We talk about the need to have prevention programs, but we do not focus on those most in need. All children, regardless of anything, are the future of not just community, but of society. There is no denying that children who grow up in adverse conditions become adults that deal with the dysfunction that results. There can be no better deterrent to future drug use and abuse than to give the children the tools and knowledge necessary to resist it. The effects of drug abuse extend far beyond the individual, it affects the society they live in.

The resilience of this culture is remarkable. Outside of the studies and the literature that focuses on Indigenous peoples, there is such beauty and hope. The struggle is ongoing for these groups as is the stigma and discrimination. And yet they persist, they survive and despite the ravages of opioids that is so evident among these communities, they grow.

In going deeper than what was needed for the survey, friendships and networking opportunities were serendipitous. There is hope in knowing that despite what the literature often repeats, many groups do welcome the help when the help is inclusive, informed, and culturally

appropriate. The groups within the groups were unexpectedly discovered but so too was the disregard. Many of these groups, though individual, are absorbed into the whole group so again the minimization continues. Almost comparable to Salmon who must swim upstream in the hopes that some will survive and be able to reproduce. This was an interesting conclusion. In seeing that through the oppression, many continue to fight for not only what they lost but to dream of what they may someday have. This is expected to be a part of helping, of to fix one of the biggest issues that eradicates these progressions, OUD.

In conclusion, I have often been reminded of my study abroad to Portugal to study harm reduction. When the native Portuguesa found I was from America, many of them personally and sincerely apologized to me for their (Portugal) being responsible for slavery. When asked why this kept happening, it was explained as a societal shift that many had to make, regarding the necessary changes to deal with and stop the drug epidemic they were having in their country. The shift was in being asked as a collective to offer understanding and compassion to those who were oppressed and addicted. In doing so, to be able to see the individuals as human beings. Because of this shift, attitudes changed and there was an almost immediate concern and willingness to make changes necessary to not only end the epidemic, but to help those caught in it, which was almost every single person in Portugal.

I did not “get it” because honestly, my cultural blindness, my white privilege, and my skewed view on what was learned in history, I minimized this. I stopped replying or responding they did not need to apologize to me in realizing they needed to. It was one of the ways they could make a change, to be part of the shift in attitudes necessary to achieve the common goal. I “get it” now. I feel compelled to apologize to the groups I am now a part of. For me, rather than apologize, I show up. I am reliable, I am present, and I listen. And because my actions mean

more than my words, especially to a group that has had such adversity in response to other's words and promises, I am respected, and I am included. I, in my insignificance to the whole, am part of the change I hope to see. I am part of the narrative and that is because I stand on the shoulders of the giants with others like me and we make the foundation just a bit more stable for the next group that follows.

CHAPTER 3

METHODOLOGY

This chapter describes the study approach in seven sections, beginning with the research design. Next, the study describes the participating selection procedure using an open enrollment procedure. This is followed by the measure or instrument employed for the data collection in sex sections general information regarding participant work experience with OUD and AI/AN, participant knowledge of opioids, OUD, and available OUD treatments; collaboration with other healthcare providers (HP), the gaps they perceived in OUD prevention, treatment, and recovery (PTR), and how prepared participants were to provide information on OUD; where participants practiced, and OUD treatment and participant experience as a provider of OUD PTR programs and services, OUD recovery services participants provided, and participant demographic information regarding gender, age, race, and level of education. Under the measures/instruments section, the study identifies the independent and dependent variables for the study, as well as other variables for the descriptive analysis.

3.1 Research Design

The study utilized a mixed methods design (MMD) as it allows for a combination of numerical measurements (quantitative) and personal statements (qualitative) to identify perceived barriers and strengths of HP providing OUD care to AI/AN. The mixed methods approach for this study is a combination of descriptive data and open ended responses to clarify the descriptive data. This descriptive-narrative research design has higher yield than either descriptive data or narrative account taken separately. These two complementary approaches are employed to characterize HP practices the assessment and management necessary for continued care for AI/AN experiencing OUD, and the services available to affect high overdose mortality

rates among the AI/AN they serve. MMD indicates that data will be integrated, related, or mixed at some stage of the research process (Creswell, 2004b). Applied to this study, the use of an MMD enabled a more complete understanding of HP perceptions of AI/AN cultures and how OUD influences the assessment and use of evidence-based medications for opioid use disorder (MOUD) in prevention, treatment, and reoccurrence (PTR) within rural AI/AN communities). MMD allows a more accurate view of HP's perceived barriers and strengths, including knowledge of cultural competence and OUD approaches. The quantitative study examined individual providers' self-reported perceptions of their competency levels and backgrounds in EBP, primarily using surveys to obtain data.

3.2 Participant Selection

Participant responses for this study were from HP from health centers across the US that serve AI/AN in Alaska, Kentucky, New York, Washington State, Arizona, Louisiana, Oklahoma, West Virginia, California, Maryland, Oregon, Wisconsin, Connecticut, Montana, South Dakota, Florida, Nevada, Tennessee, Georgia, New Mexico, Kansas, and Texas. The participants were identified by affiliation with personal contacts through the Substance Abuse and Mental Health Services Administration (SAMHSA), the Native Center for Behavioral Health (NCBH), members of the American College of Health Care Administrators (ACHCA), Chickasaw National Medical Centers in Ada and Ardmore, Oklahoma, contacts made through the Prevention Technology Transfer Center Network (PTTC), the Mental Health Technology Transfer Center Network (MHTTC), and the Impact Tribal Consortium, consisting of the University of North Texas (UNT), and Meharry Medical College. Participant characteristics are presented in Table 3.1. Selection criteria included: employment as a HP must serve in AI/AN, and participants must be 18 years or older. These selection criteria were instrumental in

establishing an a priori assumptions regarding the participants' ability to address OUD in rural AI/AN communities from a clinical, educational, and future perspective in PTR for OUD. Participants were recruited and asked to complete a survey inquiring how they and their clinic addressed the opioid crisis in rural AI/AN communities. HP responded to this cross-sectional study survey. The participants completed questions on how they screen for and respond to opioid use in general and the needs of the AI/AN they serve. In addition, this study included provider experience working with opioid dependency or addiction, specifically managing treatment for OUD, opioid drug usage, opioid overdose treatment, and collaboration in opioid drug PTR.

Table 3.1

*Participant Characteristics (*N = *76)*

Characteristics		***n* or %**
Gender	Female	67.65
	Male	23.53
	Prefer not to say	8.82
Ethnicity	Caucasian or White	32
	Black or African American	11
	Asian American	0
	AI/AN	13
	Other	11
Level of Education	Graduate or professional degree	39
	Bachelor's degree	30
	Some college or technical degree	24
	Preferred not to say	12
Experience working with OUD		75%
Within AI/AN		48%
With OUD in AI/AN communities		20%
Average years of Experience providing OUD in AI/AN		9.2

The sociodemographic characteristics of the participants can be seen in Table 3.1. This table provides descriptive statistics on the reporting health care providers, their background and

experience, and their work context. As apparent from Table 3.1, participants were mainly white (60%) and female (68%). For the level of education, 39% had a graduate or professional degree, 30% had a bachelor's degree, 24% had some college or a technical degree, and 12% preferred not to disclose,75% had experience working with OUD patients, and 48% had experience working with AI/AN. The average years of experience providing OUD care to AI/AN were 9.2 years, of which 20% reported OUD treatment experience with rural AI/AN communities. The providers worked mostly in medical service settings (hospitals, inpatient, outpatient = 60%).

3.3 Measures

The study utilized the Opioid Survey for Health Care Providers survey developed as part of a larger study on research capacity building in opioid use disorders among rural AI/AN populations (Matthews-Juarez et aal., 2019). Prior preliminary evidence from the Matthews-Juarez study (n = 29 cases) indicated the Opioid Survey for Health Care Providers a reliable instrument for data collection with providers on prevention and after-care focused services were favored, various concerns regarding MOUD use safety and prognosis, tribal representation in the health care workforce, and additional training to address gaps in services. This study recruited a larger study sample (N = 76) to address the questions of interest.

The Opioid Survey for Health Care Providers survey (see Appendix) comprises 51 items in the following sections (A) attitudes and perceptions of opioid use disorders, (B) knowledge and awareness of PTR of OUD, (C) knowledge and competency in providing available programs and services aimed at PTR, (D) experience and confidence in providing available programs and services aimed at PTR, (E) effective use of resources and networking to provide PTR, (F) knowledge of AI/AN opioid use/misuse. It also provided open-ended responses to questions by sections as described below.

3.3.1 Independent Variables

3.3.1.1 Experience with OUD Care

The study asked participants about their experience in working with OUD and AI/AN. Did they have experience working with OUD (1 = yes and 2 = no), and did they have experience with OUD in AI/AN (1 = yes and 2 = no)? How long they have worked with AI/AN (1 = 1-3 years, 2 = 4-6 years, 3 = 7-9 years), where did they work with patients with OUD, and where they used managed care for OUD (1 = Private Clinic, 2 = Hospital, 3 = In-Patient, 4 = Out-patient, 5 = Nursing Home, 6 = Doctors Office, 7 = Urgent Care Clinic, 8 = Indian Health Service Clinic, 9 = other) and have they been involved in managing the treatment of OUD (1 = yes and 2 = no).

Participants were then asked dichotomous coded (1 = yes and 2 = no) questions about opioid drug usage; if they could prescribe opioid medications, advised patients on disposal of unused opioids, have they prescribed MOUD, provided education on the use/misuse of opioids, MOUD education for pregnant mothers and have they had patients who died from an overdose. Finally, participants were asked if they knew of drug combinations used by their patients (1 = Cocaine, 2 = Methamphetamine, 3 = Heroin, 4 = Fentanyl, 5 = Benzodiazepines, 6 = other), and participants were asked to please specify.

3.3.1.2 Concerns about Patients Regarding Opioid Use

Using a 4-point Likert Scale (1 = *never*, 2 = *some*, 3 = *quite a bit*, 4 = *often*), HPs were asked five questions if they thought about their patients becoming addicted to opioids, 7% replied never, 33% replied some, 35% quite a bit, and 25% replied often. When asked how often they thought about their patients overdosing, 7% replied never, 29% replied some, 36% quite a bit, and 28% replied often. HP were asked how often they worried about their patients using

illicit substances like fentanyl, 8% replied never, 30% replied some, 30% quite a bit, and 32% replied often. Next participants were asked how concerned they were about their patients taking an opioid prescription, 7% replied never, 29% replied some, 36% quite a bit, and 28% replied often. When asked how much protection participants thought Narcan provided from overdose, 1% replied none, 34% replied some, 50% quite a bit, and 15% replied total protection. When asked how prepared they thought they were to provide information on OUD to their patients, 40% thought they were good, 49% fair, and 11% were poor. The reliability of the prevention questions was .847.

Next, using a 5-point Likert Scale (1 = *strongly agree*, 2 = *agree*, 3 = *disagree*, 4 = *strongly disagree*, 5 = *prefer not to answer*), participants were asked six questions regarding whether they agreed or disagreed to various statements about the medications, proper use of the medications and the effectiveness. Statements such as Narcan (used to reverse overdose) may cause long-term side effects, 7% agreed, 40% disagreed. Narcan was another way for pharmaceutical companies to profit, 57% agree, 33% disagreed. OUD drugs are too new; I will wait to prescribe 20% agreed, 61% disagreed. Many AI/AN do not have enough information on OUD to decide if they should get help, 50% agreed, and 32% disagreed. Opioid information is the best way to prevent overdose, 87% agreed and 14% disagreed. Narcan can be effective in reversing overdose, 87% agreed and 14% disagreed. People who live in urban areas or at higher risk of OUD than rural areas, 92% agreed, and 7% disagreed. The reliability of the MOUD was .644. Finally, participants self-rated their preparedness to provide education on OUD (1 = good, 2 = fair, 3 = poor).

3.3.1.3 Knowledge and Competency in Providing Available Programs and Services Aimed at PTR

Questions asked included how long participants have worked with OUD and SUD (months and years). If the experience involved AI/AN (1 = yes and 2 = no), the setting in which they practiced (1 = private clinic, 2 = hospital, 3 = in-patient, 4 = out-patient, 5 = nursing home, 6 = doctor's office, 7 = urgent care facility, 8 = tribal program, 9 = Indian Health Services), whether the clinic offered treatment (1 = yes and 2 = no), and did they have knowledge regarding education on OUD (1 = yes and 2 = no). Participants were also asked how prepared they felt to provide information on OUD and were rated by the sound, fair, and poor choices. Participants were asked the types of MOUD used (1 = buprenorphine, 2 = methadone, 3 = naltrexone, 4 = contracted out, or 5 = other). Participants were asked if they provided youth recovery support in their facility (1 = yes or 2 = no), (1 = peer support, 2 = community education, 3 = boot camps, 4 = counseling, 5 = opinion leader, 6 = other). Participants were also asked if they provided recovery support for adults in their facility (1 = yes or 2 = no), (1 = after-care monitoring, 2 = community education, 3 = counseling, 4 = opinion leader, 5 = peer support group, 6 = outpatient treatment, 7 = inpatient rehabilitation, 8 = 12-step program, 9 = transitional housing, and 10 = other).

3.3.1.4 Effective Use of Resources and Networking to Provide PTR

This section contained five questions about HP's use of resources and networking to serve their patients better and operate their clinics. Questions included whether they have networked with other HP about OUD and overdose (1 = yes or 2 = no), what they believed the existing gaps in OUD PTR were, how prepared they were to provide information on OUD (1 = good, 2 = fair, 3 = poor), as well where their agency could improve interagency collaboration in PTR (1 = treatment, 2 = prevention, 3 = recovery, 4 = education, 5 = overdose, 6 = other), how their facility covered costs for OUD (1 = local council, 2 = state, 3 = federal, 4 = philanthropic, 5

= Indian Health Services, 6 = tribal dollars, 7 = other), and what they felt had the most impact in reducing OUD (1 = access to treatment and recovery services, 2 = community education, 4 = school education, 5 = opinion leader, 6 = other).

3.3.1.5 Knowledge of AI/AN OUD and PTR

To be a participant in this study, the criteria of having to be involved in providing OUD to AI/AN had to be met. Though the questions assumed the application to rural AI/AN community members, there were a few questions that specifically focused on cultural sensitivity towards AI/AN. The questionnaire asked about participants' experience in working with AI/AN and the length of time of that experience. Regarding where the care was managed, Indian Health Services (IHS) was included. Had participants prescribed MOUD to AI/AN, did they feel AI/AN had enough information on OUD to decide if they should get help or not, did their facility have a native counselor or did they provide cultural helpers, and what actions did they think would have the most impact on reducing OUD among AI/AN included an opinion leader, funding from the local council, tribal dollar or IHS?

3.3.1.6 Management of Agency Patient Records and Data

Using a 4-point Likert Scale (1 = yes, 2 = no, 3 = I don't know, 4 = prefer not to answer), HP were asked four questions about how their agencies managed and kept track of available data and statistics on their patients. Participants were asked if their agency kept case statistics and data regarding drug use, 55% responded yes, 14% responded no, 25% responded I don't know, and 7% responded they preferred not to answer. HP were asked if they use their data to report on patient success rates regarding OUD PTR, 43% responded yes, 22% responded no, 28% responded I don't know and 7% responded they preferred not to answer. When asked if the agencies tracked drug related deaths of their patients, 37% responded yes, 32% responded no,

25% responded I don’t know, and 6% responded they preferred not to answer. Lastly, HPs were asked if their agency provided intensive outpatient treatment (IOPs), 40% responded yes, 54% responded no, 6% responded I don’t know, and 1% responded they preferred not to answer. The reliability of the records keeping questions was .72.

3.3.1.7 HP OUD PTR Competencies

Providers were asked six questions on a dichotomous rating scale (yes or no) about their competencies regarding OUD knowledge and personal experience. Providers were asked if they could prescribe opioid medications such as oxycodone, hydrocodone morphine and codeine, 93% said no, and 7% said yes. Had they advised patients on the correct disposal of unused opioid medications, 42% said no and 58% said yes. Have you provided the medications used to treat OUD (methadone, buprenorphine, naltrexone), 85% said no, and 15% said yes. Had they provided patients with education on the use and misuse of opioids, 20.5% said no, and 79.5% said yes. Providers were asked if pregnant women could take OUD medications and 44% said no, and 56% said yes. And lastly providers were asked if they had patients who died from drug overdose, 32% said no, and 68% said yes. The reliability of the provider OUD experience and knowledge was .638.

3.3.1.8 Programs in Place

Participants were asked what types of programs were currently in place to respond to drug use in the community (1 = treatment, 2 = prevention, 3 = recovery,4 = education, 5 = overdose, 6 = other), did their program provided cultural helpers (1 = yes and 2 = no), did they have a mental health counselor on site and if they were a tribal member (1 = yes and 2 = no), and if not, how far would a patient need to travel to access mental health services in miles or time (write in text response).

3.3.1.9 Assessment and Management of Clinics and OUD Programs

Participants were asked if they were involved in managing the treatment of OUD. If so, where (1 = private clinic, 2 = hospital, 3 = in-patient, 4 = out-patient, 5 = nursing home, 6 = doctor's office, 7 = urgent care facility, 8 = tribal program, 9 = Indian Health Services), Participants were asked how many drug screens and assessments did their facility complete every month (1 = 1 to 4, 2 = 5 to 8, 3 = 9 to 12, 4 = more than 12), if their facility/organization kept case statistics and data, used the data to report on client's success rates, track drug-related overdose and death, and did they provide intensive outpatient treatment (1 = yes, 2 = no, 3 = I do not know, 4 = prefer not to answer).

3.4 Control Variables

Participants were asked to self-report sociodemographic characteristics (Table 3.1). They are the control variables, including sex (1 = male or 2 = female), race (1 = Caucasian or White, 2 = Black or African American, 3 = Asian or Pacific Islander, 4 = AI/AN, 5 = other), and level of education (1 = less than high school, 2 = GED or high school diploma, 3 = some college, 4 = associate degree, 5 = bachelor's degree, 6 = graduate degree, 7 = prefer not to say). These two data source types (numeric, narrative) provided information regarding knowledge, awareness, training, competency, education, level of information, and utilization of networking and resources of HP, based on their perceptions of OUD approaches and cultural competence of AI/AN populations.

3.5 Qualitative Data

Participants were asked open-ended questions about the clinics' days and times of operation, how long they have worked with AI/AN (length of time), and what state they were

employed and working in AI/AN. The participants were also asked whether there was anything they would like to add for suggestions to reduce risk for opioid abuse.

3.6 Ethics Approval and Procedure

The study proposal was reviewed by the Institutional Review Board (IRB) of the University of North Texas and was approved prior to any participant contact or data collection (#IRB-19-604) (Appendix B). Responses to the survey involving human participants were conducted per the guidelines of the American Psychological Association's (APA) Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2017). Participants were informed that participation was voluntary and that they could withdraw anytime. Information was provided regarding a 24-hour helpline in case participation caused risks or discomfort. There were no reasonably foreseeable conflicts of interest. The study did not involve interventions or procedures and posed minimal to no risk to the participants. Written informed consent was not obtained to avoid creating a risk of breach of confidentiality. Informed consent to participate was implicit upon completion of the questionnaire.

Participants were recruited by email and asked to share the survey with others who met the eligibility criteria defined as a HP who practices in AI/AN experiencing OUD. They, in turn, informed others about the study, forwarding the email, following a "snowball sample" approach. Upon consent to participate, HP was contacted via email and provided an online link to the Qualtrics survey, Opioid Survey for Health Care Providers (Appendix A). This targeted sampling provides a more powerful sampling mechanism than convenience sampling, and a more feasible approach than random sampling (Watters & Biernacki, 1989). In addition, it allows the researcher to target the appropriate population to answer the research question (Luse et al., 2012). Emails were sent from the researcher's university-provided email address to increase the

personalization of correspondence and increase response rates. Participation began with an email describing the purpose of the study, informed consent, followed by access to the Qualtrics online survey.

Before accessing the survey, participants were informed in writing that all information would be kept confidential and used only for statistical purposes and further research studies. Therefore, survey responses did not require personal identification information, were anonymous, and participation voluntary. The Qualtrics online platform was used to create, distribute, and collect responses for the survey via the researcher's university email address. The Qualtrics system was set to the anonymize setting not to record any identifying information (e.g., AI/AN addresses, location, email addresses). This way, responses were anonymous and could not be linked to the individual study participants. As a result, the researcher has more control over whom the surveys are sent to, and for this study, participants were chosen for their direct involvement in providing care to AI/AN and those who are aware of OUD PTR programs across the US.

3.7 Data Analysis

3.7.1 Quantitative Analysis.

The Statistical Package for Social Science 27.0 (SPSS) was used to analyze the data. Frequency analysis and correlation tests have been used to analyze obtained data. Data analyses included preliminary data cleaning procedures, descriptive statistics, and simultaneous regression modeling.

Descriptive statistics were used to analyze means, standard deviations, frequencies, bar graphs, pictograms, histograms, and proportions/percentages based on the demographic portion of the survey. Research into best practices guided the decision to determine appropriate statistical

tests for the analysis. It has been widely recognized that descriptives are appropriate for analyzing small sample data and for exploratory studies like this dissertation (Bishop, 2015; Harpe, 2015; Jaimieson, 2004; Liddell, 2018).

3.7.2 Qualitative Analysis.

Qualitative research can offer essential benefits for studies involving special populations, including those traditionally underrepresented in research (Napoles-Springer & Stewart, 2006). Qualitative methods can be used to understand social processes, capture essential aspects of a phenomenon from the perspective of study participants, and uncover beliefs, values, and motivations that underlie individual health behaviors (Malterud, 2001).

Several data analysis methods for phenomenological and qualitative studies use thematic analysis. The thematic analysis offers researchers more flexibility with the type of research questions, data, and theoretical framework applied from personal accounts of participants' experiences in various social contexts. This analysis allows researchers to analyze data with a deductive, theory-driven approach (Clarke & Braun, 2016).

Thematic analysis is not bound to a particular paradigm but can be used within various research approaches (Braun & Clarke, 2006). Genuine qualitative research based on phenomenology looks in detail at how individual experiences, here being the perceptions of HP treating OUD in AI/AN, and the meanings attached to them can inform a question of interest (Smith et al., 1998). Rooted in philosophy, phenomenology characterizes individuals' lived experiences of a phenomenon through narrative data from a few participants to generate a deeper understanding of the "essence" of a particular phenomenon from the individual's perspective (Patton, 2002).

Using a deductive approach allowed for a focus on the aspects or findings of the data to highlight and better understand the context of the study, allowing the readers to correctly interpret and contextualize the findings. They are subjective in that the data reflects the lived experiences of the participants involved in treating OUD and the AI/AN being treated or not treated. Much of the data analyzed from this study, though it applies to AI/AN, is reflected in many other communities affected by high OUD and overdose rates (Abraham et al., 2017; Bunting et al., 2018; Kertesz & Gordon, 2018; Strang et al., 2020; Walsh et al., 2020).

3.8 Missing Data

Validity, completeness, and accuracy are data quality measures; the cleaner the data becomes, the higher the quality will be (Oni et al., 2019). For this exploratory descriptive study, we assumed missing completely at random (MCAR), as there was no reason to believe otherwise (Little & Rubin, 2020). Of participants who enrolled for study, their survey completion rate was more than 95 %. Based on the recommendation by Acock (1997), the missing cases were coded as 0 using the SPSS MVA (missing value analysis) module. Given the exploratory descriptive nature of the study, a power analysis is not required.

3.9 Assumptions and Limitations

A primary assumption underlying this study was the validity of relying upon self-report measures to assess HPs' perceptions of their competencies and abilities and the accuracy of their education, training, experience, and knowledge to treat OUD in AI/AN. Self-report surveys represent a personal view based on how respondents view themselves or consider their opinions and perceptions. The consequences that can result are measurement error and some surveys may be compromised by missing data (missingness) (Mcknight & Mcknight, 2007). A potential

limitation is related to the non-probability sampling method used for the quantitative portion of this mixed methods research design.

However, using the snowball technique to get into areas that have been difficult to get responses from or data from, the online survey allowed for efficiently recruiting target samples of HP who specialize in AI/AN, allowed for the standardization of procedures and made this study easy to replicate. An ongoing limitation for many studies within the AI/AN population is the need for more literature and accurate reports from these communities. Incorrect reporting or misidentification of AI/AN people on death certificates often results in lower rates of OUD and overdose, which can underreport the magnitude of the damage to these communities caused by substance use, specifically attributed to opioids. The instrument used to collect data for this study was an online survey titled Opioid Survey for Healthcare Providers. Responses came from HP, who serve in rural AI/AN across the US. It is assumed that the survey accurately reflected a national representation of HPs' perceptions of their competencies related to OUD prevention, treatment, and recovery approaches used in their clinics or offices.

3.10 Summary and Conclusion

This study methodology focused on research design and sampling procedures. It also presented the data collection on knowledge and awareness of OUD. The evidence based MOUD approaches to treat them, ability and competence with identification, assessment, and management, knowledge, competency, experience, and confidence in providing available OUD programs and services aimed at PTR, effective use of resources and networking to provide PTR among AI/AN, based on the perception of the HP in providing these programs.

CHAPTER 4

FINDINGS AND DISCUSSION

This chapter presents and discusses the HP who participated in this study, and their perspectives on opioid use disorder (OUD) prevention, treatment, and recovery (PTR) programs in the facilities where they worked, that served rural Indigenous communities (RNAC) across the United States (US). To recap. the purpose of the study was to determine if HP had the necessary training in identifying and diagnosing the risks of OUD, and the knowledge and training for managing the proven PTR care programs and services available as they have historically been, and will continue to be, the primary service providers to individuals who experience substance and opioid use disorders (SUD/OUD). The findings are presented descriptively by research questions and proforma (tentative/exploratory) hypothesis. First, the results statements begin by presenting the evidence of the response rate and participant characteristics to provide a context for the specific findings by research aims. Next, the chapter presents the findings for each of the aims and proforma hypothesis, with discussion. In the presentation of the findings, the evidence for the RNAC survey was presented first as figures, charts of tables, and with any qualitative evidence for that aim.

4.1 Response Rate and Participant Characteristics

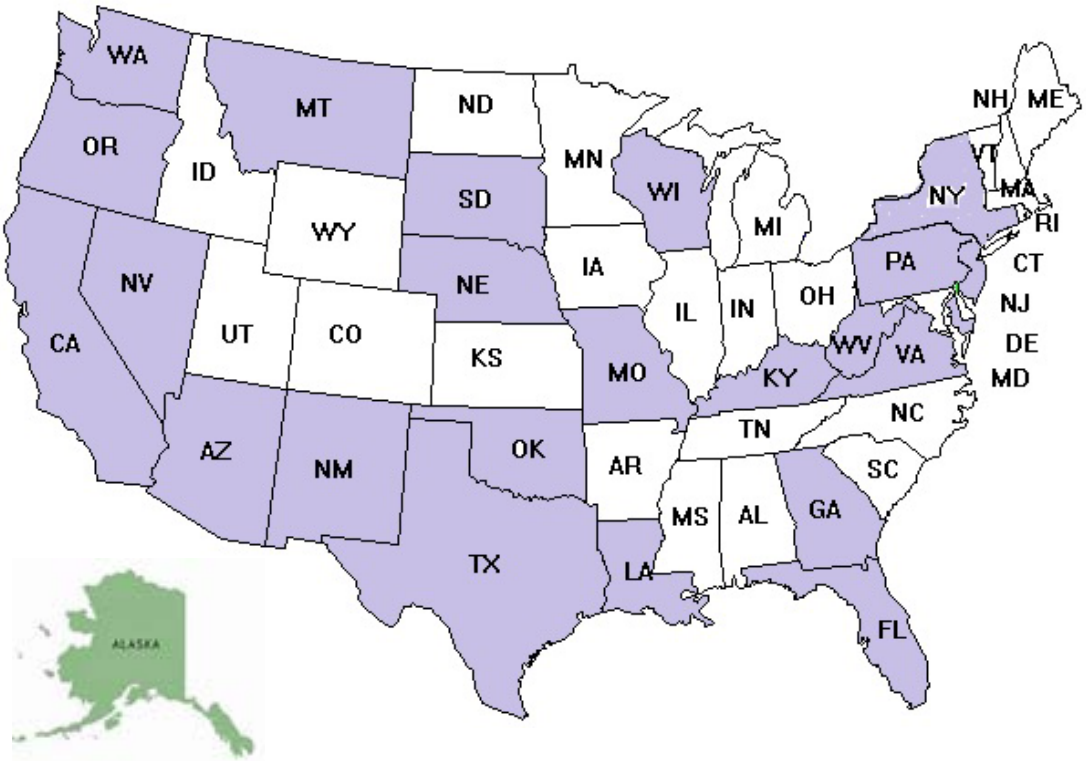
Because of the inherent nature of snowball sampling, it is difficult to trace the dissemination of the initial emails once they left the Qualtrics program. In total, seven emails were sent to fellow researchers, personal and professional contacts, and indigenous social media groups describing the study and explaining the intent of using the snowball sampling approach. Contacts were asked to forward the survey link along with the email request to travel within HP serving in RNAC with the criterion of being 18 years old and having worked or currently

working in RNAC experiencing OUD and overdose. According to responses who included their geographical locations, the survey travelled within 24 states across the US (Figure 4.1) and offered varied perspectives of OUD PTR programs and services localized in their states.

Prior determination of how many responses would be needed to have a large enough effect size, the goal was 70 responses. A total of 105 participant responses were received. Of the 105 participants, six did not work with indigenous communities, 14 did not complete more than 2% of the survey, 3 participants completed less than 13% of the survey, and 6 more responses were deleted because of incompleteness; no demographic data, as well as omission of specific provider questions regarding their perceptions directly regarded to OUD. After the cases were removed, 76 (n-76) cases remained, therefore meeting the target goal of 70 responses for analysis.

Figure 4.1

Map of Participant Locations in the United States, 2022



The final sample consisted of 76 cases who provided OUD PTR programs and services to RNAC. Table 4.1 consists of the sociodemographic characteristics of the sample including sex, race, age, level of education, years, and type of RNAC experience, location of practice, and healthcare system affiliation, managed or non-managed.

Table 4.1

Sociodemographic Characteristics of Participants (N = 76)

Variable		n	Valid %
Gender	Females	46	67.6
	Males	16	23.5
	Prefer not to disclose	6	8.8
Race	White/Caucasian	32	47.8
	Black/African American	11	16.4
	Indigenous/Native	13	19.4
	Other*	11	16.4
Age	1960-1969 (60s)	26	34.7
	1970-1979 (50s)	9	12.0
	1980-1989 (40s)	9	12.0
	1990-1999 (30s)	3	4.0
	2000-2023 (20s)	7	9.3
	Prefer not to disclose	21	28.0
Highest Level of Education	Some College	9	18.4
	Associates/Technical degree	3	6.1
	Bachelor's	15	30.6
	Graduate/Professional degree	19	38.8
Have you served clients with OUD?	Yes	58	76.0
	No	18	24.0
Have you served RNAC with OUD?	Yes	39	52.0
	No	36	48.0
Years of Experience?	1 – 4	12	20.0
	5 – 9	9	23.0
	10 – 14	4	4.0
	15 - 20	15	38.0

(table continues)

Variable		n	Valid %
Did you use Managed Care for OUD?	Yes	34	47.0
	No	39	53.0
Location of OUD and addictions work (non-managed care setting)	Private Clinic	6	7.9
	Hospital	8	10.5
	In-patient	13	17.1
	Out-patient	28	36.8
	Nursing Home	9	11.8
	Doctor's Office	1	1.3
	Urgent Care Clinic	1	1.3
	Indian Health Services	9	11.8
Location of OUD (managed care setting)	Private Clinic	7	9.2
	Hospital	3	3.9
	In-patient	9	11.8
	Out-patient	22	28.9
	Nursing Home	7	9.2
	Doctor's Office	1	1.3
	Urgent Care Clinic	1	1.3
	Indian Health Services	5	6.6

*Responses provided for "Other" Racial Groups:

- 1/8 Cherokee.
- Hispanic
- White/Hispanic
- Alaska Native, Inupiat
- Multiracial
- Kickapoo Tribe in Kansas
- Only lets me select one - I am Caucasian and Native American
- I prefer of Northern European origin.

Table 4.1 details the frequencies and percentages for the sociodemographic sex, race, age, and level of education. Most of the respondents (68%) were female, and according to the 2019 Census, females represent 76% of all healthcare workers (U.S. Census Bureau, 2019). The sample ranged in age from 23 to 65, however, 21 (28%) participants preferred not to disclose their age, resulting in a mean age of 49.97 years (SD$\pm$12.2). Though the range may seem to trend older (a), there was a fair representation across the range and length of time (years) worked (b)

with RNAC as seen in Figures 4.2 and 4.3.

Figure 4.2

Participant Age Range

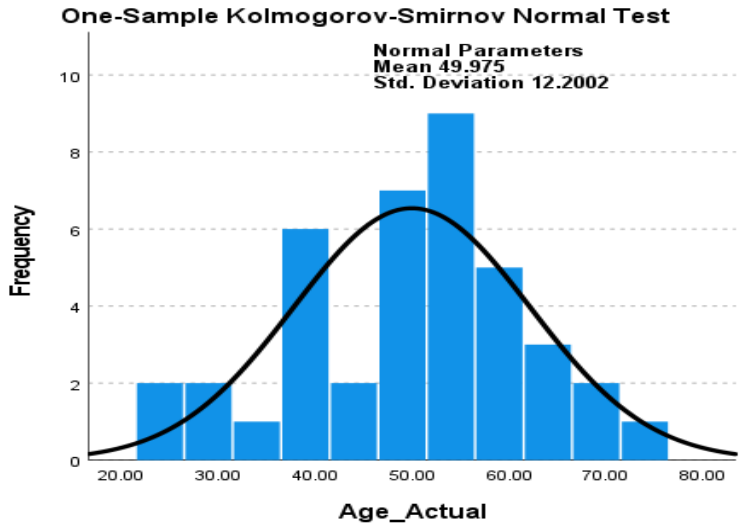
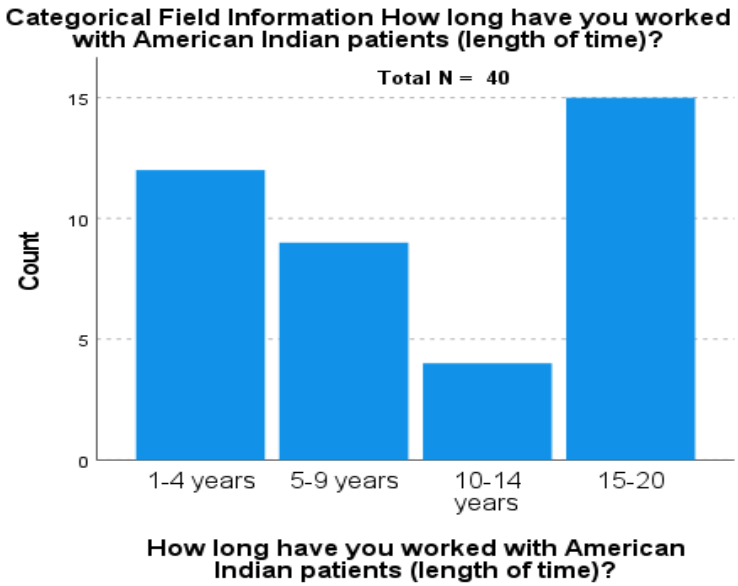


Figure 4.3

Years of Experience Working with Native Americans



4.2 Health Provider Knowledge, Beliefs, and Competencies Regarding OUD Treatment, Management, and Education among RNAC

The question of interest was whether HPs serving RNAC had the necessary education, training, and information to provide OUD treatment programs and services. Many of the participants 19 (39%) had a graduate or professional degree followed by those with a bachelor's degree 15 (31%). Healthcare licensure or certification was not among the criteria for participation in the survey. The racial makeup was predominately white (48%), with black (16%), indigenous (19%), and other (16%) contributors (Table 4.1). Work experience with OUD and RNAC with 15 (38%) participants having 15-20 years of experience, 12 (20%) between 1-4 years. OUD care was predominately provided in managed care systems (29%) or in non-managed care systems (37%). Many participants listed other places where they provided the care in and out of managed care settings and can be seen in Table 4.2.

Table 4.2

Other Places Participants Offered Treatment for OUD

Non-Managed Care	Within Managed Care Systems
• Law enforcement	• Rehab facility
• Specialty courts	• FQHC
• Residential recovery program	• Hospital ER
• Legal	• Methadone and buprenorphine clinic
• Rehab facility	• State agency
• FQHC	• CBHC
• Contacts on the street	• Ceremony Lodge
• State agency	• Grant involvement
• Hosptial ER	• Residential recovery program
• Counseling office	• Specialty courts
• Social services agency in our county	• Life experience
• Detox, rehab, and recovery center	• Homeless shelter

(table continues)

Non-Managed Care	Within Managed Care Systems
• Behavioral health clinic • Recovery school • I educate the youth about opioids • Outreach events • Community based organization • Ceremony lodge • Tribally operated MAT clinic • Detention center/jail • Tribal BHS • Homeless shelters • Community behavioral health center • Methadone and buprenorphine clinic • Morningstar Outreach Program (an urban Indian center) • Sponsorship and building mutual relationships • Substance-free community living program • Substance use disorder organizations; MAT clinics and I am a person with 31+ years in recovery • I have worked in a children's crisis shelter where many clients are Alaska Native	• Community based organization • Tribally operated MAT clinic • Urban Indian Center • Substance use disorder organizations • MAT clinics • In alternative sentencing projects through state courts

Indian Health Services (IHS) is supposed to provide free medical care to recognized AI/AN tribes and is subsidized by the federal government based on previous treaties in exchange for the land of the Native Americans. However, IHS has been historically underfunded since its inception (Meadows, 2022). IHS is not considered managed care such as Medicaid, Medicare, and the Veteran's Administration, however, because it is funded by the same local, state, and federal governments, tribes are often considered under compacting or contracting payment for services. Through HIS, only basic minimal services are offered, and patients are referred to outside facilities for specialty services such as SUD and OUD treatment (Zeledon et al., 2020a). Because of the lack of funding, many specialty places do not accept IHS insurance and many

AI/AN urban and rural cannot afford the out of pocket or fee for services costs.

Most services provided by participants were in outpatient settings. AI/AN who have elected Medicaid for medical care found Medicaid in many states did not cover OUD/SUD treatment. Those that did, elected to limited coverage than what was recommended for effective OUD treatment. MAT is the most effective evidence-based treatment for OUDs (Mpofu et al., 2021e). The limited treatment options for providers also limited access to needed services for many low-income populations (Grogan et al., 2016b). In Table 4. 2, where participants were asked how their programs were funded, the top three were from the State (43%), federal government (37%), and IHS (22%). Because many AI/AN, especially those residing in very remote and rural locations, are eligible but cannot access Medicaid services without sometimes traveling hundreds of miles, the government promised to provide states with 100% Federal Medical Assistance Percentage (FMAP) for Medicaid services provided through an IHS or Tribal facility. This too has not happened, which helps to explain participant responses they provided care for OUD PTR programs mostly in non-managed care systems.

"Other" places where treatment was provided by participants can be seen in Table 4.2, for non-managed care and managed care. Healthcare provider perceptions improving knowledge and gaps in OUD prevention, treatment, and recovery programs? We considered participants' capacities in management of their agencies. This consisted of the day to day operations, which programs and services were offered, how providers networked and collaborated with other facilities and providers, and how they were funded. Although the amount of funding from the different sources was not included in the questionnaire as many providers do not have access to this information, the programs offered are often directly related to the amount of funding received. Because most HPs are not directly involved with the day to day management, the data

merely shows how HPs navigate within the constraints of their agencies.

4.3 Health Provider Assessment and Management of OUD in RNAC

In Table 4.3, the days the agencies were open, and the hours of operation were re-coded as this was on open-ended question on the survey. By taking the entries and assigning values based on frequency, most clinics (45%) were open Monday through Friday, from 8 AM to 5 PM. Many of the clinics (29%) have been in operation for over 10 years, but the majority (31%) have only been open for 2-5 years. Major funding came from local councils (53%). Other sources of funding came from the state (43%), federal government (37%), and through Indian health services (IHS) (22%). Funding was considered in the research questions and the hypotheses, in the lack of funding and support for OUD programs are often the reasons RNACs do not get the necessary resources from local, state, and federal agencies to offer the PTR programs and services.

When asked about records keeping and sharing of data, participants responded their clinics kept records on patients' drug use (70%), OUD PTR successes (60%), and patient drug related deaths (40%). Participants were asked about the number of OUD assessments their agency did monthly and 47% reported completing between 1-4 per month, 10% completed 5-8, 18% completed 9-12, and 26% completed 12 or more per month. Education, knowledge, and training provide the capability to identify the risks associated with OUD through widely available SUD/OUD assessments. Knowledge of how to assess OUD is crucial to possess in that HPs are often the first point of contact for people seeking help for SUD and OUD related mental and physical health related issues. HPs assessment abilities, education, and level of training to identify, treat, and help to prevent SUDs/OUDs were central to this study in the research questions, aims, and hypothesis.

Table 4.3

Agency Management and Operations

		n	Varied %
What are the days and hours that your facility operates?	Monday-Friday, 9 AM – 5 PM	34	44.7
	24 hours a day, 7 days a week	24	27.6
	Varies	4	5.3
How long has your agency been in operation?	Under 2 years	10	22.2
	2-5 years	14	31.1
	6-10 years	7	15.6
	Over 10 years	13	28.9
	Not sure	1	2.2
How are your programs funded?	Local council	4	53.0
	State	33	43.4
	Federal	28	36.8
	Philanthropic	5	6.6
	Indian Health Services	17	22.4
	Tribal dollar	4	9.3
How many OUD assessments does your agency do monthly?	1-4	29	46.8
	5-8	6	9.7
	9-12	11	17.7
	More than 12	16	25.8
Does your agency retain statistics regarding drug use?	Yes	40	70.2
	No	10	17.5
Does your agency keep reports on client's success rates in OUD PTR care	Yes	31	59.6
	No	16	30.8
Track drug-related/overdose deaths of patients	Yes	26	49.1
	No	23	43.4
Inter-agency Networking	Yes	8	10.5
	No	63	85.1
Where could your agency improve collaboration in OUD PTR?	Prevention	55	72.4
	Recovery	56	73.7
	Education	59	77.6
	Overdose	26	34.2

Participants were asked about their agency communications both inside the RNACs and

outside of them (Table 4.3). The study asked questions regarding effective use of networking and collaboration between other clinics and resources for increasing awareness and engagement in OUD PTR programs offered at their agencies. One of the research questions guiding this study and the proforma hypothesis was HPs did not use these tools to their fullest potential. Of the participants in this sample, 85% stated they did not use networking and collaboration in their agencies. Networking with the reported records and data kept by the agencies could be used in providing information and education for other agencies, HPs and RNACs. Lack of networking and collaboration presents missed opportunities to increase awareness, encourage engagement, provide, and share information to the RNACs about the OUD PTR programs offered. One of the underlying themes throughout the HPs responses was the need for information and education to both HPS and their patients. Participants were asked where they believed their agency could improve collaboration in OUD PTR services, participants agreed that education was the most important (78%), followed by recovery (74%), and prevention (72%).

This section showed the paucity of OUD assessments being done by HPs, where (47%) responded they completed, on average between one and four assessments during a monthly period. Success in treating any illness depends mostly on HP's ability to diagnose what the matter is with the patient. Pattern recognition, attention to verbal and visual cues from the patient, deductive reasoning, and sound clinical judgment are time revered skills that good HPs spend years perfecting (Kebede, 2016). Collaboration exists in the relationships between HPs and their patients as well. This can be seen in collaborative decision-making with their patients working as partners to achieve a joint health goal. Trust within all areas of the physician-patient relationship is a critical factor influencing communication between both parties. As health care transforms into a other providers and their patients.

Identifying OUD at the screening stage may lead to a more in-depth evaluation and the opportunity to inform patients about the available PTR services. Suggesting screening without discussing the need for culturally appropriate screening instruments is ineffective. It harkens to the hypotheses that OUD PRT services and programs are not culturally competent and allows for inaccurate assessment in many RNACs, married with the continued inaccurate assessments based on and compared with non-RNAC. Through NC, HPs have more options and access to others who provide OUD services and allow for the exchange of successes and failures, suggestions, and creative allocation of resources, and, most important, advocacy of the populations they serve. This advocacy is fuelled by the barriers HP continuously faces in providing effective, adequate, required OUD PTR services in RNACs (Kelley et al., 2021; Zeledon et al., 2020b).

Despite what the literature often repeats, many Native American groups welcome the help NC brings when it is inclusive, informed, and culturally appropriate (D'Amico et al., 2020). Unfortunately, many of the tribes, through individualized, are often absorbed into a whole or single group, such as Native Americans or AI/AN, so the minimization continues (Brave Heart, 1998; Brockie et al., 2013). HPs responses to being asked where they thought their agency could improve in OUD PTR services, and 70% of the responses chose prevention, recovery, and education, with 30% choosing overdose.

4.4 Health Provider Agency Provision for Mental/Behavioral Health Services in RNAC

Next, we looked at the agencies' mental health services. Since counseling/ behavioral health is a required component of MOUD, especially with dispensing and managing methadone, 57% said they did have a counselor on-site, and 43% did not. For 38% of those who did, the counselor was a tribal member (Table 4.4). Tribal Cultural Helpers were used with 55% of the RNACs as well.

Table 4.4

Mental Health Services, Cultural Brokers and Counselors Onsite

		n	Varied %
Tribal members as Cultural helpers?	Yes	42	56.9
	No	31	43.1
Mental Health Counselor on site?	Yes	41	56.9
	No	31	43.1
Indigenous Mental Health Counselor on site?	Yes	26	38.8
	No	41	61.2

Additional comments by respondents:

- We have native and non-native therapists.
- We have Case Managers who are tribal members and other staff who are tribal members. We have staff who are part of out-reach and Peer Support who are tribal members, but I am not sure about a Counselor. We are VERY aware of our culture here and make every effort to connect members to the care of tribal connections. We are the only State that has mandatory training and CEU's for licensure that include being "culturally competent." Our State is very sensitive to our Native American population.
- We have mental health counselors on site, but not Native. Our Counselor is Native.
- We have non-Native licensed clinicians and certified Native technicians.

Table 4.5

How Far to Mental Health Services if Counselors Not Available On-site

Responses to How Far
• We provide telehealth services to clients.
• Depending on where in the county they live it could be 5 minutes to 20 miles.
• 10 miles
• 40 min-45 miles
• 2-3 hours away or further
• 30 min – 30 miles
• .3 miles- less than a mile
• Too far. Transportation is always an issue in our community.
• We have a non-native mental health doctor and do zoom call meetings only.
• 70 miles about an hour drive.
• No transportation available.

For RNACs that did not have a counselor on-site, the responses to how far patients would need

to travel to access mental health services, responses ranged from within 10 miles, too far to no transportation available (Table 4.5). Mental health counseling was listed among the OUD PTR programs in 38 (50%) youth programs and 45 (59%) adults (Table 4.6).

Table 4.6

Types of OUD Programs Offered

		n	Varied %
What type of medications do you use to treat OUD?	Buprenorphine (Suboxone)	23	30.3
	Methadone	14	18.4
	Naltrexone/Narcan	30	26.3
	Contracted Out	20	39.5
Do you provide intensive outpatient treatment (IOT)?	Yes	28	41.8
	No	38	56.7

		Youth		Adult	
		n	Varied %	n	Varied %
Types of OUD PTR programs offered	Recovery/After treatment	25	37.9	25	32.9
	Peer support	34	44.7	21	48.7
	Community education	28	36.8	28	36.8
	Boot camps	1	1.3	N/A	
	Counseling	38	50.0	45	59.2
	Opinion leader	11		8	10.5
	In-patient	N/A		12	15.8
	Outpatient	N/A		34	44.7
	12 Step	N/A		27	35.5
	Transitional housing	N/A		13	17.1

In providing OUD PTR programs such as MAT/MOUD which is the “gold standard” in effective treatment of this harm reduction approach, mental health counseling a legal requirement for MAT to be offered, administered, and supported, but it is also crucial to the fidelity and consequent success of the approach. RNAC have the highest rates of OUDs, fatal overdose, youth suicide, and mental health comorbidity. Table 4.4 shows the results of approximately 43% of participants who reported their agency did not have a mental health

counselor on site. Of the 76 participants, only 26 (39%) reported their mental health counselor was Native American. When asked if the agencies used tribal members as cultural helpers, 41 participants (57%) responded they did.

Another survey question asked and can be seen in Table 4.6, what programs their agency provided following treatment for recovery services, participants responded mental health counseling was provided in 50% of the agencies for youth, and 60% for adults. Numerous studies have shown that mental health counseling services can improve MOUD's effectiveness (Rong et al., 2016). Unfortunately, gaps in the literature show a continued lack of focus on the prevention of substance use and in identifying and addressing mental health issues prevalent among youth groups of all ethnic backgrounds (Harstad et al., 2014; Kelly & Daley, 2013b)

Distance to access medical and mental health care has been and continues to be an issue for many RNACs (Cromer et al., 2019; Kwon & Saadabadi, 2022c; Rieckmann et al., 2016, 2017). The numerous provider responses reiterate the lack of access and proximity to programs. The funding offered by the government to RNAC included the awareness of distance and proximity to care. It was configured into the amounts for various projects and problems, mental health access being the focus of this question and a hypothesis that access was a barrier. However, the funding often does not address the need directly. What has been provided and reiterated in the literature referenced above highlights the continued promises to address barriers to treatment, yet the promises are not fulfilled.

Continued lack of access to treatment prevents treatment provision and reinforces the transgenerational trauma experienced due to unfulfilled promises by the US government. These barriers are mentioned throughout every chapter of this dissertation as it significantly hinders access to OUD PTR programs and services in any space, which would be easily accessible to

Native Americans, whether in urban or rural areas, but specifically rural ones.

4.5 Health Provider Assessment and Management of OUD Programs in RNAC

The HPs were asked what types of OUD PTR programs they offered and provided in their agencies. The majority, 67 (71%), were using the three medications considered the "gold standard" for treating OUD; buprenorphine, methadone, and naltrexone (Suboxone and Narcan), and 40% contracted out MOUD programs. The 40% represents MOUD services not offered, provided, or available in the RNACs where they are needed, per the providers who work in them. To a degree, this is a positive and a negative. However, because MOUD is the best-known treatment for OUD and the responses from HPs indicated that all agencies did not provide this program, it indicates a lag in providing effective OUD care (Sigmon, 2014). Specifically, recent changes in the licensing prescribers and clinics must go through to be able to provide both in a clinic setting and by prescription without daily maintenance and dosing should indicate higher percentages of those treating OUD with available MOUD (Manz, 2021).

Regarding counseling being provided in 50% of the agencies for youth and 60% for adults, the fact that mental health and behavioral health services must be provided with MOUD makes the numbers make better sense in that one should not be provided without the other. Results of 33% to 38% of HPs providing recovery programs at their agencies heightens awareness that another aspect crucial to the success of OUD treatment is providing support after treatment, as relapse is a known and probable factor in relapse with OUDs. Every theory involved in understanding OUD profits that opioid dependence is associated with low rates of treatment-seeking, poor adherence to treatment, frequent relapse, and significant societal consequences (Krupitsky et al., 2011b). Reiterating MAT is an evidence-based treatment program for OUDs that prevents relapse (SAMHSA, 2019).

Whether intensive outpatient treatment (IOT) was provided is a fundamental question. The fact that 57% of HPs responded that IOT was not provided in their agencies is an even more important answer. IOT programs are considered the most effective and successful OUD treatment for individuals with diverse backgrounds (NCBI, 2032; NIDA, 2023). IOT works better for those with cultural differences and allows for better adoption of the program to the individual than the reverse, which is the preferred method of providing care in treatment settings (Mulvey et al., 2003). This is reinforced by many of the organizations that support the need for culturally competent care (National Center for Cultural Competence, 2019; National Institutes of Health, 2017). IOT is more individualized and can be more personal and competent regarding cultural issues. This can also apply in non-intensive inpatient and outpatient settings, intensive or not.

Regarding non-intensive and outside-of-the-facility treatment (outpatient), 45% responded as available to adults only, and 16% provided inpatient treatment only to adults. Only some participants responded that they did not provide IOT, as 42% of the responses did provide IOT. The concern should be for the higher percentage not providing IOT.

Youth are relatively underserved by the current OUD services relative to the adult populations (see Table 4.6), and they are known to carry a higher risk for OUD disorder. Considering the benefits and success of inpatient and outpatient treatment for those from diverse cultures, this is a grave error in working with youth from RNACs and disregards the necessity for prevention programs (Mpofu et al., 2021f). Moreover, HPs perceived aftercare services appear to be under-prioritized for the adult population and nonexistent for the youth populations.

4.6 Health Provider Knowledge, Beliefs, and Experiences with MOUD Programs and Services among RNAC

For Table 4.7, results were in response to seven questions used to better understand HPs'

knowledge regarding OUD and the MOUD involved in treating OUD. For this study, five participants (7%) had experience with prescribing opioid medications. One of the hypotheses for this study was providers were not knowledgeable about OUD and how to treat it with evidence-based treatments. In addition, they needed to have current information regarding the safety and efficacy of the medications used in MOUD. When asked if providers advised their patients on properly disposing of unused opioid prescriptions, 58% stated they had, and 42% had not. When asked if they provided MOUD to their patients, 85% stated they did not, but 15% had.

Regarding providing education on the safe use of opioids, 80% stated they had. However, when asked if pregnant women could use MOUD, only 56% of providers knew they could. Furthermore, when asked if they had patients who died from an overdose, almost 70% had. Providers listed the drugs their patient's reported combination use with the opioids, and the "other" drugs used can be seen in Table 4.7. The most common drugs used with the opioids added by write-in responses as "other" were alcohol, marijuana, and methamphetamine (meth). Many of the drugs of choice in the population depend on availability and access. An example would be in South Dakota, opioids and fentanyl are not the leading cause of overdose; they see methamphetamine. The "zombie drug tranq" was seen in Philadelphia, and it is more readily being seen in Texas, California, Michigan, and West Virginia.

Table 4.7

Participant Knowledge with OUD and OUD Treatment

		n	Varied %
Have you/can you prescribe opioid medications such as oxycodone (OxyContin), hydrocodone (Vicodin), morphine and codeine?	Yes	5	6.8
	No	69	93.2
Advised patients on proper disposal of opioids?	Yes	43	58.1
	No	31	41.9

(table continues)

		n	Varied %
Provided MOUD to patients in RNAC?	Yes	11	15.1
	No	62	84.9
Provided education to patients on the proper/safe use of opioids?	Yes	58	79.5
	No	15	20.5
Can pregnant women use MOUD?	Yes	40	55.6
	No	32	44.4
Had patients who died from overdose?	Yes	50	68.5
	No	23	31.5
What drug combinations have patients reported using with opioids?*	Cocaine		48.7
	Methamphetamine		60.5
	Heroin		55.3
	Fentanyl		53.9
	Benzodiazepines		47.4

*Other drug combinations reported:

- Alcohol by far is the greatest
- Marijuana, pot, weed
- Alcohol, ETOH
- Buprenorphine, methadone
- Ketamine, K2
- Prescribed narcotics
- Mushrooms
- Mostly meth and heroin together
- MDMA

Responses indicated changes in frequency or patterns with combinations of drugs along with opioids. Trend theory shows nonmedical use has increased with combinations of other addictive and dangerous drugs. (Keyes et al., 2014; Marsh et al., 2018). This population has traditionally been plagued with drug abuse, but combined with fentanyl, benzodiazepines, methamphetamine, ketamine, and now xylazine (tranq), the potential for overdose mortality in increases. Due to changes in existing drug policies, these groups with access to drugs also commonly have co-occurring mental health issues (comorbidities) (Agar & Reisinger, 2001b).

What is being seen in the illegal drug markets and what was confirmed in the participant responses involve the intentional simultaneous use of stimulants combined with other opioids; the fourth wave of the opioid epidemic (Piper, Ogden, et al., 2018). The new synthetic drugs such as fentanyl analogs combined with poly-stimulants have longer duration of action and therefore, interactions with other substances and medicines can be more serious. What appears to be happening are the new drugs and their combinations are often unresponsive to Narcan (Pergolizzi et al., 2021). Knowledge of the new drugs and their use and abuse patterns are critical for HP who treat OUD patients. It is crucial for HP to be aware of opioids' potentially life-threatening drug-drug interactions to prevent new cases of intoxication (Pérez-Mañá et al., 2018).

As illustrated in Table 4.8, participants were asked how often they thought about their patients and 90% said they did to some degree. Participants thought most about their patients regarding how much protection Narcan provided (50%) and only 1% did not think about Narcan's protection at all. Participants thought about their patients overdosing quite a bit (36%) and 7% did not think about patients overdosing at all. And 10% of providers did not think about patients taking prescriptions at all. When providers were asked how prepared they were to provide OUD information to their patients, almost half (49%) of the respondents stated fair, 40% stated good, and 11% of providers stated they were poorly prepared to provide information on OUD to their patients. Provider-patient relationships are essential to the level of care patients receive and, importantly, how patients perceive their care, conversely, the same can be said for how providers perceive their patients.

Patients are more likely to engage and seek care when they feel their provider is interested in their well-being seek care when they feel their provider is interested in their well-

being, they feel their provider is interested in their well-being. This question and the provider responses answer the research question of whether participants were adequately prepared and had the capabilities to provide OUD PRT programs.

Table 4.8

Healthcare Provider Experience with OUD and OUD Treatment

How often do you think of your patients:	Never	Some	Quite a bit	Often
Becoming addicted to opioids?	6.8	32.9	35.6	24.7
Overdosing?	6.9	29.2	36.1	27.8
Using illicit substances like fentanyl?	8.2	30.1	30.1	31.5
Taking an opioid prescription?	9.6	35.6	31.5	23.3
How much protection does Narcan provide?	1.4	33.8	50.0	14.9
How prepared are you to provide information on OUD?	Good 40	Fair 49.3	Poor 10.7	

The next section of questions sought to better understand providers knowledge of the medications and how they were used to treat OUD. Anticipated results would be a lack of awareness and knowledge regarding OUDs, MAT/MOUD, and safe and effective PTR programs. The results were mixed. From Table 4.9, out of the seven questions asked, four were focused on Narcan. Narcan is the only medication known and proven to reverse overdose. Of the responses 39% agreed use of Narcan may cause long-term adverse effects, 57% agreed it was another way for pharmaceutical companies to profit. Regarding the effectiveness 87% agreed it could be effective, but 14% did not agree. Results show that 61% agreed that OUD drugs were too new, and they would therefore wait to prescribe.

Half of the participants agreed that RNAC do not have enough information on OUD to decide if they should get help, and 87% agreed that opioid information is the best way to prevent overdose. To bring back earlier responses, the same number of providers felt they were not

adequately prepared to provide information on OUD to their patients.

Table 4.9

Participant Knowledge of OUD and Medications

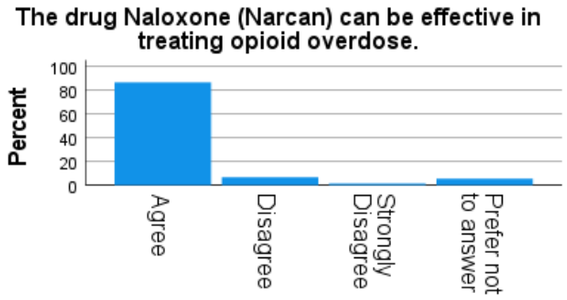
	Agree	Disagree
Overdose medications (Narcan) may cause long-term adverse effects.	47.3	39.2
Narcan is another way for pharmaceutical companies to profit.	57.3	33.3
OUD drugs are too new; I will wait to prescribe.	20.3	60.8
RNAC do not have enough information on OUD to decide if they should get help.	50.0	32.0
Opioid information is the best way to prevent overdose.	86.5	13.6
Narcan can be effective in reversing overdose.	86.5	13.6
People who live in urban areas or at higher risk of OUD than rural areas.	6.8	92.4

Scores from "preferred not to answer" are not included in percentages.

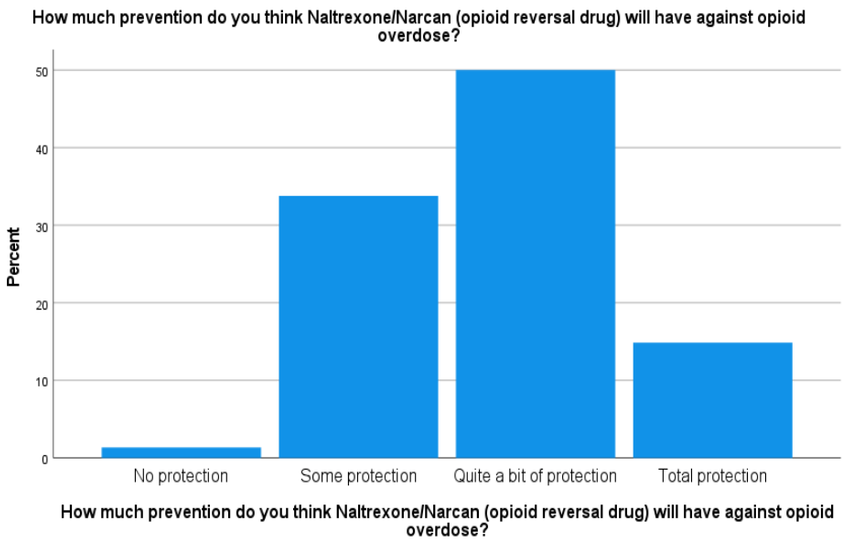
Figure 4.4 depicts participant knowledge and beliefs about MOUD as seen in Tables 4.8 and 4.9. The charts reflect a bias and lack of information to the safety and efficacy of MOUD. Results show that many HP do not have enough training, experience, and information regarding treatments using MOUD. The HP's beliefs and assumptions often lacked training and present based on misinformation regarding MOUD's effectiveness, safety, and life-saving benefits. Results also confirm their decision to recommend, provide, or prescribe the medications are influenced by the lack of knowledge, experience, and training. The data also shows participants are aware of their lack of knowledge and training and they need and want education and training in culturally appropriate MOUD and community-based programs as well. Though this is a relatively small sample in comparison to the RNAC who need these programs, the data from this study further elucidates the need for training among HP in what OUD involves, what are available treatments and how to better manage the use of MOUD and other OUD programs and services correctly, effectively, and with cultural awareness and appropriateness.

Figure 4.4

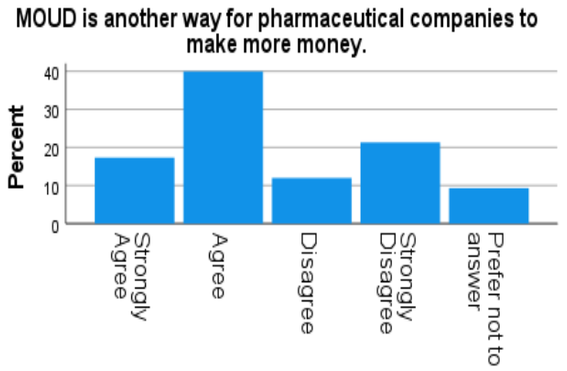
Graphs for Provider Beliefs of Narcan and MOUD



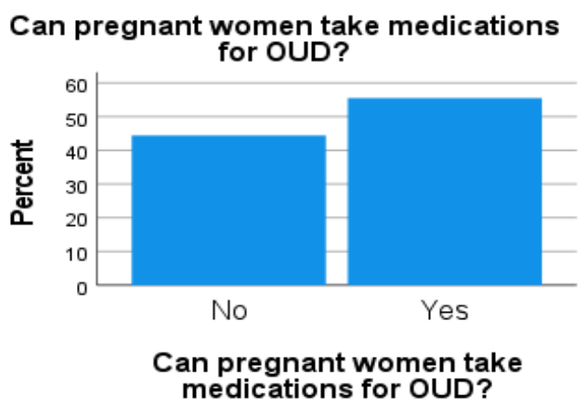
(a)



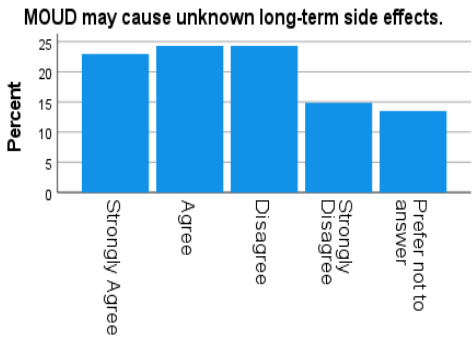
(b)



(c)



(d)



(e)

Participants were asked if Narcan was safe to use, did it provide protection, if pregnant women could take MOUD, and did they believe MOUD had long-term adverse effects (Figure 4.4). Though the majority agreed that Narcan was safe and was effective against overdose, and 57% agreed Narcan was another way for pharmaceutical companies to make a profit. Alarmingly surprising was almost 45% thought MOUD was unsafe for pregnant women. Narcan is the only drug available for stopping and reversal of opioid overdose. It is safe and does not cause long-term side effects compared to the long-term effects of not using Narcan. MOUD during pregnancy has its own specific protocol which includes additional maternal care, and when pregnant women with OUD take the MOUD treatment, they can reduce the likelihood of neonatal abstinence (NAS) and neonatal opioid withdrawal (NOWS) syndromes where babies are born addicted to opioids and within minutes begin to experience withdrawals symptoms.

While participants agreed to the effectiveness of Narcan, they also agreed (57%) that the evidence based proven effective medications used in treating OUD was another way for the pharmaceutical companies to make a profit. Not only is this misinformation incorrect and potentially harmful in the influence of this causing participants to not recommend or prescribe it, Narcan as of March 30, 2023, became widely available as an over the counter medication. The price of Narcan ranges by distributor and is available free of charge at many state-funded health clinics**.**

4.7 Healthcare Providers Perceptions of Agency Gaps in OUD Prevention, Treatment, and Recovery Programs.

In taking from the various tables the information provided from participant responses (Table 4.10), when placed in some semblance of order, the major problem this study set out to find, where was the weakness in the continuum of care for the RNAC? According to their responses, the major barrier in patients receiving OUD care, as shown by this study, was at the HP level. They lack the education, knowledge, training, and experience to do so (they did not network, did not collaborate with peers and other agencies, were not prepared), ensured they would not and could not do so. Without the education and training about OUD, they cannot talk to patients about help with programs like MOUD. Because they are not trained, they do not know what to look for, they cannot provide the much needed information to the patients, and they do not appear to take advantage of the opportunities they do have to get the necessary training. Many HP recognize the problems but do not appear to seek information in finding solutions.

Table 4.10

HP Perceptions and Effect on Outcomes

Perception	%
Access to treatment and recovery services (impact action)	73
GAP at agencies - MOUD Treatment	70
RNAC do not have enough information on OUD to decide if they should get help	50
GAP at agencies – OUD Education	83
Opioid information is the best way to prevent overdose.	87
Narcan may not reverse overdose	14
Narcan has adverse long-term effects.	87
Did not use networking/collaboration with other HP.	85
Not prepared to provide information on OUD.	60

HP want help and access to OUD training and mentioned this in Table 4.11 responses. According to the results, participants felt the most significant gap in OUD treatment was in

education (83%), followed by a tie (70%) for MOUD and recovery services, and then treatment for overdose (54%). According to the literature though all are gaps, where results showed prevention to be the minor gap (30%), many researchers on OUD place prevention equally as high as treatment. Without attention to preventative healthcare, which can in part be better understood through addressing the health disparities among marginalized populations, the gap between those needing help and those getting help will widen.

Table 4.11

Agencies Reporting Gaps in Treatment and Recovery Services

Service Type Gaps	n	Valid %
MOUD Treatment	53	69.7
Prevention	23	30.3
Recovery	53	69.7
Education	63	82.9
Overdose	41	53.9

Providers responded by writing in "other" ways they treat OUD. Abstinence was listed among many other harm reduction approaches for treating SUD/OUD, but few options appeared other than what was discussed throughout the survey. The results show that few options are available for treating OUD successfully, aside from the PTR programs discussed throughout this study. Aside from MOUD, counseling, and recovery programs, there are not many options. The results and existing literature repeatedly state that the available programs and services, if provided and accessed, are sufficient in effectively combating OUD and fatal overdoses.

Responses show that 73% of participants thought access to treatment and recovery services would have the most impact on reducing OUD. Approximately 57% thought community education would be the most impactful. Providing education was agreed to by 41% and using Opinion Leaders or Tribal leaders/members was thought to be a good idea for 31% of

participants. Other results that support or coincide with these responses show that access to treatment and recovery services are provided in about half of the participant agencies (Table 4.12). Community education would fall under networking and collaboration and 85% of participants responded they did not use either.

Table 4.12

Impact on OUD Reduction

Action	%
Access to treatment and recovery services	73
Community Education	57
Education in schools	41
Opinion leaders	31

Education in schools would be provided in prevention services which participants rated as the least important area to focus on in treating OUD and opinion leaders only exist in about 10% of the agencies. Education about OUD programs should start in the community in which OUD is present but education about OUD programs should start in the community in which OUD is present but also to educate about OUD as a prophylaxis. Community-based OUD programs allow AI/AN in remote and rural areas to stay in their communities and involve collaborative relationships between health care providers, community-based workers, and the broader AI/AN community (Joshi et al., 2018; SAMHSA, 2020).

A significant gap in the literature exists in the lack of focus on the prevention of SUDs for AUDs and OUDs, primarily geared towards AI/AN youth. The AI/AN youth have consistently had the highest substance use rate than other racial or ethnic groups (Swaim & Stanley, 2018). For SUD and OUD programs to have a greater likelihood of retention, providing education and programming in school settings may help to encourage treatment completion, and

increase positive post-treatment outcomes from RNAC youth. Early and improved access to treatment services is needed (Mennis & Stahler, 2016).

4.8 Healthcare Providers Perceptions for Improved Knowledge and Gaps in OUD Prevention, Treatment, and Recovery Programs.

Health care providers were concerned about the commercial motives by pharmaceutical companies pushing MAT to RNAC, who they perceived to generally lack information on OUD treatments. The providers perceived OUD treatments of present, as marginally available to RNAC members. Between 40-70% of the providers reported to perceived gaps in OUD across the continuum of prevention, treatment, and recovery. Eighty-five percent of the providers perceived gaps on inter-agency collaboration in OUD related services. Prevention and recovery services appear to have significant gaps in the agency, as well as outside and between agencies. Notably, HP perceived a gap in interagency MAT treatment, which would risk the patient's health from abuse of MAT and from poor patient monitoring of treatment adherence.

It appears that youth are relatively underserved by the current OUD services relative to adult populations, while they are known to carry a higher risk for OUD, and they have the highest suicide rates of any racial and ethnic groups. Moreover, HP perceived after care services appear to be under-prioritized for the adult population. The study showed that youth are relatively underserved by the current OUD services relative to adult populations, while they are known to carry a higher risk for OUD, and they have the highest suicide rates of any racial and ethnic groups. Moreover, often the most effective OUD treatments for youth can be in either inpatient and outpatient settings and used subsequently, but as this study showed, neither setting was offered for youths served by the participating HP facilities. Age appropriate programming can be seen in boot camps for youth, and 12-step for adults. The use of opinion leaders was higher for youth than for adults.

In summary, the data indicated trends to suggest MOUD use relative to prevention and after-care focused services. The data suggests a positive trend towards the use of cultural helpers by OUD care providers. Moreover, the data shows presence in the RNAC, and the qualitative recommendations repeated the need for additional indigenous culture members as care providers. Indigenous tribal member engagement across all OUD services would optimize effectiveness from cultural responsiveness of treatment and minimize harm to patients from mis-targeted or culturally inappropriate OUD services. There is a need for comprehensive workforce development training to address the gaps in services across the OUD continuum of care.

4.9 Thematic Participant Responses

HP responded to the open-ended question regarding suggestions on how to reduce OUD and for areas for improvement. Analysis yielded major themes regarding the need for tribal community involvement: 1) better utilization of tribal supports, 2) effective personal communication, 3) tribal involvement and investment, 4) affordable training for clinician, and 4) caution towards the drugs used in MOUD/MAT. Table 4.13 summarizes these major themes and component minor themes with representative quotes.

Table 4.13

Thematic Areas and Participant Responses/Suggestions

Areas for Improvement
• Major themes: better utilization and inclusion of cultural supports; more active tribal involvement. • Minor themes: need for clinician training; better communication; OUD prevention to youth
Representative Quotes
When you said Overdose treatment, I assume you are speaking of Naloxone which is a great drug, but I am not a fan of Suboxone and/or methadone outside of detox. This is kicking the can down the street and causing more issues. There is a reason why pilots and doctors are not allowed to take these drugs. Unfortunately, our Federal Government has bought into this hook line and sinker.

(table continues)

Representative Quotes
We have Case Managers who are tribal members and other staff who are tribal members. We have staff who are part of out-reach and Peer Support who are tribal members, but I am not sure about a Counselor. We are VERY aware of our culture here and make every effort to connect members to the care of tribal connections. We are the only State that has mandatory training and CEU's for licensure that include being "culturally competent." Our State is very sensitive to our Native American population.
Although I am not a mental health professional. I personally recommend having webinars on these drugs so clients can learn about the use and impact it may have in their lives.
Read Maia Svalavitz' "Undoing Drugs." Our state has an extremely low rate of indigenous persons and our resources in treating indigenous populations is sparce. We could and need to do better.
We have the High School allowing us to come in and do a Narcan training for students and Parents.
Punishing the pharmaceutical companies and making them pay restitution and for treatment.
Engage tribal chief support.
I think we need communities to invest.
Reduce income inequality and racism.
Do more prevention in schools / online, presented by idols (beyond opinion leaders) for specific demographics. Provide more and free/subsidized graduate school level training for clinicians.
Utilizing traditional cultural knowledge is evidence - based to prevent or assist in recovery from OUD.
Barriers exist within the "traditional" thinking in both tribal communities and the 12-step community.
Better monitoring in the health field (IHS).

Participant responses regarding suggestions to "gaps" they believe exist in OUD PTR?

- Most just want to prescribe Suboxone for life. BAD IDEA!
- Decriminalization linked to recovery therapy
- Dangers of other drugs
- Intervention
- None I believe it is just another way of keeping people addicted to drugs
- Harm reduction which CAN include elements of the above
- Housing & transportation- Methadone clinics, Syringe access programs
- Hopelessness, Denial, and Isolation are some factors that create gaps in treatment
- American Indian and Alaska Native cultural methods for all the above
- Access to harm reduction materials, Narcan, etc.
- Consequences of their actions regarding the opioid drug use
- Reduce stigma and discrimination

Participant's "other" responses to actions to reduce OUD

- Lodge and ceremony support
- Peer Support, Harm reduction services, support
- Cultural (spiritual)
- Connection to culture and reduction in active racism
- Community awareness
- Better socioeconomic conditions.
- Elders of community taking a stand and leading by example
- How you would engage and deploy opinion leaders is not clear, because you could integrate celebrities doing educational/prevention YouTubes, etc. Which population? Native Americans? Other demographics?
- Reduce Stigma and discrimination

Survey Question 52 provided a write-in option to the question of what actions do you think would have the most impact on reducing OUD among RNAC? Participant responses in Table 4.12 showed access to treatment and recovery services to be the most important. For the "other" responses, a more traditional approach to actions that have impact emerged. The responses encompassed a holistic and culturally competent way to treat OUD within a harm reduction perspective while addressing the social determinants intertwined with the generational trauma that exists among many AI/AN in any community, rural or urban, the trauma does not discriminate based on geographical location. The responses showed different ways to address the problems regarding having an impact on OUD in their communities. The interesting part underlying the responses is that many are achievable using networking and collaboration and many do not rely on funding to be implemented and used.

4.10 Culturally Appropriate, Safe, and Secure Models of Care Necessary to Provide Culturally Appropriate, Medication-Assisted Treatment (MAT) and Community-Based Programs for AI/AN in Rural Communities.

As discussed throughout the survey, RNACs need culturally competent care in combating the opioid epidemic that is ravaging these communities and based on survey responses from the HP that serve in these communities, there is a lack of cultural leadership in training to those who are tasked with arranging, informing, providing, and managing the appropriate evidence based treatments for OUD. The providers mentioned the need for treatment, prevention, and recovery programs from an indigenous perspective. Many of the suggestions offered presented low-cost and probable approaches to augment a more traditional form of care into the more Westernized view that currently exists.

4.11 Summary and Conclusion

Harm Reduction approaches for the treatment of OUD include MAT/MOUD as an

evidenced based treatment (EBT), using methadone, buprenorphine, and naltrexone and are considered the “gold standard” in effective OUD treatment. These medications are armamentariums that can also be used to help address the bi-directional comorbidities of OUD often seen in RNAC communities. Many EBTs are based on a Western-European philosophical model that do not incorporate the healing practices and traditions of most indigenous communities. Lack of knowledge and awareness of the historic and rich AI/AN cultures are often cited barriers in providing effective OUD services.

For many providers, the AI/AN culture and traditions are not part of their education and training, and often do not have the cultural awareness or sense of appropriateness to successfully implement these programs into their clinics or practice. Primary care is the largest healthcare setting and HPs are often the first point of contact for AI/ANs seeking treatment for substance use. HPs in these communities often face stigma and prejudice within the communities, and AI/AN perceive the same bias from HPs. Health care access disparities in RNAC may be reduced by providing cultural safety training to health care providers (Guerrero & Kao, 2013). Cross-cultural interactions in health care settings that offer consumers a sense of cultural safety result in treatment adherence and effectiveness (Walker et al., 2010).

While there have been many recent improvements made regarding treating opioid use disorder (OUD) and providing much needed prevention, treatment, and recovery (PTR) programs and services, much is still needed to ensure sustainable systematic changes involving culturally appropriate treatments for vulnerable and ravaged RNAC experiencing OUD. The perspectives of healthcare providers (HP) who provide care in these communities is critical to developing and practicing strategies for effectively, successfully, and culturally treating OUD in the RNACs. Many of the barriers to OUD PTR exist at the HP level.

CHAPTER 5

CONCLUSION, IMPLICATIONS, AND FUTURE DIRECTIONS

This research study explored healthcare providers (HP) of rural Native American communities (RNAC) levels of knowledge, training, and experience regarding OUD opioid use disorders (OUD). The study also aimed to characterize HP perspectives regarding competence and capacity to provide opioid use disorder (OUD) prevention, treatment, and recovery (PTR) programs to rural Native American communities (RNAC) in the US. The findings provide descriptive evidence on HP levels of knowledge, training, and experience by their work settings, and ways in which RNAC OUD care programs and services can be improved to better educate HP about OUD, harm reduction, and MOUD. This chapter presents the main conclusions from the study, the implications of the conclusions and future directions HP competences and resourcing for OUD care with RNAC experiencing high rates of opioid use disorder and related overdose, both non-fatal and fatal. Study findings highlighted limitations in HP (1) education and knowledge on OUD, (2) training/prior experience treating OUD, (3) networking and collaboration, (4) practices for sustainable assessment and management of OUD prevention, treatment, and recovery programs, (5) information and training regarding MOUD, and (6) training in culturally responsive and competent care.

These findings imply the present and continuing need for healthcare providers and their agencies to be better able to treat OUD with collaborations among themselves, and rural AI/AN communities employing cultural brokers. Future studies should consider ways in which to utilize the resources within their communities to provide a liaison from among themselves who is versed in both cultures, but also when there is a barrier be it language or culture, to employ others who can bridge this issue and make sure that equity exists in whatever exchange or

agreement is being brokered or made. Equal representation between the parties or persons being the goal.

5.1 Present Situation Regarding OUD Program Management

Study findings showed a general lack of knowledge about medications, a lack of cohesive process in managing the medications involved, misinformation regarding MOUD, and the inadequate integration of MOUD into agency programs offered. Participants were often aware of the shortcomings of the existing MOUD programs. They offered numerous suggestions to address the identified limitations, including education and training (for staff, tribal members, and patients), access to current information, community support, and using tribal members to supplement the lack of accessible mental health services.

In many primary care settings, it is common to find a lack of information and training from staff to be the predominant factor contributing to incomplete or inaccurate instruction regarding medication use or management of medication-based treatment protocols such as MAT/MOUD (Kitch et al., 2008; Lane et al., 2006). The HP study responses evidenced this. Inconsistent adherence to known best practices in medications used in treating OUD, and the importance of access to mental health to successful OUD treatment and management harms the quality of OUD care in RNAC.

5.2 Education and Knowledge

HP were lacking in education in evidenced-based treatments, and preventive services and practices. This lack of knowledge of substance use affects diagnosis, broaching the topics related to assessment of OUD, prescribing decisions, and care plans for HP (McNeely et al., 2018c). Lower HP knowledge of OUD treatment results in excess mortality (Ignaszewski, 2021a).

If providers do not know how to assess the risk of an OUD, they risk prescribing

medications that compound an OUD. When providers do not know about the available MOUDs or the benefits and different types of programs within MOUD, they cannot discuss treating the OUD with adequate and accurate information.

5.3 Limited training treating Opioid Use Disorder (OUD)

The lack of training was another theme identified by this study. Previous studies reported HPs and physicians with OUD training is a significant problem, especially for those willing to work in RNACs (Lister et al., 2020). Lack of training and lack of knowledge, which many of the HP responses indicated existed, has long-term consequences for those who act or do not act based on the information given by a provider, as patients perceive their providers as professionals (Brody et al., 1989; Isaac et al., 2010; Nelson-Wernick et al., 1981).With training and knowledge in screening for OUD, the opportunity to identify individuals with OUD is preserved, and their condition remains untreated. Often HPs have greater access to health data sets and to the skills needed to analyze them (Griffiths et al., 2012), meaning this would be an easily accessible way to get training and to find information regarding OUD, the suggested treatments, how to diagnose the signs and symptomology of OUD and many other things that the findings highlighted as not being known by the HPs At the same time patients from vulnerable populations are less likely to be screened or treated for SUD (Ignaszewski, 2021b). Moreover, the lack of trained RNAC is a highly vulnerable population, with OUD rates higher than those of any other racial/ethnic group, and not having trained staff at clinics is a significant barrier to care. The inconsistent and sub-optimal knowledge of best practices in treating OUD by using MOUD, as well as the many identified barriers of lack of training in MOUD administration, lack of knowledge about medications themselves and the process of medication program management, and the inadequate integration of MOUD into clinical workflows as mentioned in

the different headings of the discussion. There were two examples of potentially harmful responses by participants that were predicated on lack of knowledge and incorrect knowledge. Before being able to provide MOUD, providers are expected to understand the program, the benefits and dangers, and the procedures that govern the management of MAT/MOUD use.

5.4 Networking and Collaboration

HP rarely used networking and collaboration for patient engagement, sharing information, and allocating resources Through networking and sharing knowledge of available services and resources, providers can collaborate to discuss prevention, treatment, and recovery (PTR) options and approaches with other providers, and their patients. We looked at how HP used networking, resources, and capabilities to operate their clinics, office settings, models of care for OUDs (if any), and how they currently addressed the opioid epidemic in their community. Knowing what resources are available through various forms of networking increases the likelihood of coordination of services and care. In addition, the rise of social networking can change the quality of health-related information and decision-making.

5.5 Sustainable Assessment and Management

OUD PTR programs and services among RNACs with OUD was limited. Agencies contracted MOUD services With Methadone buprenorphine provided by a minority of providers The findings align with previous work examining the discrepancies of people who want treatment but cannot access or afford it for various reasons. Recent estimates suggest that only one in ten individuals with OUD receive medication for treating OUD each year (Substance Abuse and Mental Health Services Administration, 2019). For rural communities, the statistical off chance that a RNAC will receive any treatment is supposedly greater than the average. However, the reality is that the support to provide services does not trickle down to the

communities they help was targeted. AI/AN carry a disproportionate burden of OUD and are at significantly higher risk for mortality from a lack of timely and culturally appropriate treatment (Holdt et al., 2017). The complex interplay of the cultural, social, and environmental factors and the communities' rurality make it challenging to provide OUD care. This was seen regarding access to their RNACs, disproportionately impacted by the opioid epidemic (Palombi et al., 2018). Considering what programs are known to be successful in treating OUD, the population being treated for OUD, the lack of sustainability strategies does not augur well.

5.6 Access to Mental Health Services

The findings highlighted the lack of gravitas placed on mental health and the much-needed programs offered for youth and adults. The absence of mental health and behavioral counseling in RNACs is crucial to helping address the co-occurring factors often found in OUD (O'Grady et al., 2022b). Mental health counseling/behavioral health is a required component of MOUD, especially with dispensing and managing methadone programs (Tanz, 2022). For RNACs that did not have a counselor on-site, the responses to how far patients would need to travel to access mental health services the responses ranged from within 10 miles, too far, to no transportation available.

Research shows that individuals with comorbid disorders have worse clinical outcomes and have an increased risk of suicide, social and occupational impairments, and disabilities (Bogdanowicz et al., 2015b; Ehlers et al., 2008). Substance abuse is associated with a high risk for suicidal behavior (Volkow, 2001).

5.7 Need for Culturally Responsive Care

HP and agencies lacked cultural safety and security. Cultural safety is defined by the consumer's experience of the care environment and processes rather than the health

professional's worldview (van Ryn & Saha, 2011c). The lack of cultural safety may result in inappropriate interventions, despite the positive personal intentions of HPs. OUD would have a higher engagement rate, increasing the likelihood of successful outcomes if they were done so in a culturally sensitive manner (Jordan et al., 2021). When providers know this about their population, it is not in their best interest to become more educated and knowledgeable or to be trained in programs the population they serve will not adopt or use. So, on goes the adage, "Nothing changes if nothing changes."

5.8 Gaps/Impacts/Suggestions in OUD PTR

Relapse is almost a given with having an OUD and is considered and included in the treatment program because of this probability (Marlatt, 1996; Wakeman et al., 2020). Prevention is one of the most substantial reasons for the mental health component (Annis et al., 1996; Weiss, 2011; Witkiewitz & Marlatt, 2007). Dangers of other drugs, none it is just another way of keeping people addicted to drugs, and providing OUD education to the Indian tribe, including harm reduction approaches would be helpful, and so would punishing the pharmaceutical companies and making them pay restitution and for treatment.

5.9 Implications for OUD Care Practices in Rural Native American Communities

HP could easily increase their OUD knowledge utilizing numerous platforms, devices, and internet websites, that they are complacent in not doing so. the training for MAT/MOUD is available to substance use providers through agencies such as the CDC, SAMHSA, NIDA, NIMH, ASAM and though the DEA. This training barrier seemed more surprising considering the qualitative data which emphasized the many gaps, needs, and suggestions that were within their control but did not act.

Within most primary care settings, patients go to the provider for medical advice.

Providers do an initial assessment, and based on the diagnosis, a course of treatment is planned to go forward if necessary. Patients trust the provider and typically follow the advice offered. MOUD is a long-term treatment plan. Patients do not opt for MOUD treatment for many reasons, often lacking awareness of the programs. But also because of cost, lack of access to services, lack of trained providers, and expressed negative beliefs of family members, community members, and substance abuse treatment providers (Volkow, Frieden, Hyde, & Cha, 2014). If HP does not know what an OUD is or how to diagnose it, patients coming in are not offered help, and most often, patients will not disclose a SUD, preferring to disclose another illness or ailment. HP need awareness of the high rates of OUD and opioid mortality, the rates of suicide by the younger members of the tribes, the marginalization and discrimination, and the need but lack of access to much-needed mental health services. The importance of providing mental health services cannot be overstated. The combination of MOUD and counseling combined has the highest efficacy outcomes. Continued mental health support in recovery is vital to lessen the likelihood of relapse, a known common occurrence in OUDs. Mental illness and SUDs are common among minority populations and are often seen as double jeopardy in having both or comorbidity.

Both buprenorphine and methadone are safe and effective in maintaining maternal abstinence treatments, another form of MOUD/MAT. Early neonatal development is within normal limits (WNL) for infants exposed to MAT. Longer-term neurodevelopmental safety is known for infants exposed to methadone as well (Connery, 2015b). The harms associated with continued use without any MAT increase the likelihood of overdose and neonatal abstinence syndrome (NAS) (Patrick et al., 2012). Infants have more protection developmentally with methadone in utero than without. Infants born to women with OUD are born addicted to opioids

and go into withdrawals shortly after birth.

The rates of NAS were so high within this population that the American Pediatrics Association, in 2017, presented a report to Indian Hospital Services (HIS) stating they were now calling NAS neonatal opioid withdrawal syndrome (NOWS) because of the increased rates of NAS, and were heavily suggesting that providers prescribe MMT because the treatment for the infants born from AI/AN woman who used opioids during their pregnancy, were delivering infants who were born addicted to opioids, postnatal diagnosis with an OUD, which required methadone treatments postnatally as infants went into withdrawals within hours. The report to the IHS stated that NAS (NOWS) increased from 3.4 to 5.8 (per 1000 hospital births) between 2009 and 2012. The rates continue to increase currently, as the various opioids and usage continue to increase worldwide, but specifically in this population.

Because 80% of providers had not talked with their patients regarding MOUD, education for safe use and disposal of the drugs or proper storage, especially in homes where children live, rates of pediatric overdose (PO), most often fatal, are high within homes where MOUD is used. In a recent study by Kelly et al, (2021), their findings showed that states that spent more money on public programs and hospitals and had enacted Good Samaritan laws had lower PO mortality. PO was a problem that reached all population segments but was statistically higher in Native American communities. The study showed that the likelihood was higher in homes where a person was on a MOUD treatment program and take-home dosage was granted. Opioid overdoses comprise a significant proportion of PO in the US. Without proper storage of opioids, MOUDs will continue to significantly contribute to mortality in children under 12.

Naloxone/Narcan is the only known form of treatment, medical or otherwise, that reverses the effects of an overdose (Handal et al., 1983). This is based on fact and should not be

affected by personal belief or bias and not through ignorance. In 2014, the World Health Organization (WHO) recommended that naloxone be made available to anyone likely to witness an overdose. Most overdoses occur when others are present, and most are near others who inject drugs (Marshall et al., 2011). For Narcan to be such a valued tool in combating the adverse effects of OUD-related overdose, heralded in being able to claim its use saves lives, 60% of HP thought Narcan was just another way for pharmaceutical companies to profit.

Because naloxone is a frontline weapon in the war against opioid abuse, and it is highly effective. With the new reformation and OTC availability, the single-use nasal spray sells for around $29.00 on Amazon. Big pharma makes more of a profit on the drugs that cause the OUD than in treating it. When asked if HP believed Narcan was effective in reversing overdose, 87% agreed that it was. When asked if they worried about how much protection Narcan provided, 50% responded that they worried quite a bit. When asked about the types of medication their agency used to treat OUD, 26% used Narcan, but 40% contracted out for MOUD. When asked if Narcan may cause long-term effects, 47% agreed it did.

Of the studies that have been done regarding the long-term effects of naloxone/Narcan use, most have been done regarding use for long-term pain management. The benefits of naloxone are frequently stated as successfully mitigating pain in chronic cancer and non-cancer pain (Coffin et al., 2016; Sandner-Kiesling et al., 2010). For studies done regarding naloxone use for SUD treatment, the results have been positive, and the use of Narcan is recommended and used by many countries in combating drug addiction (Banjo et al., 2014). In a study that followed users for five years, results stated no serious adverse events related to treatment occurred (Fiellin et al., 2008). Though it would be irresponsible to state there were no dangers in using naloxone/Narcan (van Dorp et al., 2007), one must consider what takes place when Narcan

is being used, in preventing and reversing an overdose. Conversely, the long-term effects of *not* using Narcan during an overdose, is death.

Expanded naloxone access impacts opportunities for intervention with overdoses from opioids by increasing the availability of a medication that can reverse an opioid overdose; this is the only policy specific to opioids, but as described below, opioid overdoses comprise a significant proportion of pediatric overdoses in the US. The priority to develop interventions that make naloxone (Narcan) available in places where overdoses might occur, became a reality on March 30, 2023, as Narcan is now considered an over-the-counter medication that no longer requires a prescription to obtain or administer (Law, 2023). This not only has the potential to save more lives, it also helps to remove the stigma that once prevented people from speaking to healthcare providers who might know about this reversal drug that formerly was only available to first responders, emergency departments, and law enforcement. This monumental development and change push the needle towards implementing additional harm reduction approaches in combating the opioid epidemic. Each of the dangers listed results from a lack of direction, explanation, and knowledge of the many factors involved with treating OUD. Each one came directly from the findings of this study. Basic training, networking, psychoeducation, and collaboration between peers would easily prevent each danger. However, these dangers have long-term, grave consequences for all involved.

5.10 Strengths, Limitations, and Future Directions

For study strengths, HPs were more honest and forthcoming than expected. The findings from this study helped to fill gaps where HP experience a lack of confidence, where they have deficits in training and knowledge, and how to prepare better to discuss the OUD triangle of prevention, treatment, and recovery programs with their patients, peers, and community through

networking and collaboration. The data suggest a positive trend toward using Indigenous tribal members and cultural helpers in encouraging engagement across all OUD services by optimizing the effectiveness with cultural responsiveness of treatments and minimizing the harm to patients from mistargeted or culturally inappropriate OUD services.

The consistency between the responses of participants and those of other SUD studies validated the qualitative results by having an anonymous survey, the HP reported reliably However, the study sample was small, suggesting a need for a follow-up study for generalizable findings to some HP in RNACs across the US.

5.11 Limitations

For limitations, this study utilized a descriptive-exploratory design. Problems that may occur with descriptive studies include an absence of a specific and reproducible case definition, (Grimes & Schulz, 2002). Another limitation of descriptive studies is they often do not have a control group. Therefore, it is difficult to prove causality. Causality cannot be inferred from an uncontrolled observation. An association does not imply a cause-effect relationship. The observation or event in question could be a mere coincidence (Nissen & Wynn, 2014). Future design studies should monitor the trends in OUD for this population and plan for allocations of resources to help HP to treat RNAC with the programs known to be effective in treating OUD. Future studies can use this study to advance the finding into more rigorous studies with comparison groups perhaps with other indigenous groups who do have trained HP as well as communities who use culturally adapted MOUD programs and services.

Regarding future directions, this study serves as a basis for future related investigations to fill the gaps in knowledge highlighted, and with a focus on how to improve education to apply and enhance clinical practice, primarily focusing on UOD care access. Future studies should seek

to understand better the disconnect in culturally appropriate models to address and reduce OUD among RNACs and general mental health services. Findings could inform strategies to improve and strengthen OUD care organizational capacity serving tribal communities around the country.

Now comes the next steps in disseminating the culturally appropriate models to address and reduce opioid misuse among RNACs and indigenous communities wherever OUD needs are present. The goals include the importance of going forward with a sense and awareness of appropriate cultural competence to address viable solutions for the problems identified within the triangle framework for the prevention, treatment, and recovery of OUD to occur. Doing so with a culturally sensitive intergenerational approach is vital to the success of the OUD programs. Envisioning this through a lens that addresses these unique needs of indigenous populations is progress in the right direction.

APPENDIX A

OPIOID SURVEY FOR HEALTH CARE PROVIDERS CODE BOOK

Variable Name	Variable ID	Description
Q3-Before today, had you worked with patients with OUD or addiction?	WorkOUD	1 = No 2 = Yes
Q4-Have you worked with American Indian patients with OUD?	WorkOUDIndig	1 = No 2 = Yes
Q5-How long have you worked with American Indian patients?	WorkHxIndig	1 = 1 to 3 years 2= 4 to 6 years 3= 7 to 9 years
Q6-Where did you work with patients with OUD?	WorkLocation	1=Private Clinic 2 = Hospital 3 = In-Patient 4 = Out-patient 5 = Nursing Home 6 = Doctors Office 7 = Urgent Care Clinic 8 = Indian Health Service Clinic 9 = Other
Q7-Have you been involved in managing the treatment of OUD or addiction?	TreatMgmt	1=No 2=Yes
Q8-Where did you use managed care for OUD?	WorkLocationMan	1=Private Clinic 2 = Hospital 3 = In-Patient 4 = Out-patient 5 = Nursing Home 6 = Doctors Office 7 = Urgent Care Clinic 8=Indian Health Service Clinic 9 = Other
Q10-Have you/can you prescribe opioid Rx?	OUDRX	1=No 2=Yes
Q11-Have you advised patients on the correct disposal of all unused opioid prescriptions?	Disposal	1=No 2=Yes
Q12-Have you provided MAT/MOUDmedications (methadone, buprenorphine, naltrexone) to Indigenous people?	OUDProvisions	1=No 2=Yes

Variable Name	Variable ID	Description
Q13-Have you provided patients with education on the use and misuse of opioids?	ProvEduc	1=No 2=Yes
Q14-Can pregnant women take medications for OUD?	EducMothers	1=No 2=Yes
Q15-Have you had patients who died from drug use/overdose?	MultiDrugDths	1=No 2=Yes
Q16-Which combination of drugs, that you know of, have patients used with opioids?	DrugCombo	1=Cocaine 2=METH 3=Heroin 4=Fentanyl 5=Benzodiazepines 6=Other
Q17-How much prevention do you think Naltrexone/Narcan (opioid reversal drug) will have against fatal overdose?	Narcan	1=No Protection 2=Some Protection 3=Quite a Bit of Protection 4=Total Protection
Q18-How often do you think about your patients becoming dependent on opioids?	DependWorry	1=Never 2=Some 3=Quite a Bit 4=Often
Q19-How often do you think about your patients overdosing on opioids?	OverdoseWorry	1=Never 2=Some 3=Quite a Bit 4=Often
Q20-How often do you think about your patients using illicit opioids like Fentanyl?	IllicitWorry	1=Never 2=Some 3=Quite a Bit 4=Often
Q21-How often do you think about your patient’s opioid prescription?	RXWorry	1=Never 2=Some 3=Quite a Bit 4=Often

Variable Name	Variable ID	Description
Q22-Opioid overdose medications may cause unknown long-term side effects.	SideEffects	1=Strongly Agree 2=Agree 3=Disagree 4=Strongly Disagree 5=Prefer Not to Answer
Q23- Opioid overdose medications are another way for pharmaceutical companies to make more money.	BigPharma	1=Strongly Agree 2=Agree 3=Disagree 4=Strongly Disagree 5=Prefer Not to Answer
Q24-OUD treatment drugs are too new. I want to wait to prescribe.	WaitDecision	1=Strongly Agree 2=Agree 3=Disagree 4=Strongly Disagree 5=Prefer Not to Answer
Q25-Indigenous people do not have enough information on opioid use disorder to decide if they should get help for it.	LackInfo	1=Strongly Agree 2=Agree 3=Disagree 4=Strongly Disagree 5=Prefer Not to Answer
Q26-Opioid information and education are the best ways to prevent overdose.	OverdoseEDUC	1=Strongly Agree 2=Agree 3=Disagree 4=Strongly Disagree 5=Prefer Not to Answer
Q27-The drug Naloxone (Narcan) can be effective in treating opioid overdose.	NaloxoneEff	1=Strongly Agree 2=Agree 3=Disagree 4=Strongly Disagree 5=Prefer Not to Answer
Q28-People who live in urban areas are at a higher risk for OUD, than those who live in rural areas.	UrbanRurRisk	1=Strongly Agree 2=Agree 3=Disagree

Variable Name	Variable ID	Description
		4=Strongly Disagree 5=Prefer Not to Answer
Q29-Have you talked to or networked with other healthcare providers about OUD/overdose?	ProvNetwork	1=No 2=Yes 3=Prefer Not to Answer
Q30-What gaps do you believe exist in OUD-prevention, treatment, and recovery?	OUDGapTreatmt	1=Treatment 2=Prevention 3=Recovery 4=Education 5=Overdose 6=Other
Q31-Where could your agency improve collaboration in opioid treatment?	ProvCollab	1=Treatment 2=Prevention 3=Recovery 4=Education 5=Overdose 6=Other
Q32-How prepared are you to provide information on OUD?	ProvPrepOUD	1=Good 2=Fair 3=Poor
Q33-Does your clinic/agency have a mental health Counselor on site?	CnslrOnSite	1=No 2=Yes
Q34-Does your program provide Cultural Helpers?	CULTRHelpers	1=No 2=Yes
Q35-What are the days and hours that your facility operates?	HoursofOP	
Q36-Approximately how many drug screens/assessments do you complete monthly?	MonthlyAssess	1=1-4 2=5-8 3=9-12 4=More than 12
Q37-Does your facility/organization keep case statistics and data regarding drug use?	CaseData	1 = Yes 2 = No 3 = I Don’t Know 4 = Prefer Not to Answer

Variable Name	Variable ID	Description
Q38-Do you use your data to report on client's success rates regarding opioid prevention, treatment, and recovery care?	DataReport	1 = Yes 2 = No 3 = I Don't Know 4 = Prefer Not to Answer
Q39-Do you track drug related deaths of patients from your clinic/agency?	TrackDTHS	1 = Yes 2 = No 3 = I Don't Know 4 = Prefer Not to Answer
Q40-Do you provide intensive outpatient treatment?	ProvIOP?	1 = Yes 2 = No 3 = I Don't Know 4 = Prefer Not to Answer
Q41-What types of programs are currently in place to respond to drug use in the community?	TreatProgAvail	1=Treatment 2=Prevention 3=Recovery 4=Education 5=Overdose 6=Other
Q42-If you have a mental health Counselor on site, are they an Indigenous tribal member?	CnslrOnSiteIndig	1=No 2=Yes
Q43-If Counseling is not provided, how far does a patient have to travel to access mental health services (miles/time)?	TraveltoTreat	
Q44-Which OUD treatment programs does your facility/organization offer?	OUDProg	1=Buprenorphine (Suboxone) 2 = Methadone 3 = Naltrexone 4 = Contracted Out 5=Other
Q45-How long has your facility/organization been operating or contracting for OUD services?	PerFacilOp	1=Under 2 years 2=2-5 Years 3=6-10 Years 4=Over 10 Years 5=Not Sure

Variable Name	Variable ID	Description
Q46-How does your facility/organization cover costs for OUD treatment?	OUDFund	1= Not all 2 = A little 1=Local Council 2=State 3=Federal 4=Philanthropic 5=Indian Health Services 6=Tribal Dollar 7=Other
Q47-What actions do you think would have the most impact on reducing opioid abuse among Indigenous people?	OUDImpact	1=Access to treatment and recovery services 2=Community Education 3=School Education 4=Opinion Leader (natural or informal helper) 5=Other
Q48-Is there anything you would like to add for suggestions to reduce opioid abuse?	OUDSugg	
Q49-Do you provide youth after-treatment or recovery services?	YouthRec?	1=No 2=Yes
Q50-Which of the following after-treatment or recovery services do you provide?	ProvYouthRec	1=Peer Support Groups 2=Community Education 3=Boot Camps 4=Counseling 5=Opinion Leader (natural or informal helper) 6=Other
Q51-Do you provide adult recovery programs?	AdultRec?	1=No 2=Yes
Q52-Choose which adult recovery programs you provide.	ProvAdultRec	1=After-care Monitoring 2=Community Education 3=Counseling 4=Opinion Leader (Natural or Informed Helper) 5=Peer Support Group 6=Outpatient Treatment 7=Inpatient Rehabilitation (rehab)

Variable Name	Variable ID	Description
		8=12 Step Program 9=Transitional Housing 10=Other
Q53-What is your sex/gender?	Gender	1=Male 2=Female 3=Prefer Not to Disclose
Q54- General demographic information: Date of Birth, City/State?	Age	
Q55-What is your race?	Race	1=Caucasian or White 2=Black or African American 3=Asian or Pacific Islander 4=American Indian 5=Other
Q56-What is the highest level of education you have completed?	Educ	1=Some High School or less 2=High School Diploma or GED 3=Some College, but no degree 4=Associates or Technical Degree 5=bachelor's degree 6=Graduate or Professional Degree 7=Prefer not to Disclose

Safety scale
GET
FILE='D:\ImPACT OUD HCP.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
COMPUTE OUDSafe=(Disposal + EducaProviso + Educamothers + MultiDrugDeaths) / 4.

Protections Scale
EXECUTE.
COMPUTE ProtectionTreatsEfficacy=(InjectReversal + SprayReversal + PillReversal + NaloxoneEffect) /
4.
Worries Scale
EXECUTE.

```
COMPUTE Worries=(DependWorry + OverdoseWorry + IllicitWorry + UnwantedPrescrip + UnknownSideeffects
  + CommerceWorry + WaitDecision + LackInfo) / 7.

Treatment and Recovery Scale
EXECUTE.
COMPUTE TreatRecovServices=(DataReport + TrackDeaths + oOuPtTreat + DrugTreatProg) / 4.
EXECUTE.
```

APPENDIX B

SURVEY DESCRIPTIVE STATISTICS

	n	Min	Max	Mean	Std. Dev.
Before today, have you worked with patients with Opioid dependency or addiction?	76	1	2	1.75	.436
Have you worked with American Indian patients with opioid use dependency or addiction?	75	1	2	1.52	.503
How long have you worked with American Indian patients (length of time)?	40	1	4	2.55	1.280
Where did you work with OUD? Private Clinic	6	1	1	1.00	.000
Hospital	8	1	1	1.00	.000
In-patient	13	1	1	1.00	.000
Out-patient	27	1	1	1.00	.000
Nursing Home	9	1	1	1.00	.000
Doctor’s Office	1	1	1	1.00	.
Urgent Care Clinic	1	1	1	1.00	.
Indian Health Service Clinic	9	1	1	1.00	.000
Have you been involved in managing the treatment of opioid use disorder (OUD) or addiction?	72	1	2	1.47	.503
Where? Private Clinic	7	1	1	1.00	.000
Hospital	3	1	1	1.00	.000
In-patient	9	1	1	1.00	.000
Out-patient	22	1	1	1.00	.000
Nursing Home	7	1	1	1.00	.000
Doctor’s Office	1	1	1	1.00	.
Urgent Care Clinic	1	1	1	1.00	.
Indian Health Service Clinic	5	1	1	1.00	.000
Have you/can you prescribe opioid medications such as oxycodone (OxyContin), hydrocodone (Vicodin), morphine, and codeine?	73	1	2	1.07	.254
Have you advised patients on the correct disposal of all unused opioids?	73	1	3	2.15	.995
Have you provided medications (methadone, buprenorphine, naltrexone) for opioid use disorder (OUD) to American Indians?	72	1	3	1.31	.725
Have you provided patients with education on the use and misuse of opioids?	72	1	3	2.58	.818
Can pregnant women take medications for OUD?	71	1	2	1.55	.501
Have you had patients who died from drug use/overdose?	72	1	2	1.68	.470
Which combination of drugs have patients used? Cocaine	37	1	1	1.00	.000

	n	Min	Max	Mean	Std. Dev.
METH	46	1	1	1.00	.000
Heroin	41	1	1	1.00	.000
Fentanyl	41	1	1	1.00	.000
Benzodiazepines	35	1	1	1.00	.000
How much prevention do you think Naltrexone/Narcan (opioid reversal drug) will have against opioid overdose?	73	1	4	2.81	.700
Do you think about your patients becoming addicted to opioids?	72	1	4	2.79	.903
Overdosing on opioids?	71	1	4	2.86	.915
Using illicit opioid substances like Fentanyl?	72	1	4	2.86	.969
Taking an opioid prescription?	72	1	4	2.68	.947
MOUD may cause unknown long-term side effects.	73	1	5	2.70	1.340
MOUD is another way for pharmaceutical companies to make more money.	74	1	5	2.64	1.256
MOUD treatment drugs are too new. I want to wait before deciding if it should be prescribed.	73	1	5	3.40	1.175
Indigenous People do not have enough information on OUD to decide if they should get help for it.	71	1	5	2.80	1.400
Opioid information and education is the best way to prevent accidental overdose.	73	1	5	1.51	1.107
The drug Naloxone (Narcan) can be effective in treating opioid overdose.	73	1	4	1.26	.746
People who live in urban areas are at a higher risk for opioid use disorder, than those who live in rural areas.	74	1	4	1.99	.692
Have you talked to, or networked with, other healthcare providers about opioid use disorder (OUD)/overdose?	73	1	3	1.19	.490
Gaps in OUD PTR treatment-Treatment	52	1	1	1.00	.000
Prevention	57	1	1	1.00	.000
Recovery	52	1	1	1.00	.000
Education	62	1	1	1.00	.000
Overdose	40	1	1	1.00	.000
How can your agency improve collaboration in OUD PTR? Prevention	54	1	1	1.00	.000
Recovery	55	1	1	1.00	.000
Education	58	1	1	1.00	.000
Overdose	25	1	1	1.00	.000
How prepared are to provide information on opioid use disorder (OUD)?	74	1	3	1.70	.656
Does your clinic/agency have a mental health Counselor on site?	72	1	2	1.43	.499

	n	Min	Max	Mean	Std. Dev.
Does your program provide cultural helpers?	71	1	2	1.45	.501
Approximately how many drug screens/assessments do you complete monthly?	62	1	4	2.23	1.286
Does your facility/ organization keep case statistics and data regarding drug use?	73	1	4	1.84	1.028
Do you use your data to report client OUD PTR success rates?	72	1	4	1.99	1.000
Do you track Pt overdose from your clinic/agency?	71	1	4	2.00	.926
Do you provide intensive outpatient treatment?	71	1	4	1.69	.646
What types of programs are in place to respond to substance use in the community? Treatment	57	1	1	1.00	.000
Prevention	49	1	1	1.00	.000
Recovery	55	1	1	1.00	.000
Education	58	1	1	1.00	.000
Overdose	33	1	1	1.00	.000
If you have a mental health Counselor on site, are they an American Indian tribal member?	67	1	2	1.61	.491
Which type of MOUD does your facility/ organization offer? Buprenorphine (Suboxone)	23	1	1	1.00	.000
Methadone	14	1	1	1.00	.000
Naltrexone	30	1	1	1.00	.000
Contracted Out	20	1	1	1.00	.000
How long has your facility/organization been operating or contracting for opioid treatment services?	65	1	5	3.32	1.501
How does your facility/organization cover costs for OUD treatment? local council	4	1	1	1.00	.000
State	33	1	1	1.00	.000
Federal	28	1	1	1.00	.000
Philanthropic	5	1	1	1.00	.000
Indian Health Services	17	1	1	1.00	.000
Tribal dollar	4	1	1	1.00	.000
What actions have the most impact on reducing OUD among Indigenous peoples? Access to treatment and recovery services	56	1	1	1.00	.000
Community education	57	1	1	1.00	.000
School education	41	1	1	1.00	.000
Opinion leader (natural or informal helper)	31	1	1	1.00	.000
Do you provide youth after-treatment or recovery services?	66	1	3	2.36	.515

	n	Min	Max	Mean	Std. Dev.
Which recovery services do you provide? Peer support groups	34	1	1	1.00	.000
Community education	28	1	1	1.00	.000
Boot camps	1	1	1	1.00	.
Counseling	38	1	1	1.00	.000
Opinion leader (natural or informal helper)	11	1	1	1.00	.000
Do you provide adult recovery programs?	63	1	3	2.68	.502
After-care monitoring	25	1	1	1.00	.000
Community education	28	1	1	1.00	.000
Counseling	45	1	1	1.00	.000
Opinion leader (natural or informal helper)	8	1	1	1.00	.000
Peer support group	37	1	1	1.00	.000
Outpatient treatment	34	1	1	1.00	.000
Inpatient Rehabilitation (rehab)	12	1	1	1.00	.000
12 step program	27	1	1	1.00	.000
Transitional housing	13	1	1	1.00	.000
Other	13	1	1	1.00	.000
What is your sex/gender?	68	1	3	1.85	.554
How would you describe your race? (Please mark all that apply) - Selected Choice	67	1	5	2.40	1.615
What is the highest level of education you have completed?	49	3	7	5.08	1.205
Before today, have you worked with patients with Opioid dependency or addiction?	76	1	2	1.75	.436
Valid N (listwise)	0				

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