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Exploring the Barriers, Facilitators, and Experiences Among Individuals Enrolled in Medication-Assisted Treatment in Middle Tennessee

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Abstract

Background: The gold standard treatment for opioid use disorder (OUD) is medication-assisted treatment (MAT), such as methadone. Although evidence suggests that discontinuing MAT through tapering increases the risk of relapse and overdose, some individuals may desire to taper off methadone. Providers must engage with patients in the tapering process. Additionally, legislation in certain states mandates that MAT providers offer discontinuation options to patients. It is essential that providers engage in the tapering process through shared decision-making to anticipate challenges in the patients' tapering experience. Determining the factors influencing a patient's tapering experience will allow providers to identify risks and offer supportive measures to help patients successfully taper while avoiding relapse, overdose, and death. However, limited evidence is available regarding the experiences of individuals tapering off methadone. **Purpose:** This Scholarly Project aimed to explore the barriers, facilitators, and experiences of individuals tapering off of MAT in Middle Tennessee. **Methods:** A cross-sectional, mixed-methods, and descriptive design was used to explore the experiences of individuals tapering off methadone. Semi-structured interviews were conducted in three outpatient opioid treatment centers in Middle Tennessee. Semi-structured interviews were used to survey individuals contemplating tapering (n = 6) or actively tapering off methadone (n = 6). Quantitative data were analyzed using descriptive statistics. Qualitative data were managed using the NVivo software for open coding to develop themes. **Results:** 16 major themes were identified between both groups of participants. Results emphasized environmental, personal, and logistical factors that influenced patients' tapering experience. Key factors included clinic experience, shared decision-making, stigma, knowledge, fears, triggers, mental health management, finances, and liquid methadone. **Conclusion:** Providers and patients should

acknowledge the risks, triggers, and stressors of tapering so that certain supportive measures can be offered. MAT guidelines highlighting patient education, shared decision-making, patient assessment, and take-home naloxone distribution should be developed to ensure safe and effective care. Providers and staff should receive education on OUD, MAT, and tapering. This process may strengthen their ability to support patients' individual needs and prevent relapse. Lastly, the project site could improve its clinic efficiency by hiring more staff and offering liquid methadone.

Keywords: opioid use disorder, medication-assisted treatment, methadone tapering, tapering experience, harm reduction strategy

Exploring the Barriers, Facilitators, and Experiences of Individuals Tapering off of Medication-Assisted Treatment in Middle Tennessee

Across the nation, the opioid epidemic remains a severe public health concern as currently, three million Americans meet the diagnostic criteria for opioid use disorder (OUD) (Azadfard et al., 2022; Dydyk et al., 2022). OUD is defined as the consistent use of opioids, such as prescription analgesics like morphine and hydrocodone, along with heroin and synthetic opioids like fentanyl, that cause impairment or distress to the body (Centers for Disease Control and Prevention [CDC] 2022a; 2022b). Although opioids are prescribed to temporarily treat acute and severe pain, many patients develop tolerance and physical dependence on the medication, leading to misuse of prescription and illicit opioids (Pergolizzi et al., 2020). If left untreated, OUD can result in morbidity, mortality, and economic, social, and legal consequences (Aas et al., 2020; Hooker et al., 2022; Ledger, 2020; Taylor & Samet, 2022). In 2020, the United States experienced 93,221 opioid-related overdose deaths, a 32% increase from 2019 (Ghose et al., 2022). OUD treatment is essential to combat the rising number of opioid overdose deaths and to decrease the societal and individual costs related to OUD (Connery, 2015).

A standard treatment option for OUD is medication-assisted treatment (MAT), which is a comprehensive and individually tailored treatment program that incorporates FDA-approved medications, such as methadone, buprenorphine, or naltrexone, with behavioral therapies and counseling to help individuals refrain from high-risk drug use (CDC, 2019; Substance Abuse and Mental Health Services Administration [SAMHSA], 2022). MAT is a safe and effective treatment option for opioid use disorder (Dickson-Gomez et al., 2022; Hooker et al., 2022; Lyden & Binswanger, 2019; Oesterle et al., 2019; Sordo et al., 2017; Zweben et al., 2021). It helps patients manage their OUD by reducing the risk of opioid overdose and death by

suppressing illicit opioid use and improving the physical and mental well-being of those suffering from OUD (Sordo et al., 2017). In addition, MAT decreases cravings associated with opioids, improves withdrawal symptoms, promotes treatment retention, increases participation in the workplace, and improves interpersonal relationships (Kennedy-Hendricks et al., 2019; Leshner & Mancher, 2019).

Due to the positive outcomes of MAT and the increased risk of relapse and overdose with MAT discontinuation, some OUD experts recommended that patients remain on MAT long-term or indefinitely (Au et al., 2021; Connery & Weiss, 2020; Kosten & Baxter, 2019; Zweben et al., 2021). However, some patients may wish to discontinue MAT, viewing complete abstinence from opioids as the ultimate goal of recovery (Hooker et al., 2022). Additionally, certain states, such as Tennessee, have regulatory guidelines that require providers to discuss discontinuation no later than one year after treatment initiation and every six months thereafter (Minimum Program Requirements for Nonresidential Office-Based Opiate Treatment Facilities, 2017/2019). This process may then prompt an individual to decide to discontinue methadone MAT via taper.

Public health, clinical strategies, and a supportive social network, such as family and friends, can potentially help alleviate the risks associated with tapering off of MAT (Sordo et al., 2017; Zweben et al., 2021). Since tapering is a vulnerable and stressful process for patients, it should involve a detailed discussion with patients, including how the discontinuation of MAT will affect their emotional and physical health, family, and workplace (Kosten & Baxter, 2019). Patients should be made aware that tapering off MAT may increase the risk of relapse, overdose, and death (Connery &Weiss, 2020; Hooker et al., 2022; Zweben et al., 2021).

Problem Statement

While current research has examined factors influencing tapering experiences and outcomes among individuals tapering off chronic opioids for pain, limited to no evidence is available on the experiences and outcomes among individuals tapering off methadone while in a MAT program (Frank et al., 2016; Henry et al., 2018; Kuntz et al., 2020, McNeilage et al., 2022). Although some barriers and facilitators for tapering may be similar among individuals taking opioids for chronic pain versus individuals taking methadone for MAT, these distinct groups have different goals of treatment and unique challenges that should be explored. Furthermore, conflicting, and unclear evidence exists regarding how to safely and effectively taper an individual off of MAT. Therefore, further evidence on appropriate tapering guidelines is needed.

It is essential to understand factors influencing patients' tapering experiences to help MAT providers support patients and offer resources and interventions to prevent relapse, opioid overdose, and death during and after the tapering process (Zweben et al., 2021). Determining the factors that influence a patient's tapering experience makes it possible to understand what elements may place the patient at risk for relapse, overdose, and death. In addition, outpatient opioid treatment and recovery centers need to identify the supportive factors that could help patients successfully taper off methadone.

Purpose

This Doctor of Nursing Practice (DNP) scholarly project explored the barriers, facilitators, and experiences of patients tapering off of MAT in Middle Tennessee.

Review of Literature

Overview of Methadone MAT and its Impact on OUD

MAT has been available for OUD in the United States since 1964 and remains the gold standard for OUD treatment (Fullerton et al., 2014; Neace et al., 2020). Leshner and Mancher (2019) stated that methadone is a long-lasting synthetic opioid that fully activates the mu-opioid receptors in the brain by the exact mechanism of action as illicit or prescription opioids. Methadone occupies those mu-opioid receptors, allowing for a more gradual and controlled recovery from OUD (Leshner & Mancher, 2019). Evidence suggested that this process enhances the quality of life by reducing opioid withdrawal symptoms, cravings, and the risk of relapse, stabilizing mental and physical conditions, improving psychosocial functioning, reducing criminality and the transmission of infectious diseases, such as HIV and hepatitis C, associated with heroin injection (Deyo-Svendsen et al., 2020; National Institute on Drug Abuse [NIDA], 2021; Neace et al., 2020; Oesterle et al., 2019).

Research also suggested that patients on methadone were 4.44 times more likely to remain in MAT treatment and had 33% fewer opioid-positive drug tests than control groups (NIDA, 2021). Using agonist medication, such as methadone, reduced mortality by 50% among those with OUD (Degenhardt et al., 2014; Larochelle et al., 2018; Ma et al., 2018; Pierce et al., 2015; Sordo et al., 2017). In addition, MAT in pregnancy correlated with improved fetal outcomes, such as increased neonatal birthweight, gestational age at delivery, and head circumference (Harter, 2019). The authors of a retrospective cohort study found that treatment with methadone

or buprenorphine for those with OUD after a nonfatal opioid overdose reduced opioid-related mortality significantly (Larochelle et al., 2018). This study examined 17,569 opioid overdose survivors between 2012 and 2014 and found that compared to individuals not receiving MAT, opioid overdose deaths were 59% lower for those receiving methadone over the 12-month follow-up period (Larochelle et al., 2018).

In response to the growing opioid epidemic, federal agencies in the United States were directed to improve access to MAT (Maglione et al., 2018). Calcaterra et al. (2019) emphasized that only 20% of Americans with OUD utilize MAT. The authors of this study suggested that decreased treatment uptake could be due to a lack of access, especially in rural areas (Calcaterra et al., 2019). Due to legal restrictions, methadone can only be dispensed in opioid treatment programs which are primarily located in urban settings (Calcaterra et al., 2019). In addition, those in MAT programs must be consistently evaluated by providers and are given MAT doses by nurses in the program (Calcaterra et al., 2019). Therefore, the requirements of MAT programs might serve as barriers to treatment utilization and retention because it entails frequent visits to the clinics (Frank et al., 2021). Likewise, financial barriers, lack of providers, and stigma were also recognized as contributors to the underutilization of MAT (Randall-Kosich et al., 2020). Research supported that potential policy changes should be aimed at increasing MAT utilization since MAT is one of the most effective ways to treat OUD (Frank et al., 2021).

Current Literature on MAT Tapering Guidelines

Controversy and debate exist over whether to provide methadone indefinitely or allow patients to taper off the MAT medication after a period of stabilization (Lu et al., 2019). Some data suggested that to see mortality benefits, at least one year of treatment retention should be maintained (Hooker et al., 2022; Kosten & Baxter, 2019). Evidence suggested that methadone

MAT is recommended long-term or indefinitely because it is a corrective intervention for OUD and very few individuals can discontinue methadone while preserving the progress they have made while in treatment (Martin et al., 2014; Oesterle et al., 2019; Zweben et al., 2021). These authors' recommendations conflict with Tennessee state regulations, which require providers to discuss tapering with patients in MAT at least every six months (Minimum Program Requirements for Nonresidential Office-Based Opiate Treatment Facilities, 2017/2019). Additionally, SAMHSA (n.d.b) suggested that MAT should be discontinued when patients have received the maximum benefit from MAT and no longer require continued treatment to maintain a drug-free lifestyle.

Along with the debate over length of treatment, there are also varying suggestions around the rate of a MAT taper. Schuckit (2016) stated that once a patient is stabilized on a methadone dose, the amount should be decreased by 10 to 20% every 1 to 2 days over a 2 to 3-week period or longer. Another recommended approach was to reduce the methadone dose by 5 to 10% increments leaving 1 to 2 weeks between tapering and adjusting the dose as needed per individual patient conditions (SAMHSA, n.d.b). In contrast, Kleber (2007) suggested rapidly decreasing the methadone dose to 30 mg, followed by a slow taper of 5 mg per week until discontinued or switched to clonidine. This suggestion contrasted with multiple studies that advocated a slow and gradual taper with periods of stabilization for a successful MAT tapering experience (Calsyn et al., 2006; Kosten & Baxter, 2019; Nosyk et al., 2012; SAMHSA, n.d.b). Although a variety of tapering recommendations have been published by MAT experts, more current and standardized guidelines for methadone tapering are needed.

According to SAMHSA (n.d.b), the technique and rate of methadone tapers may vary among individual patients. In addition, evidence suggested that highly motivated patients with

family and community support can overcome withdrawal symptoms while tapering (SAMHSA, n.d.b). Evidence also supported that if a patient desires to taper, providers should use the Recovery Capital Checklist to determine patient readiness for tapering (Zweben et al., 2021). According to Martin et al. (2003), providers should create a tapering plan for patients that consist of the dose reduction rate, taper length, procedures a patient will employ when experiencing cravings or impulse to stop the taper, and psychosocial support for the patient during the taper. It was also recommended that patients taper at their own rate and are educated that successful tapering may take many months to achieve and that they can pause tapering or increase their dose at any point during treatment (SAMHSA, n.d.b).

In the context of chronic pain management, Murphy et al. (2018) recommended actively engaging the patient in opioid tapering discussions, enhancing nonpharmacological therapy and psychosocial support, setting realistic goals, creating a dose reduction schedule, frequent follow-up visits, a plan to manage symptoms of withdrawal, and considering a multidisciplinary and team-based approach in the tapering plan. The success of an opioid taper is greatly influenced by the patient's willingness or resistance to change their current opioid dose, engagement in the tapering process, level of communication with their provider, pace of the taper, and external factors including health comorbidities or caregiving responsibilities (Kuntz et al., 2020). As facilitators in the opioid tapering process, patients valued a collaborative, individualized, and flexible approach to the tapering plan (Kuntz et al., 2020). Experts suggested that allowing patients to have a voice meant they could negotiate with their provider about the rate of tapering, which would give them a sense of control over their tapering plan (Henry et al., 2018; Kuntz et al., 2020; Matthias et al., 2019). Feelings of lack of control or choice during the tapering process and fear or anxiety over the loss of chronic opioids were described as barriers to achieving

tapering goals. (Kuntz et al., 2020). Patients identified that having a supportive, trusted provider is a crucial facilitator to successful tapering (Matthias et al., 2019).

Several strategies were recommended to primary care providers to foster productive, patient-centered discussions about tapering off opioids for chronic pain (Henry et al., 2018). Researchers emphasized the importance of providers' understanding that patients with OUD face a challenging time that requires strict discipline and determination to engage in the tapering process for which they do not have much experience or training (Connery & Weiss, 2020). Henry et al. (2018) suggested that providers address patient fears about tapering, including fears of abandonment, and only propose tapering when they believe it is in the patient's best interest. It was also suggested that providers should tell patients what to expect during their taper and help them identify strategies to taper successfully, and finally, the patient's tapering plan should be individualized with room for adjustments as needed based on the patient's response to the taper (Henry et al., 2018). Research suggested that providers closely monitor tapering trials for signs of patient destabilization or relapse risk that would require the patient to return to a higher-dose agonist treatment (Connery, 2015). Clinical recommendations for providers aimed to improve tapering outcomes by promoting practical, patient-centered discussion through shared decision-making (Henry et al., 2018). When making suggestions about tapering off MAT, Zweben et al. (2021) acknowledged that although some patients may express the desire to taper off MAT, providers must be realistic about the risks of tapering while also supporting the patient's request. During shared decision-making, patients must be warned that tapering off MAT is risky as it is associated with relapse and, in turn, the potential for fatal overdose (Connery & Weiss, 2020).

Risks and Benefits of Tapering

The risk of relapse after tapering off methadone maintenance is high, even for patients who have been on long-term methadone and have made significant lifestyle changes (Kleber, 2007). One study by Nosyk et al. (2012) concluded that only 13% of individuals who attempted tapering from MAT in a medically supervised setting were successful, meaning the patients avoided relapse or reentry into MAT treatment. Those who relapse to opioid use after a period of abstinence are also at increased risk for fatal overdose (NIDA, 2021). A 2016 study showed that the relapse rate after opioid detoxification following 12 to 36 months ranged from 72 to 88% (Chalana et al., 2016). Young age, a greater amount of heroin use, longer duration of use, history of injecting, greater than three-lifetime heroin-quit attempts, and two or more previous detoxification attempts were associated with relapse after inpatient detoxification (Chalana et al., 2016). In a systematic review by Bentzley et al. (2014) the relapse rates one month after discontinuing MAT was over 50% in every study. Although the reasons for relapse after tapering off MAT are unclear, Dr. Joan Zweben (personal communication, September 14, 2022), an addiction psychologist, suggested the brain's chemistry is associated with this outcome. Dr. Zweben further stated that every individual with OUD is different; therefore, due to the difference in the brain's ability to respond to treatment, it is difficult to assess which patients may or may not relapse after tapering off MAT (J. Zweben, personal communication, September 14, 2022).

Individuals who taper off methadone may also experience depression, anxiety, and insomnia that may last months after discontinuing the taper (Martin et al., 2003). In addition, they may experience perspiration, muscle aches, loss of appetite, cravings, and distress, such as irritability, fatigue, and restlessness (Martin et al., 2003). Individuals who taper off methadone

may also begin to doubt their self-efficacy to maintain the achievements they have gained during the MAT program (Martin et al., 2003). For example, they may relate their success to the effects of methadone and may contemplate how they can keep a job, raise their children, or maintain other relationships in the absence of methadone (Martin et al., 2003). Because the evidence regarding MAT discontinuation risk was limited to older studies, new evidence surrounding the risks of tapering off MAT is needed.

In addition to risks associated with tapering off MAT, some studies presented risks to tapering off opioids related to chronic pain. Evidence suggested a correlation between discontinuing long-term opioids used for pain and increased risk of a mental health crisis or suicidal behavior (Luo et al., 2022). Research also suggested that patients view opioid withdrawal symptoms as a source of anxiety and consider that to be a barrier to opioid tapering (Frank et al., 2016). The risks of sudden discontinuation or rapid tapering of opioids in those physically dependent on them included exacerbation of pain, severe psychological distress, thoughts of suicide, and acute withdrawal symptoms (U.S. Department of Health and Human Services [HHS], 2019). Due to these risk factors, patients may turn to illicit opioids to treat their withdrawal symptoms and pain (HHS, 2019).

Although no studies directly measured the benefits of tapering off MAT, experts suggested reasons why patients desire to discontinue MAT, which can be interpreted as perceived benefits to tapering (J. Hicks, personal communication, May 07, 2022). Individuals may be motivated to taper for personal reasons, such as the financial benefits of not paying for treatment, an improved sense of well-being, ending dependence on a daily medication, and visiting a methadone clinic regularly (Davis et al., 2020; Randall-Kosich et al., 2020). In a qualitative study, patients reported that being present at a clinic every day to receive MAT made

it difficult to maintain steady employment, attend school, or manage daily activities (Frank et al., 2021). Some individuals may also be reacting to pressures from family and friends to discontinue the opioid, and being "drug-free" may be perceived as an achievement or a way of escaping the stigma associated with MAT (Martin et al., 2003; Randall-Kosich et al., 2020). Other rationales for patient discontinuation of MAT included decreased motivation to adhere to treatment plans, court-ordered discontinuation of treatment, or newfound stability associated with significant lifestyle adjustments (Martin et al., 2003; Randall-Kosich et al., 2020).

Theoretical Framework

The Health Belief Model provided theoretical underpinnings for survey questions developed to explore the psychosocial factors of participants in this scholarly project. Initially developed in the 1950s by a group of social psychologists, which included Irwin Rosenstock and Godfrey Hochbaum, the Health Belief Model aimed to understand the low participation rate of individuals in disease prevention programs and health screenings for early detection or prevention of asymptomatic diseases (Rosenstock, 1974; Rosenstock & Strecher, 1997). In the 1950s, many adults did not participate in cost-free tuberculosis screening programs that were conveniently located in mobile X-ray units in multiple neighborhoods, which prompted social psychologists to study this phenomenon (Rosenstock & Strecher, 1997). The original philosophies of the Health Belief Model suggested that an individual's perception of a disease and the methods available to decrease the occurrence of that disease determine the individual's health behavior (Hayden, 2008).

The original four constructs of the Health Belief Model included *perceived susceptibility, perceived severity, perceived benefits,* and *perceived barriers* (Janz & Becker, 1984). These constructs suggested that an individual will uptake health programs and screenings if they

perceive they are susceptible to the disease or condition, if the disease or condition has severe consequences, if the desired health action would limit their susceptibility or severity of the disease or condition, and if they perceive the barriers to taking action against the disease or condition are outweighed by its benefits (Rosenstock & Strecher, 1997).

Perceived susceptibility refers to an individual's perception or belief of the risk of contracting a health condition (Janz & Becker, 1984). *Perceived severity* indicates the perception of the severity of the consequence of contracting the health condition or leaving the condition untreated (Janz & Becker, 1984). When perceived susceptibility is combined with perceived severity, it results in a perceived threat, and the individual is more likely to act to change their health behavior (Hayden, 2017). *Perceived benefits* are the individual's belief that the health action aimed to reduce the disease threat is effective and favorable (Janz & Becker, 1984). *Perceived barrier*s are obstacles that prevent an individual from taking the health action (Hayden, 2017). Within perceived barriers, an individual weighs the health action's benefit against its barriers, such as time, expense, or inconvenience (Janz & Becker, 1984). Although the four perceptions served as the original constructs of the Health Belief Model, over the years, new concepts were added to the model (Hayden, 2008).

Perceived susceptibility, severity, benefits, and *barriers* are modifiable by individual characteristics that influence perception (Hayden, 2008). *Modifying factors,* such as demographic, psychosocial, and structural variables, were added to the Health Belief Model because these factors may indirectly affect health behavior by influencing individual perception (Rosenstock, 1974). In addition to *modifying factors, cues to action* were added to the model to describe internal or external influences that trigger the decision to uptake a health action (Janz & Becker, 1984). Cues can include people, events, or things, such as mass media campaigns,

physician reminder cards, or the illness of a family member or friend, that inspire individuals to take the health action (Hayden, 2008; Rosenstock, 1974). Lastly, *self-efficacy* was incorporated into the Health Belief Model in 1988 (Rosenstock et al., 1988). Bandura (1977) defined self-efficacy as one's belief in their ability to successfully complete the health action to attain the desired outcome. Self-efficacy was deemed essential to the model because social psychologists believed that individuals generally would not take the anticipated health action unless they believed they could successfully do it (Hayden, 2008).

Research studies have used the Health Belief Model to explain how individual beliefs and perceptions influence health actions or behaviors. For example, the constructs from the Health Belief Model were used to guide interviews in a qualitative study that explored patients' perspectives of long-term opioid tapering for chronic pain (Frank et al., 2016). Furthermore, a quantitative study by Trent et al. (2021) used the theoretical constructs of the Health Belief Model to design online surveys to identify attitudes and beliefs about the influenza vaccination and to better understand its low uptake rates among Australian adults. The Health Belief Model was also used in a semi-experimental intervention study with a pretest and posttest design to explore nursing students' health beliefs and knowledge about breast self-examination before and after an education program was implemented (Kissal & Kartal, 2019).

Application of the Health Belief Model

The concepts of the Health Belief Model made it an ideal fit for a scholarly project exploring the factors that influence the tapering experiences and outcomes among individuals enrolled in MAT. When considering tapering behaviors through the context of the Health Belief Model, for an individual to avoid relapse or overdose while tapering off methadone, they may also need to believe that they are personally susceptible to relapse or overdose and that relapse

and overdose would result in severe consequences, such as death (Rosenstock, 1974; Zweben et al., 2021). In addition, an individual may believe that successfully tapering is beneficial by limiting their susceptibility to relapse or overdose and the seriousness of its consequences (Rosenstock, 1974). They may also believe in added benefits of tapering off methadone, such as no longer consuming a long-term medication, avoiding stigma around being on methadone, and paying weekly for treatment (Randall-Kosich et al., 2020). Lastly, to prevent relapse or overdose, an individual should believe that the barriers to successfully tapering outweigh its benefits (Rosenstock, 1974). Barriers include daily visits to the clinic to receive MAT, lack of family and community support while tapering off MAT, and additional mental health disorders, such as anxiety or depression (Randall-Kosich et al., 2020). By identifying and describing the individual perceptions about the susceptibility and severity of relapse and overdose while tapering off methadone (perceived threat), along with the perceived benefits and barriers to successfully tapering (perceived expectations), MAT providers may better understand, anticipate, and mitigate potential threats to successfully tapering their patients.

Additionally, an outside stimulus, such as family and community support, shared-decision making between the patient and the provider, or a past overdose of a friend or family member can serve as a *cue to action* to engage in health behaviors that promote successful tapering outcomes (Hayden, 2008; Rosenstock, 1974). Furthermore, individuals who possess high self-efficacy and believe they can complete the tapering process without relapsing or overdosing will be more motivated and likely to complete that health action (Hayden, 2008). *Modifying factors,* which include demographics and psychosocial factors, along with *cues to action* and *self-efficacy,* can affect a patient's perception of their susceptibility and severity of

relapse and overdose during the tapering process, and therefore, can impact their behaviors (Hayden, 2008).

Understanding the perceptions and beliefs of those tapering off methadone is valuable because it can provide the project site with more awareness of how patients enrolled in MAT perceive tapering and their risk of relapse and overdose. Patients' perceptions can help give MAT programs more insight into how to support patients while they desire to taper or actively taper off methadone. See Figure 1 for a visual depiction of the Health Belief Model and its application to this Scholarly Project.

Project Design

This DNP scholarly project utilized a cross-sectional, mixed-methods, and descriptive design to explore the unique experiences of individuals actively tapering or desiring to taper with a goal of discontinuation of MAT in Middle Tennessee. Semi-structured interviews were used to survey individuals contemplating tapering or actively tapering off of methadone. A descriptive quantitative design was used to assess the opinions, attitudes, and behaviors of individuals enrolled in MAT. In addition, the qualitative descriptive method allowed concepts and themes to emerge from interview data. Interviews were conducted from October 2022 to December 2022 in three outpatient opioid treatment and recovery centers in Middle Tennessee. This DNP scholarly project received exempt approval from Belmont University's Institutional Review Board in July 2022.

Clinical Setting

The annual average prevalence of OUD in Tennessee between 2017 and 2019 was 0.9% (or 50,000), similar to but still greater than the regional and national averages of 0.8% and 0.7%, respectively (SAMHSA, n.d.a). The data for this scholarly project were retrieved from

participants enrolled in MAT at three associated outpatient opioid treatment and recovery centers in Middle Tennessee, operated by a national organization. The overall organization had a large network of outpatient opioid treatment and recovery centers accredited by the Joint Commission in the United States. With more than 117 clinics across the United States, the organization had more than 1,900 employees and offered comprehensive, individualized, evidence-based medical and behavioral therapies to more than 42,000 patients with OUD. The outpatient clinic's medical staff consisted of physicians, nurse practitioners, nurses, and behavioral counselors. The organization used a comprehensive approach to offer patients with OUD multiple medical resources. Services, such as MAT through medications including buprenorphine, methadone, and naltrexone, addiction counseling for individuals and families, and behavioral therapy were offered to patients to help them in their OUD recovery journey. Tennessee-based clinics coordinated with major insurance companies to provide optimal medical coverage due to the organization's belief that treatment should be accessible and affordable for it to be effective. The organization accepted major insurance plans, Medicare, Medicaid, and TennCare, and offered FDA-approved medications, counseling, and behavioral therapy.

Project Population

Tennessee has been one of many states affected by the increase in opioid overdose deaths. In 2020, Davidson County experienced the largest annual number of overdose deaths reported in the last five years, with more than 600 suspected drug overdose deaths (Metro Public Health Department of Nashville Davidson County, Tennessee, 2021). Overall, the number of individuals who filled buprenorphine prescriptions for MAT in Tennessee from the year 2015 to 2019 increased for both males by 20.77% and females by 21.1%, with more males filling buprenorphine prescriptions for MAT than females (Tennessee Department of Health [TDH],

2020). Additionally, between 2015 and 2019, patients aged 25 to 34 years and 35 to 44 years had the highest buprenorphine prescriptions filled for MAT (TDH, 2020). These data were valuable because, in 2018, ages 35 to 44 were the age group in Tennessee that experienced the highest number of opioid overdose deaths (TDH, 2020). At the project site, 717 patients were enrolled in methadone MAT programs at one outpatient opioid treatment and recovery center, while 232 and 93 were enrolled at a second and third location. Most patients receiving MAT in the three clinics were Caucasian (J. Hicks, personal communication, May 07, 2022).

Recruitment

A purposive convenience sample of patients currently in treatment at the outpatient opioid treatment and recovery centers was used in this project. To increase the sample size of this project, participants were interviewed at three different clinics operated by the same major organization. The three clinics were chosen based on the primary stakeholder's connection to the sites. The participants included in the project were 18 years or older, enrolled in MAT at the outpatient opioid treatment and recovery center, were contemplating tapering off of methadone, or were actively tapering off of methadone. Both groups of participants were included in order to increase the overall sample size and because it was believed that their perceived threats, barriers, and experiences were similar to those of the actively tapering group. Therefore, it was deemed necessary to gain an understanding of the contemplating tapering group's MAT experience, so that supportive measures could be offered when they do desire to taper off methadone. The participants were recruited through flyers that described the purpose and inclusion criteria of the project. The flyers were displayed in the outpatient clinics' waiting rooms, halls, and provider rooms. See appendix B for the flyer. If patients were interested in participating, they told their

dose nurse, provider, or counselor. The staff then contacted the primary researcher to report the participants' interest in the project.

To encourage interview participation, a monetary incentive was employed in this project. Participants who voluntarily signed up and completed the interviews entered a drawing to win a pair of wireless headphones at the end of the project. The participants entered the drawing by writing their preferred contact number on a piece of paper and placing it into a closed drawing jar at the end of the interview. The participants were told not to write any other personal identifiers on the piece of paper. At the end of the data collection period in December 2022, the primary researcher randomly drew a contact number from the jar. The primary researcher telephoned the randomly selected individual using the contact number that was drawn to let them know they had won the drawing and could pick up their wireless headphones at their next appointment at the project site.

Data Collection Instrument

To capture the unique experiences of individuals contemplating tapering or actively tapering off methadone, a 32-question survey tool was developed using the Qualtrics survey software. The survey contained demographic, quantitative, and qualitative information that inquired about the participants' experiences related to tapering. These questions were developed using information from the literature, the primary stakeholder, and the Health Belief Model (Frank et al., 2016; Henry et al., 2018; Kuntz et al., 2020; Neace et al., 2020; NIDA, 2021; Rosenstock et al., 1988; Rosenstock, 1974; SAMHSA, n.d.a). The six constructs of the Health Belief Model, *perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy*, and *cue to action,* provided general concepts, after which questions were formulated. The survey questions provided insight to help explore psychosocial factors that

potentially influence participants' success and challenges related to methadone tapering. The first 14 questions were demographic questions. These questions captured data, such as participants' current MAT plan, gender, age, education level, occupation, marital status, and more. The following 11 questions were closed-ended quantitative questions formatted in a Likert scale style. Participants were asked to indicate a response that best characterized their feelings about each statement using the options *strongly agree, agree, neither agree nor disagree, disagree,* or *strongly disagree.* The last seven open-ended qualitative questions asked broader questions about the participants' tapering experience to develop more valuable and in-depth responses. The two groups of participants were in varying stages of engagement with the tapering process. Therefore, they were surveyed separately using the same survey that were slightly adjusted to make sense based on the participant's tapering status of either contemplating tapering or actively tapering.

Before disseminating the survey to participants, the survey was reviewed and approved by the stakeholder, the faculty project advisor, and a methodological expert to enhance credibility. The survey was first piloted using laypersons from diverse backgrounds to provide a sense of face validity, usability, and meaningfulness. Additionally, piloting the survey using laypersons helped identify any errors in the operation or delivery of the survey and ensure that the primary researcher could complete the interview within an appropriate time frame. The survey instrument cannot be considered reliable or valid because the primary researcher created the survey and tailored it to the needs of patients enrolled in MAT at the specific clinics involved in this project. The primary researcher wrote the survey in simple language to ensure the population could easily understand the questions. See Appendix A for the survey.

Data Collection Process

Survey Implementation

All participants were taken into a private room at the clinic for an approximate 30-minute face-to-face interview with the primary researcher. The participants were allowed to either read the informed consent form themselves or have the primary researcher read it aloud. After reviewing the consent form, the participants who decided to partake in the project verbally consented to the study, and no personal identifiers were collected (see appendix C for Project Consent Form). The primary researcher used semi-structured interviews to verbally ask open- and closed-ended survey questions to capture the patient's perspective of the tapering process and what barriers and facilitators they experienced while contemplating tapering or actively tapering off methadone. The participants' responses were typed verbatim onto the Qualtrics software on the primary researcher's password-protected laptop, to which only the primary researcher had access. This data collection process was chosen because, according to the stakeholder, the participants' literacy level and access to digital devices, such as mobile phones and computers, were unknown.

Data Analysis

Quantitative data were exported from the Qualtrics survey software into Microsoft Excel for data cleaning and descriptive analysis. Demographic and Likert scale data were analyzed using descriptive statistics, such as frequencies and percentages. Initially, the data was separated to explore differences between both groups. However, individual analysis of the data for the contemplating and actively tapering groups revealed no meaningful variations or differences. Considering this information, coupled with the small same size of each group, the data from both groups were consolidated for a comprehensive analysis to uncover meaningful findings.

Qualitative data were managed using the NVivo software for open coding to develop emerging themes and categories. Multiple methods for analysis were used according to Corbin and Strauss's techniques (Corbin & Strauss, 2014). Open coding was used to name sections of data. Incident to incident coding allowed the comparison of similar situations. Sorting of codes continued until concepts per theme emerged and the codes that were most frequent or relevant became themes. Next, properties were developed to further explain themes. To mitigate bias and ensure an accurate interpretation of the data, the qualitative data were coded with the help of the faculty project advisor, an experienced qualitative researcher. Additionally, the researcher used the NVivo software to maintain a full audit trail of all the codes and memos to track decision points were created and maintained in the software program. Initially, the qualitative data were analyzed separately for the contemplating and actively tapering group to identify meaningful patterns and key factors. Once the themes for both groups were established, the data was cross-examined to identify any noteworthy similarities between the groups. The purpose of the comparison was to identify major barriers and facilitators that affected the overall sample's MAT experience.

Results

Twelve participants completed the verbally spoken Qualtrics survey. Six participants were actively tapering off methadone and completed the entirety of the actively tapering survey (n= 6). Six participants were contemplating tapering off methadone and completed the entirety of the contemplating tapering survey *(*n = 6).

Sample Demographics of the Contemplating and Actively Tapering Group

Table 1 depicts the demographic characteristics of the sample for the contemplating and actively tapering group. All participants were taking methadone (n = 12, 100.0%). Of the 12

participants in this group, 58.3% (*n* = 7) identified their gender as male, and 41.7% (*n* = 5) identified their gender as female. All participants identified as Caucasian (*n* = 12, 100.0%). Additionally, 83.3% (*n* = 10) of participants identified as Non-Hispanic or Latino, and 16.7% (*n* = 2) of participants identified as Hispanic or Latino. When asked about their highest level of education, 8.3% (*n*= 1_ of participants responded, 41.7% (*n* = *5*) responded that they were a high school graduate, had a diploma, or the equivalent (i.e., GED), 41.7% (*n* = 5) they had some college credit, and 8.3% (*n* = 1) responded that they were a college graduate. Furthermore, 50.0% (*n* = 12) of participants worked full-time, 25.0% (*n* = 3) worked part-time, and 25% (*n* = 3) were unemployed due to other circumstances.

As an open-text question, participants were asked if they had any mental health disorders other than OUD. In response, 16.7% (*n* = 2) of participants stated they were diagnosed with anxiety only, 8.3% (*n* = 1) were diagnosed with depression only, 25.0% (*n* = 3) were diagnosed with depression and anxiety, 8.3% (*n* = 1) were diagnosed with depression and bipolar, 8.3% (*n* = 1) were diagnosed with anxiety, depression, bipolar, PTSD, and drug psychosis, and 33.3% (*n* = 4) of participants responded they did not have an additional diagnosis of a mental health disorder other than OUD. When patients were asked if they followed a treatment plan or took medication for their mental health disorder, 12.5% (*n* = 1) responded yes, 75% (*n* = 6) responded no, and 12.5% (*n* = 1) responded sometimes. Of the participants, 33.3% (*n* = 4) have tapered in the past, and 66.7% (*n* = 8) have not tapered in the past. As an open-text question, participants were asked when they had last used an opioid other than methadone or illicit drug. Of the participants, 8.3% (*n* =1) responded “today”, 25% (*n* = 3) responded less than a year ago, 25% (*n* =1) took opioids 1 to 5 years ago, and 33.3% (*n* = 4) took opioids 6 to 10 years ago.

Table 2 depicts the numerical demographic variables of the contemplating and actively tapering group. The average age of participants in this group was 40.7 (*SD* = 8.9). The average number of years participants had been in treatment taking methadone was 4.1 (*SD* = 2.5). Finally, the average number of years the participants had been taking opioids other than methadone was 16.8 (*SD* = 7.6).

Quantitative Data

All twelve participants from each group responded to the 11 Qualtrics Likert Scale questions. The results from the Likert Scale questions represent the quantitative data, which assessed the MAT patients' individual perceptions, beliefs, and attitudes about their tapering experience, whether they were contemplating tapering or were actively tapering.

Table 3 displays the quantitative results to Likert Scale questions from the contemplating and actively tapering group. Three patients (25.0%) strongly agreed, six (50.0%) agreed, and three (25.0%) neither agreed nor disagreed that they feel confident that they could successfully taper without being readmitted to the MAT clinic and not relapse after discontinuing methadone altogether. Five patients (41.7%) strongly agreed, five (50.0%) agreed, and two (16.7%) neither agreed nor disagreed that they understood tapering is a time of risk for relapse and potentially fatal overdose. When they were asked if they believed that tapering would allow them to have better health outcomes rather than staying on methadone long-term, six patients (50.0%) strongly agreed, five (42.77%) agreed, and one (8.3%) neither agreed nor disagreed. Five patients (41.7%) strongly agreed, and seven (58.3%) agreed they were motivated to taper.

When asked if they felt that they were at risk for relapse and overdose if they were to start tapering, three patients (25.0%) strongly agreed, six (50.0%) agreed, one (8.3%) neither agreed nor disagreed, one (8.3%) disagreed, and one (8.3%) strongly disagreed. Regarding their

tapering plan, five patients (41.7%) strongly agreed, five (41.7%) agreed, one (8.3%) neither agreed nor disagreed that they felt they would have control and a choice in the pace of their taper. Furthermore, regarding shared decision-making, five patients (41.7%) strongly agreed, four (33.3%) agreed, and three (25.0%) neither agreed nor disagreed that their provider would listen to them and allow them to share their thoughts regarding their tapering plan. In addition, when asked if they felt that they could ask their providers for help when they felt bad if they were to start tapering, eight patients (66.7%) strongly agreed, one (8.3%) agreed, two (16.7%) neither agreed nor disagreed, and one (8.3%) disagreed.

One patient (8.3%) strongly agreed, two (16.7%) agreed, six (50.0%) neither agreed nor disagreed, two (16.7%) disagreed, and one (8.3%) strongly disagreed that they would have social support from their family, friends, or community if they were to start tapering. When patients were asked if they believed they could cope with difficult situations without using opioids or illicit drugs, four patients (33.3%) strongly agreed, seven (58.3%) agreed, and one patient (8.3%) neither agreed nor disagreed. Lastly, one patient (8.3%) agreed, eight (66.7%) disagreed, and three (25.0%) strongly disagreed that people close to or around them use opioids or illicit drugs.

Qualitative Data

All 12 participants completed the qualitative questions. Themes and properties of those themes that emerged from the two groups of MAT patients were identified. Themes are the most frequent and relevant patterns or meanings that emerge from the data set (Kiger & Varpio, 2020). When participants described particular themes in greater detail, the supporting details became properties of those themes (Corbin & Strauss, 2014). Since the patients were interviewed at three different outpatient opioid treatment clinics, disparity existed between clinics with regard to how patients felt they were supported. Themes and properties emerged from the raw data from both

groups in accordance with the questions posed. The labels below starting with "Contemplating Tapering Group" are designed to provide the reader with the thrust of the questions posed. After each italicized label, the themes and properties that emerged are described. The themes and properties for each question are listed in Tables 4 through 17.

Contemplating Tapering Group Data

Reasons and Motivations for Desiring to Taper. Seven themes emerged when patients were asked their reasons for wanting to taper off methadone. Refer to Table 4 for themes and properties of those themes for this question. Many patients expressed that they wanted to *avoid long-term medication*, which developed into a theme. Another theme that emerged from this question was *health impact*. One patient suggested their provider recommended that they discontinue methadone due to the patient being diagnosed with gastroparesis. Additionally, one patient believed methadone may have weakened their teeth. Other themes from this question included *financial relief* and *increased motivation*. Some comments made by patients expressed their readiness to start tapering, which suggested they had increased motivation. One patient said, "years ago, when I first started using, me and my friend together were using, and he OD'd and died. I mean, that was a true eye-opening experience for me and that's really the reason I wanted to get help and I heard about methadone clinics and wanted to save myself. Now I been on it for so long I'm finally ready to live without it."

Furthermore, many patients talked about fear, therefore, *fear* was developed into a theme. Patients expressed their fears of withdrawal, relapse, and the unknown. One patient said, "I am a little hesitant because I am scared of how it's going to make me feel and how the withdrawal will affect me like I'm scared it's going to make me feel some kind of way, and then those feelings

will then make me wanna use again." Lastly, *family impact* and *inconvenience* surfaced as themes. Patients perceived going to the MAT clinic daily as a challenge and time-consuming.

Current Knowledge about Methadone Tapering and its Risks and Benefits. When patients were asked about their current knowledge of methadone tapering and its risks and benefits, five themes emerged. Refer to Table 5 for the themes and properties of those themes for this question. Themes include *risk of relapse* and *unknown knowledge*. Many patients stated they did not know about the benefits of tapering, and one patient said they did not know about tapering in general. Patients viewed avoiding long-term consumption of methadone as being healthy; therefore, *healthy by avoiding daily medication* became a theme. Additionally, *slow taper* and *free of restriction* also emerged as themes. One patient summed up the f*ree of restriction* theme by saying that by tapering off methadone, "you'll be free of something that's holding you back like coming here every day is a commitment that you have to make and so when you don't have to do that anymore it's like you are free."

Ideal Taper and Goals. Four themes emerged when patients were asked about their ideal taper plans and their goals if they were to start tapering. Refer to Table 6 for the themes of this question. Most patients stated that their end goal was to be free of methadone completely. Therefore, a theme from this question was *free of methadone entirely*. Another theme that emerged from this question was a *gradual decrease*. Several patients suggested that, ideally, they would prefer to taper off methadone slowly. *Incorrect interpretation of a slow taper* was a theme because one patient said they wanted to taper off methadone slowly; however, their ideal tapering dose was considered too fast. Therefore, they had an incorrect interpretation of what a slow taper is. The last theme from this question was *fast decrease* because one patient said, "getting to 70 as fast as possible would be ideal and then from there getting down to zero."

Overall Past Tapering Experience. Patients were asked to explain how their overall tapering experience was if they tried tapering in the past, including any challenges or successes. Two patients tried tapering in the past. Although the remaining four patients did not try tapering in the past, they continued to share their experiences, challenges, and successes regarding participation in MAT at the project site. Three themes emerged from this question. See Table 7 for the themes and their properties for this question. *Unpleasant experience* was a theme because patients complained about their overall experience at the project site. They explained that they experienced long wait times, encountered uncaring staff, and felt that the MAT clinic was overcrowded and understaffed. *Positive experience* emerged as a theme because patients felt supported and felt that MAT was effective. One patient said, “when you have caring staff and a facility that wants the best for you that’s how you know your chances of successfully tapering is at good odds.” Another theme from this question was *triggers*. Patients had different triggers that caused them to withdraw or relapse. One patient explained, "I always relapse, and I always have feelings of withdrawal that makes me want to use again but there are always, or I should say, there are usually always underlying issues that I have that make me want to use.”

How the Project Site and its Staff will Affect the Tapering Process. Two themes and multiple properties emerged when patients were asked how they think their current staff, providers, and program would help or hinder their tapering process. See Table 8 for the themes and their properties for this question. One theme that emerged from the responses to this question was an *unpleasant experience*. Depending on the particular clinic site, many patients felt the clinics were overcrowded, understaffed, and had long wait times. Some even had poor staff experience, and one patient said, “they didn't really treat me at a personal level they just called me by my number, and I felt like just a digit like I didn’t feel like I can connect there with

anyone really." Another patient expressed their frustration and said, "the people here can be nicer I mean sometimes I just feel like they don't wanna be here or work here like sometimes you look at some of the nurses, and you know they don't want to be here and that they are just doing their job because they have no other choice." One patient expressed his recommendations for the project site and suggested that providers should be able to give additional medical care in addition to helping patients with addiction. The patient further suggested that the project site should hire staff with addiction knowledge so that the staff better understands the patients and their situation.

Depending on the particular clinic location, patients also felt that they had an optimal experience at the project site; thus, *positive experience* emerged as a theme from this question. Patients attributed their positive experiences to the staff and shared decision-making. One patient said, "everyone here has been really nice and caring, and I can have conversations so I guess that's like helped me and encouraged me to taper and made me feel like I can do it."

Ways that the Project Site can Provide Services or Support. Three themes emerged when patients were asked in what ways the project site could provide services or support to help their tapering process. See Table 9 for the themes and their properties for this question. One major theme that emerged from this question was *creating a positive experience* because all of the patients' made recommendations that would help improve their experience and, in turn, would expand the quality of care they received at the project site. Patients suggested improving waiting times, improving the financial process, adding more clinics, and improving the staff hiring criteria. Patients felt that it was essential to hire staff with addiction knowledge. One patient expressed their concern by saying, "when you get people in here that care or understand, that makes a difference in our lives. Putting doctors or nurses or even front desk staff that don't

know anything like zero about addiction is not impactful for us or the clinic do you know what I mean. I mean unless they have some kind of inner understanding of what addiction is, then they won't be able to truly help us." Patients also felt that the staff needed to be more kind and understanding; therefore, an additional theme that emerged was *poor staff experience*. One patient made a powerful statement regarding their experience with staff by saying, "sometimes I don't feel seen or heard here, and that's a problem."

In contrast, *positive staff experience* evolved as a theme. Some patients felt they enjoyed the staff they had encountered and felt the staff made a difference in their lives. One patient summed up their overall experience by saying, "Truly I do feel like coming to [the project site] has made a huge impact on my life and the way I look at drugs and I mean that in a good way." The last theme that emerged from this question is *liquid methadone*. One participant stated that different clinics offer liquid methadone, which allows patients to taper down by 1mg instead of 5mg or 10mg tablets. The patient's current clinic offers methadone tablets which only allows the patient to taper between 5 and 10mg.

Additional Support Outside of the Project Site. Three themes emerged when patients were asked if they were to start tapering, what additional support outside of the project site would help them in their tapering process. See Table 10 for the themes and properties of this question. *Eliminate stigma* was a major theme that was developed from this question. Most of the patients stated that they lacked understanding and support from the most important people in their lives. One individual commented, "When you tell someone what you're dealing with, it's like walking around with a missing arm. They look at me like I'm abnormal, and they just don't get it, and they just look at you differently, and you know inside they are probably judging you."

In contrast to the fact that many patients experienced stigma in their life, some individuals expressed that they had support from family and peers. Therefore, *existing support* became a theme. Lastly, *triggers* emerged as a theme because one patient suggested that being around those who view them negatively is a trigger and makes them feel worse. This patient said, "I mean, I don't want to be around those people that start blaming me or thinking of me badly or doesn't understand what this does for me I mean being around that kind of energy makes me feel worse to be honest."

Actively Tapering Group Data

Reasons and Motivations for Tapering. Five themes emerged when patients who were actively tapering were asked about their reasons and motivations for tapering. See Table 11 for the themes and the properties of those themes for this question. One major theme that emerged from this question was *avoid long-term medication*. *Family impact* was another theme developed, with one patient who stated pregnancy was a motivation. This patient said, "being pregnant, I do want methadone out of my system, and I do not want it in me whatsoever. And uh the second reason is that the kids I have now, I want to be there for them, and I want to be alert and fully there so that I am not groggy from my medication." Patients felt that daily visits to the project site made them feel controlled, so *freedom from restriction* was a theme. Additionally, financial *relief* was a theme because patients were ready to stop paying for methadone. Lastly, *improved self-efficacy* was a theme because some patients believed they could successfully taper. One patient said, "Methadone saved my life it really did but now I'm ready to be done and I'm ready to move on and live my life without it."

Current Knowledge about Methadone Tapering and its Risks and Benefits. Seven themes emerged when patients were asked about their current knowledge about methadone

tapering and its risks and benefits. See Table 12 for the themes and the properties of those themes for this question. The first theme that emerged was *health benefit* because many patients viewed being off of methadone as being healthy. Multiple patients believed that methadone affected their bones and therefore, they perceived tapering as a benefit. Furthermore, many patients felt that avoiding daily consumption of methadone was a benefit to tapering, and thus, *avoiding daily medication* surfaced as a theme. Patients also acknowledged that slowly tapering was the most beneficial and safest way to taper off methadone; hence, *slow taper* was developed into a theme. *Unknown knowledge* became a theme because some patients were unaware of the risks and benefits of tapering, especially its benefits. However, most patients knew relapse and withdrawal were a risk of tapering. Therefore, *risk of relapse* and *risk of withdrawal* emerged as themes, with one person having a previous withdrawal experience. The last theme that surfaced from this question was *financial benefit*. Patients perceived not having to pay for daily methadone as a benefit to tapering.

Ideal Taper and Goals. Three themes emerged when patients were asked about their ideal taper and goals. See Table 13 for the themes for this question. *Gradual decrease* was a theme because most patients desired to taper off methadone at a slow rate. *Free of methadone entirely* developed as a theme because the patients' goal was to be entirely free of methadone. Lastly, *fast decrease* was developed as a theme because it was relevant to communicate that one patient desired to taper off methadone as fast as possible but still wanted to feel comfortable.

Overall Tapering Experience. When patients were asked about their overall tapering experience, three themes emerged. See Table 14 for the themes and the properties of those themes for this question. All patients stated that they had an *overall positive experience* at the project site. Some patients had positive staff experiences and appreciated shared decision-making

with their providers. When describing the pleasant experience at the project site, one patient expressed, “I feel like having the opportunity to speak with my counselors who are super supportive and caring here has helped me, and having the doctors let me go down at my own pace at my own time and giving me the upper hand has been helping.” Although patients had a positive experience at the project site, multiple patients also had an *unpleasant experience*. Patients were frustrated with the long wait times and the lack of organization and communication at the project site. One patient described their frustration with the project site and said, “it’s a lot for us to deal with because it’s hard to come here every morning and then on top of that when you gotta wait an hour and 45 minutes just to walk into a booth and get your dose which takes 30 seconds like it’s so frustrating. Especially early in the morning, I come here all the time, and I wait 2 hours that makes me leave upset and that triggers me and I get mad and you know that’s the main thing.” The last theme that emerged from this question was a *financial concern*. Some patients expressed their concern about the cost of methadone and how they would be able to afford to pay for it.

How the Project Site and its Staff Affected the Tapering Process. Three themes emerged when patients were asked how they think the project site, and its staff have helped or hindered their tapering experience. See Table 15 for the themes and the properties of those themes for this question. One main theme was *shared decision-making*. Some patients felt their providers allowed them to participate in the treatment plan decisions. One patient said, “I am part of making the decision, at the end of the days it's up to me.” Other patients felt their providers did not allow them to taper at their rate. One patient said, “I wanted to taper by a certain dose, and they said no, I can't and that made me frustrated because it’s really up to me how much I wanna go down by.” Another theme from this question was *positive staff experience*. Many

patients felt that the staff was caring, understanding, and supportive. Lastly, a theme that emerged from this question was an *unpleasant experience*. Many patients felt that the project site was understaffed, lacked organization, and had long wait times. One patient said, "there you just get thrown around, and no one shows their care for you and that can really mess you up."

Ways that the Project Site can Provide Services or Support. Two themes emerged when patients were asked what services and support the project site, and its providers could deliver to help patients in their tapering process. See Table 16 for the themes and the properties of those themes for this question. *Creating a positive experience* was a major theme because patients suggested multiple recommendations to improve their quality of care and tapering process at the project site. Patients indicated that improving waiting times, being more organized, adding more clinics, hiring more staff, and making methadone more affordable would help them have a more positive tapering experience. One patient described their negative experience at the project site and said, "they made it so difficult like for 6 mo*n*ths I tried to taper, and I couldn't get in to see their physician. She let me go down 5 mg but would not let me go down more until I saw the doctor, but I couldn't get in to see her cause she was just so busy, and then I had to cut cold turkey and relapsed." The last theme developed from this question was *liquid methadone*. One patient stated that they preferred liquid methadone over tablets because they could taper more slowly and comfortably by going down by 1mg increments.

Additional Support Outside of the Project Site. Three themes emerged when patients were asked what other support outside of the project site would help them in their tapering process. See Table 17 for the themes and the properties of those themes for this question. Many patients experienced stigma throughout their life, and therefore *eliminate stigma* surfaced as a theme from this question. Several patients stated that people in their lives lack the proper

understanding of methadone and tapering. One patient said, “they just think I have this contagious disease, and I get judged all the time every single day by people who haven't been through this process and also by people who have been through it." Another patient said, “if people were more open to the idea of addiction and like understood what methadone was and was able to talk to me openly about it and approach it in a comfortable way then yes of course that will definitely help me go through this process with a more positive outlook and feeling.”

In contrast, some patients had support from family members, and therefore *existing support* was a theme. Lastly, *triggers* were developed as a theme because one patient stated that hearing others talk about their past problems with addiction triggered them to think about their past and their own addiction.

Comparing the Contemplating Tapering Group to the Actively Tapering Group

The qualitative findings from the contemplating and actively tapering groups were very similar. Both groups of participants were asked the same survey questions with slight variations according to the participants’ engagement in the tapering process. Sixteen major themes were developed between both groups. See Table 18 for the overall themes from both groups. These themes include *avoid long-term medication, family impact, financial relief, slow taper, unknown knowledge, risk of relapse, free of methadone entirely, fast decrease, unpleasant experience, positive experience, create a positive experience, liquid methadone, eliminate stigma, existing support, triggers,* and *shared decision making.* These themes were mentioned multiple times in the responses from both groups of participants.

When talking about their overall positive experience, one participant said, “overall my experience taking methadone has been great I mean, the use of methadone has really helped me stay under control, or I should stay has helped my addiction stay under control and without it I

don't know what I would have done by now or where I would be." Another patient said, "I just love it here so much like it's like I'm sad to get off the medication because I'm sad to leave this place like I won't see the people here all the time anymore and they have all made a huge impact on my success in my recovery process." However, when expanding on the negative experiences at the project site, one patient said, "they don't really talk that much to you at least the dosing nurses don't, and I have panic when I walk in there because it's just so busy and overwhelming and you just never know when they are gonna call you next."

Both groups of patients had positive and negative experiences at the project site and had particular aspects of their lives that impacted their tapering experience. Themes from both groups are highly similar. However, there are a few major themes that differ. In the second question that asks the patients about their current knowledge about methadone tapering, patients who were actively tapering mentioned the risk of relapse and the risk of withdrawal are both risks of tapering. The contemplating tapering group only mentioned the risk of relapse and not the risk of withdrawal. Furthermore, one patient from the contemplating group had an inaccurate interpretation of a slow taper. This patient said, "ideally, I would like to come off of it 5 mg every couple of days, but I want to go slow because I have heard that slow is better."

Another difference that was noted was that although the actively tapering group mentioned their fears, the contemplating tapering group mentioned fear far more than the actively tapering group. The contemplating tapering patients further expanded on their fears of withdrawal, relapse, and especially their fear of the unknown regarding tapering. The contemplating tapering group also had more triggers that they were concerned about, such as past trauma, high-stress environment, and people who talk negatively about the patient. Another difference that emerged was about shared decision-making. The actively tapering group had

more experience with positive shared decision-making and a lack of shared decision-making. The contemplating to taper group did not have as much experience with shared decision-making because they were not actively tapering. The actively tapering group had more self-efficacy and the contemplating group had increased motivation. Overall, the two groups of patients had very similar themes that serve as the factors influencing their tapering experience, with only a few contrasting differences.

Discussion

This DNP scholarly project's results were consistent with its purpose, which aimed to explore the barriers, facilitators, and experiences of individuals tapering off of MAT. From the project findings, the primary researcher gained insight into what elements could potentially influence patients' tapering experiences and outcomes. The project findings provided context in participants' own words for why individuals enrolled in MAT programs may request to discontinue MAT despite the known risks. When a patient requests to taper off MAT, it can be difficult for provides to balance the patients' MAT tapering risks with the patient's autonomy in treatment decisions. Therefore, when patients desire to taper off MAT, certain environmental, personal, and logistical factors should be considered by providers to determine appropriateness for tapering and mitigate risks to avoid relapse, overdose, and death.

Environmental Factors

The findings from this project revealed that patients' experiences, attitudes, and perceptions varied based on the specific project site where they were receiving treatment. At one project site, many participants reported that the site was overwhelmingly busy and crowded, with an insufficient number of staff, which resulted in long wait times for patients to be seen by a provider. Selected individuals felt that site was disorganized, the staff was uncaring,

unsupportive, and lacked enough knowledge regarding addiction to truly care for this explicit population of patients. Patients' negative experiences were an important finding because evidence suggested that positive patient experiences, especially in their relationship and communication with providers, led to better patient adherence to treatment plans and medical advice (Agency for Healthcare Research and Quality [AHRQ], 2020). Therefore, patients with negative experiences in their MAT clinic may be less likely to follow their tapering regimen, which could result in risks, such as relapse and overdose.

While some patients had unfavorable experiences and encounters at the project site, others expressed that providers were supportive, encouraging, and communicative, which made patients feel optimally cared for. Positive patient experiences were meaningful findings because patient satisfaction could help facilitate a successful tapering experience. Similarly, a study by Snow et al. (2019) suggested that positive experiences in substance use disorder treatment may result in increased patient engagement and better recovery outcomes. Therefore, strategies to improve patient trust and satisfaction should be prioritized and consistently implemented across all treatment centers.

In addition to clinic experience, shared decision-making was recognized as an integral component of a patient's healthcare experience. Some patients felt they had a positive shared decision-making experience, while others felt they lacked it. Shared decision-making involves the patient's and healthcare provider's opinions and preferences, resulting in a mutual and reasonable agreement regarding the patient's treatment plan (Matthias et al., 2019). This practice was associated with multiple sustaining outcomes, such as improved patient adherence, satisfaction, and clinical outcomes (Matthias et al., 2019).

Out of all of the participants, 8.3% neither agreed nor disagreed, and 8.3% disagreed that they have a control and a choice in their tapering plan. This is meaningful information because although only one participant disagreed that they had a control and a choice in their tapering plan, their perceived lack of shared decision-making could decrease patient-provider trust and increase the patient's risk of relapse or overdose. Furthermore, some patients explicitly stated that their provider would not allow the patient to make their own decision in the tapering plan. In the context of tapering off opioids used for chronic pain, authors suggested that after patients received appropriate tapering education, their involvement in their tapering process was an essential part of patient-provider communication and tapering success (HHS, 2019; Rich et al., 2020). Additionally, Dr. Jennifer Hicks, DNP, APRN, FNP-BC (personal communication, December 14, 2022), the primary stakeholder of this project and an MAT provider, and multiple authors suggested that a patient-centered and individualized tapering regimen is a facilitator of successful tapering (Kosakowski et al., 2022; Kuntz et al., 2020).

Stigma was another environmental factor that impacted participants' tapering experience. When speaking about their MAT experience, many patients revealed that they did not feel supported by their family or friends. Patients expressed that people viewed them differently because they had OUD and were getting treatment. Illicit drug use disorders are the most stigmatized medical illnesses worldwide and are frequently experienced by those with OUD (Cheetham et al., 2022; Dickson-Gomez et al., 2022). They are a major barrier to effective OUD treatment and therefore, can impact patient outcomes, such as a successful taper (Cheetham et al., 2022; Dickson-Gomez et al., 2022).

When all of the participants were asked if they would have social support from their family, friends, or community if they were to taper, 50.0% of patients neither agreed nor

disagreed, 16.7% disagreed, and 8.3% strongly disagreed. These findings suggested that many participants were unable to confirm that social support would be available to them during the tapering process. This finding is meaningful because a study by Frank et al. (2016) reported that participants perceived having support from family, friends, and providers as a facilitator in successful opioid tapering, and therefore, the lack of support could be a predictor for relapse. According to Zweben et al. (2021), patients with OUD will put more effort into following the provider's treatment suggestions if they believe the provider is competent and considerate of the patient and the stigma that impacts them (Zweben et al., 2021). Therefore, providers treating OUD should engage and educate family members and staff about MAT to reduce stigma and promote a successful tapering experience in order to prevent relapse (Zweben et al., 2021).

Personal Factors

Many personal factors influenced participants' tapering experience. Participant responses suggested that there were knowledge gaps within participants' understanding of methadone tapering. Some patients lacked general knowledge about methadone tapering and its risks and benefits. Additionally, when patients were asked about their ideal tapering regimen and taper goals, some reported wanting to rapidly taper methadone dosage, which contradicted expert recommendations for a slow and gradual taper due to the risk of relapse (Calsyn et al., 2006; Kosten & Baxter, 2019; Nosyk et al., 2012; SAMHSA, n.d.b). Furthermore, one patient verbalized wanting to taper slowly but then described the logistics of a rapid taper. As illustrated by the Health Belief Model, individuals who lack clear understanding of perceived susceptibility and severity may not engage in behaviors that promote a positive health outcome, such as tapering successfully without relapse or overdose (Janz & Becker, 1984; Zewdie et al., 2022). The patients' responses indicated the need for more patient education regarding appropriate

tapering regimens and risks of discontinuing MAT via taper. Providers should emphasize the safety of a slower taper and the risk of withdrawal and relapse with a fast taper so that patients understand the rationale behind a slow taper and are more likely to be compliant with provider tapering instructions.

It was also unclear if patients understood that opioid overdose is a risk of methadone tapering. When patients were asked if they understood tapering is a time of risk for relapse and overdose, 41.6% strongly agreed, and 41.6% agreed that they understood the risks. However, when further asking patients about their knowledge about tapering, only relapse and withdrawal were reported as risks and not overdose. These conflicting findings may be a result of the lack of education about methadone tapering from providers, and therefore, providers should initiate appropriate conversations with patients about the risks and benefits of tapering and continue to set realistic expectations about the challenges associated with tapering.

Many patients expressed their fear of relapse, withdrawal, and the unknown with tapering. Fears were mainly a concern for the contemplating tapering group. This finding was meaningful because patients contemplating tapering should be adequately informed of specific risks and benefits of tapering, and providers should take time to address patients' concerns and fears before initiating a taper. This project finding was supported by the Quinlan et al. (2020) study about tapering off of chronic opioids for pain, which indicated that the possibility of successful opioid tapering would likely be increased if patients' individual concerns were identified and addressed. Furthermore, a study by Legg et al. (2014) suggested that providing psychosocial care and addressing fears and hopes could promote positive patient outcomes, such as improved immune function, increased trust in patient-provider relationships, and increased adherence to medical recommendations, which could all aid in a successful tapering experience.

Therefore, providers should speak to patients about their fears and concerns to help alleviate stress and anxiety and prevent relapse and overdose.

Another identified personal factor that could negatively impact a patient's tapering experience was the exposure to certain "triggers." According to the findings of this project, triggers in patients' lives included a high-stress environment, a family member's death anniversary, adverse childhood experiences (ACEs), and reminders of one's past addiction experience. One study suggested that ACEs may impair a patient's ability to adhere to effective MAT treatment later in life and can result in opioid relapse during treatment (Derefinko et al., 2019). It may be difficult for those with existing trauma from their past to successfully taper, so providers should be transparent with patients about tapering risks and proceed with caution if the patient insists on tapering. To support patients struggling with OUD and other mental health disorders, authors suggested MAT programs adopt strategies to help patients be aware of and anticipate their triggers to prevent relapse (SAMHSA, 2020). One such approach is using "mood logs" that allow patients to be more aware of situational factors that prompt them to use substances (SAMHSA, 2020). The mood logs train patients to better recognize and manage their emotions and express their feelings by answering the question, "when I have an urge to drink or use, what is happening?" (SAMHSA, 2020).

A concerning finding from this project was the large number of individuals reporting untreated mental health diagnoses. Of all the participants, 66.7% had a mental health disorder other than OUD, and 75.0% of those participants were not managing their mental health disorders with treatment. Similarly, SAMHSA reported in 2018 that 9.2 million adults in the United States had co-occurring disorders (COD) within the past year, more than 90% did not receive treatment for both OUD and mental health disorders, and 50% did not receive treatment

for either. This finding was especially important as CODs are associated with an increased risk for relapse (Andersson et al., 2019). According to SAMHSA (2020), healthcare providers may lack adequate recognition of CODs. Therefore, MAT providers should be educated on how to identify CODs and ensure that patients are being treated for both OUD and mental health disorders. By integrating screening and treatment of opioid use and mental health disorders, patients can achieve better quality of care and health outcomes (SAMSHA, 2022b). Holistic MAT care models facilitate an integrated approach to OUD treatment by incorporating additional management of physical and mental health conditions (Lagisetty et al., 2017). These models could be applied in primary care, mental health clinics, and MAT clinics. Additionally, the AHRQ Academy created the MAT for OUD Playbook, a guideline for integrating MAT in primary care and other ambulatory care settings (AHRQ, n.d.). This guideline aims to provide primary care providers in rural settings with a guideline to establish MAT care in their practice. Likewise, MAT providers could incorporate primary care and mental health evaluations in their practices to ensure that patients are evaluated for COD and receive the appropriate care to prevent relapse and overdose during their tapering experience.

Logistical Factors

In addition to environmental and personal factors, this project's findings captured logistical factors that patients felt were important in their tapering experience. One patient voiced that the financial process of paying for treatment at the project site was not flexible. The patient continued to explain that the project site would take away the patient's take-home methadone privileges if the patient could not pay for treatment on time. Regarding employment status, 25% of patients were unemployed, and 25% only worked part-time, which means some of them may have been uninsured and had to pay out of pocket for treatment. The primary stakeholder

confirmed that methadone MAT costs about $114 per week, but very few patients have to pay that full price (J. Hicks, personal communication, February 07, 2023). The primary stakeholder further reported that most patients have TennCare, which covers 100% of the costs (J. Hicks, personal communication, February 07, 2023). In addition, patients had the option to pay in weekly installments or apply for a grant to help cover the cost of treatment (J. Hicks, personal communication, February 07, 2023). The primary stakeholder reported that although there are flexible payment options, the cost of treatment may still be a burden to some patients (J. Hicks, personal communication, February 07, 2023). However, financially concerned patients should be educated that the cost of methadone treatment is less than the out-of-pocket cost associated with daily illicit drug use (J. Hicks, personal communication, February 07, 2023). Since the cost of treatment is a concern for some patients, education, and reassurance about the flexible options of payment installments and grants should be reiterated to patients.

Since many patients expressed that a benefit to tapering off methadone would be the financial relief of no longer paying for the treatment, it is important to further assess their reasons for tapering. When an individual's health behavior choices are impacted by the financial burden of affording care, it decreases the possibility of healthy behavior. For example, a study by Herkert et al. (2019) found that one in four individuals with diabetes underused insulin due to cost, which then caused patients to have poor glycemic control. Patients may take on significant and potentially fatal risks because they perceive the problem of cost to be the greater threat. Therefore, providers should carefully assess the motivations for tapering and address barriers, such as cost, so that individuals who need to remain in MAT treatment can avoid risks such as relapse, overdose, and death.

Regarding motivation, 41.7% of patients strongly agreed, and 58.3% agreed that they were motivated to taper. However, 25% of patients strongly agreed, and 50% agreed that they felt at risk for relapse and overdose after completing tapering. This finding is meaningful because although many patients were motivated to taper, they also felt at risk for relapse and overdose. To help determine if a patient is truly ready to initiate tapering and to ensure the patient receives accurate information on tapering risks, providers should perform a readiness assessment and communicate effectively about tapering risks using evidence-based sources. When patients express their desire to start tapering, the provider should evaluate their readiness for such a change (Martin et al., 2003). One way to assess a patient's readiness is by using the Tapering Readiness Inventory (Martin et al., 2003). This tool evaluates factors, such as abstinence from drugs, coping strategies, stable living arrangements, supportive family relationships, a non-drug-seeking community, physical and mental health, motivations to success, and many other factors that the provider and patient should consider before initiating a taper (Martin et al., 2003).

Along with financial assistance, another identified logistical factor to help patients safely and effectively taper was liquid methadone. Liquid methadone allows smaller dose adjustments in smaller increments for patients who are less tolerant of the typical 5 to 10 mg increments in oral tablet dose adjustments (Martin et al., 2014). Of the three project site clinics, one offered only liquid methadone, one offered only tablet methadone, and one offered both liquid and tablet methadone. According to the patients from this project, liquid methadone would allow them more freedom with their tapering dose. Liquid methadone could be offered at all project site locations to ensure more flexible dosing tapers so patients can be more conservative and comfortable with their tapering regimen.

While the addition of liquid methadone at all of the project sites would allow for a more customizable tapering regimen, evidence regarding best practices for liquid methadone dosing was limited. The decision to introduce liquid methadone to a clinic was based on the medical and program director's preference (J. Hicks, personal communication, February 22, 2023). A limitation of liquid methadone is the inconvenience of measuring methadone in a liquid form when completing counts for controlled substances (J. Hicks, personal communication, February 22, 2023). Methadone tablets are easier to account for, reducing the likelihood of dosing errors, such as spillages, compared to liquid methadone (College of Physicians and Surgeons of British Columbia [CPSBC], 2016). If patients' skills in measuring liquid methadone are uncertain or if the liquid methadone cannot be safely measured due to its small preparation, then methadone tablets may be preferred (CPSBC, 2016). Although the cost of liquid methadone in the United States was not clearly stated in the literature, in British Columbia, methadone tablets were more expensive than liquid methadone (CPSBC, 2016). While adding liquid methadone may seem like an ideal opportunity to conduct more flexible tapering regimens, more evidence about best practice and safe dosing of liquid methadone is needed.

Implications for Practice and Recommendations

In many instances, tapering may not be recommended based on the patient's risks (Martin et al., 2014; Zweben et al., 2021). However, some states have regulations that require providers to counsel their patients about discontinuing MAT in specific time intervals (Minimum Program Requirements for Nonresidential Office-Based Opiate Treatment Facilities, 2017/2019). Providers must be prepared to engage in difficult discussions about MAT tapering with patients, and evidence-based guidance is needed to assist providers in safely supporting patients who insist on tapering off MAT despite the known risks. Therefore, the project site would benefit

from implementing a multi-component protocol for providers and staff that allow standardization of care for patients who desire to taper off MAT.

A tapering protocol based on evidence-based practice would help advance the quality of care and improve the tapering process by providing guidelines for providers. However, unclear evidence exists on appropriate methadone tapering guidelines for individuals in MAT. The primary stakeholder of this project confirmed that no existing methadone tapering guidelines exist for providers to utilize while tapering their patients off of methadone. Without a standardization for tapering, patients could experience personal, environmental, or logistical factors that negatively impact their tapering experience and put them at risk for relapse and overdose. Since the literature offers unclear, conflicting, and some outdated evidence about safe tapering guidelines, more research is needed on tapering guidelines for patients enrolled in MAT.

Patient education should be embedded into the protocol. Prior to initiating a taper, providers should inform patients about the purpose of MAT tapering, expectations during the tapering process, risks and benefits of tapering, and instructions for a safe taper. After discussing with the primary stakeholder of this project, it was clear that not all providers educate or meet with patients prior to tapering. In a study by Khorfan et al. (2020), researchers implemented an intervention that included pre- and post-operative patient education and had surgeons set realistic expectations prior to surgery to minimize the use of post-surgery opioids. Patients who received education before surgery were more likely to feel prepared to manage postsurgical pain and used fewer opioids post-surgery compared to patients who did not receive education (Khorfan et al., 2020). Furthermore, there was a greater preparedness rate among patients who received education from surgeons compared to staff nurses (Khorfan et al., 2020). Likewise, MAT providers should educate patients about the expectations of tapering so that they can be better

prepared to manage any withdrawal symptoms during or after a taper. Additionally, patients should receive information about safe dosing, financial assistance, and the importance of mental health management and how to receive treatment. Although patients meet with their counselors prior to tapering, patients should also meet with their providers to receive more education on the tapering process. A protocol that requires providers to inform patients about the tapering process will allow patients to have realistic expectations of risks, decrease their fears, and be better prepared for the stressful and anxious process of tapering.

Additionally, shared decision-making should be required as part of the protocol, facilitating better patient-provider communication and improving the quality of care (Kennedy et al., 2017). Shared decision-making will allow patients to input their own thoughts while also relying on the provider to make realistic recommendations. Since some patients stated that their provider did not allow them to taper at their desired dose or make their own decisions, it is essential that the provider understands the significance of shared decision-making. The patient-provider collaboration will allow for better health outcomes because shared decision-making not only helps agreement between the patient and provider but also instills trust and empowers patients to take ownership of their health and treatment plan (Krist et al., 2017). Although shared-decision making is essential, this scholarly project found that sometimes patients have a misunderstandings of how fast or slow they should taper. Therefore, providers have to balance honoring a patient's desired tapering dose while providing them with realistic and safe dose increment recommendations (Zweben et al., 2021). However, there are no existing evidence-based tools that providers can utilize to help guide them in dose increments for methadone tapering. Research is needed to develop best practice guidelines for tapering dosages to help promote successful outcomes, such as medication discontinuation without relapse.

Another component of the protocol should be a thorough assessment of the patient's individual factors that could impact their tapering process. Specific assessments of factors, such as fears, triggers, financial concerns, stigma, home environment, and management of mental health diagnoses, should be included. By examining these factors, providers can evaluate risk for relapse and overdose. The Recovery Capital Checklist, as mentioned in a study by Zweben et al. (2021) could be used to identify challenges in a patient's life and formulate plans to address those specific concerns so that patients could achieve a successful tapering experience without relapse. The factors on the checklist have been associated with readiness to taper off methadone, and while the checklist does not predict success, it helps assess if a patient is prepared for the high-risk time of tapering and also helps anticipate if relapse is likely (Zweben et al., 2021).

In addition to providing patient education, shared decision-making, and patient assessments, the protocol should require providers to supply each patient with naloxone and train patients on how to administer naloxone in the event of an opioid overdose. When administered quickly, naloxone can help reverse an opioid overdose and save an individual's life (CDC, 2023). According to the primary stakeholder at the project site, naloxone is not routinely offered to individuals who are tapering off MAT. The evidence is clear that tapering is a time of increased risk for relapse and overdose; therefore, providing naloxone to all patients tapering off MAT is essential to prevent overdose-related death (United States Food and Drug Administration [FDA], 2023; Zweben, 2021). An evidence-based tapering protocol that includes patient education, shared decision-making, patient assessment, and administration of take-home naloxone could help facilitate a successful tapering experience for the patient.

In addition to a built-in protocol for the project clinic, offering education for providers and staff is necessary. In one study, while attempting to encourage proper postoperative opioid

stewardship within general surgery, providers were educated on their roles in the current opioid crisis, the rates of overprescribing within surgery, the importance of minimizing postoperative opioid use while managing pain, and how to effectively set realistic expectations of postoperative pain management with patients (Khorfan et al., 2020). Since providers were properly educated, they were able to provide pre- and post-operative education to patients and set realistic expectations, which resulted in patient preparedness to manage the pain and use fewer postoperative opioid pills (Khorfan et al., 2020). Provider and staff education on OUD to develop skills required to care for patients in MAT is essential to helping facilitate a successful tapering experience. In addition, providers and counselors often do not know how to facilitate a conversation with the patient about the patient's desire to taper (Zweben et al., 2021). In circumstances where a patient wants to discontinue MAT but the provider believes the patient should remain on MAT due to certain risk factors, it can be challenging for providers to facilitate a conversation that discourages or cautions against MAT discontinuation while still allowing for patient autonomy in decision-making (Zweben et al., 20201). Providers could use the Capital Recovery checklist to guide them in conversation if a patient desires to taper (Zweben et al., 2021). Skills attained from education could help providers initiate a conversation surrounding the patient's desire to taper, strengthen providers' and staff's ability to effectively communicate risks, develop appropriate tapering plans, implement realistic interventions, and ultimately support the patients' unique individual needs to have a successful tapering experience and prevent relapse.

While implementing a multi-component protocol and requiring education for providers and staff could help enable patients to have a more positive tapering experience, there are additional factors that the project site should take into consideration to improve clinic efficiency.

From the findings of this project, it is evident that two specific project sites need to hire more staff and improve the organization of the clinic flow. Studies have reported that patients' negative perception of hospital care is associated with missed nursing care related to poor nurse staffing and hospital work environment (Aiken et al., 2017). In addition, shifts with an increased nursing staff ratio had lower odds of patient mortality by 8.7%, and decreased nurse staffing ratios had higher odds of patient mortality by 10% (Musy et al., 2021). Increasing the number of staff could reduce appointment wait times and may give patients more support during their tapering process and may help them avoid relapse, overdose, and death. Another consideration for the project site is to provide liquid methadone at their facilities. Since liquid methadone allows more flexibility in tapering increments, it could help facilitate a successful tapering process; however, more research is needed.

Strengths and Limitations

This scholarly project offered insight into the experiences, attitudes, and perceptions of patients tapering off methadone. One notable strength of this scholarly project is its mixed methods design. Using both quantitative and qualitative methodology allowed the primary researcher to gather more robust and meaningful evidence. In addition, one of the main strengths of this scholarly project was the role of the primary stakeholder who suggested the specific gaps and needs of the project site. The stakeholder, who worked at the project site, was invested in this project and played a vital part by educating the primary researcher about MAT, tapering, and the existing gaps. A further strength of this project was the equal representation of individuals who were contemplating and actively tapering off of MAT in the sample. The inclusion of both groups of patients allowed for more details from the patient's responses and more accuracy in the project findings.

In addition to strengths, limitations were identified. One notable limitation of this project was that the survey was not formally validated. The primary researcher developed the survey based on information from the literature, the primary stakeholder, and the theoretical underpinnings of the Health Belief Model. A valid survey may increase the reliability and rigor of the project results. In hindsight, some Likert scale and open-ended qualitative questions could have been reduced to shorten the survey and provide a stronger structure of questions. Furthermore, because the audio-recording of interviews was not permitted for this project, there were limitations to accurate and comprehensive data collection. While receiving permission to audio-record the interviews was a significant challenge, anonymous audio recordings would have allowed for a better transcription of patient responses, fewer interruptions, and overall, a better flow of the participants' thoughts to the survey questions.

Conclusion

In this DNP scholarly project, the primary researcher interviewed patients enrolled in MAT who were either desiring to taper or actively tapering off methadone to better understand the factors influencing their tapering experience. The findings of this project emphasized environmental, personal, and logistical factors that influenced patients' tapering experience and helped illuminate opportunities for improvement in MAT tapering practices at the project site. Using evidence-based guidance, MAT protocols highlighting patient education, shared decision-making, patient assessment, and take-home naloxone distribution should be developed to ensure safe and effective care for patients who desire to taper off methadone. The addition of these factors will allow providers to more appropriately screen candidates for tapering and educate those who are at increased risk for relapse and overdose. More research is needed on specific tapering doses, increments, and techniques so that providers have a standardized process to taper

patients. Additionally, providers and staff would benefit from education about OUD, MAT, and tapering. Education and training may strengthen the providers' and staffs' ability to support the patients' unique individual needs in order for them to have a successful tapering experience and prevent relapse. Lastly, the project site has an opportunity to improve clinic efficiency and patient satisfaction by hiring and training staff on MAT best practices and adding liquid methadone at all of the project sites. Further research and implementation of an evidence-based protocol with the suggested components from this scholarly project could help provide sufficient guidance and support to patients who desire to taper off MAT and reduce their risk for relapse, overdose, and death.

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Table 1

Sample Demographics and Characteristics

Demographics and characteristics	*n*	%
Currently taking methadone		
Yes	12	100.0
No	—	—
MAT plan		
Currently tapering	6	100.0
Not tapering but thinking about tapering	6	100.0
I don't know	—	—
Refused to answer	—	—
Gender		
Male	7	58.3
Female	5	41.7
Non-binary	—	—
Race		
Asian	—	—
Black or African American	—	—
Caucasian	12	100.0
American Indian or Alaskan Native	—	—
Other	—	—
Ethnicity		
Hispanic or Latino	2	16.7
Non-Hispanic or Latino	5	83.3
Highest level of education		
No schooling completed	—	—
Some high school	1	8.3
High school graduate, diploma, or the equivalent (i.e., GED)	5	41.7
Some college credit	5	41.7
College graduate	1	8.3
Masters	—	—
Doctorate	—	—

Demographics and characteristics	*n*	%
Current employment status		
Full time	6	50.0
Part time	3	25.0
As needed	—	—
Retired	—	—
Unemployment due to other circumstances	3	25.0
Diagnosis of mental health disorder		
Anxiety	2	16.7
Depression	1	8.3
Depression and Anxiety	3	25.0
Depression and bipolar	1	8.3
Anxiety, depression, bipolar, PTSD, drug psychosis	1	8.3
None	4	33.3
Following treatment plan and taking medication for mental health disorder ($N = 8$)		
Yes	1	12.5
No	6	75.0
Sometimes	1	12.5
Tapered in the past		
Yes	4	33.3
No	8	66.7
Last time opioid or illicit drug was used		
Today	1	8.3
<1 year ago	3	25.0
1-5 years ago	3	25.0
6-10 years ago	4	33.3

Note. ($N = 12$) unless otherwise indicated. Each dash indicates no participants selected that response.

Table 2

Sample Demographic Numerical Variables

Category	*M*	*SD*
Age (years)	40.7	8.9
Years taking methadone	4.1	2.5
Years taking opioids	16.8	7.6

Note. These were open text questions, and the responses were used to calculate the mean (*M*) and standard deviation (*SD*).

Table 3

Quantitative Responses to Likert Scale Questions

Question	Strongly Agree *n* (%)	Agree *n* (%)	Neither agree nor disagree *n* (%)	Disagree *n* (%)	Strongly disagree *n* (%)
I feel confident that I can successfully complete the tapering process by not being readmitted to the MAT clinic and not relapse after coming off methadone	3 (25.0)	6 (50.0)	3 (25.0)	–	–
I understand that tapering is a time of risk for relapse and potential fatal overdose	5 (41.7)	5 (41.7)	2 (16.7)	–	–
I believe that tapering will allow me to have better health outcomes versus staying on methadone long-term	6 (50.0)	5 (41.7)	1 (8.3)	–	–
I am motivated to taper	5 (41.7)	7 (58.3)	–	–	–
I feel that I am at risk for relapse and overdose if I were to complete tapering	3 (41.7)	6 (50.0)	1 (8.3)	1 (8.3)	1 (8.3)
If I were to start tapering, I feel that I would have control and a choice in the pace of my taper	5 (41.7)	5 (41.7)	1 (8.3)	1 (8.3)	–

Question	Strongly Agree *n* (%)	Agree *n* (%)	Neither agree nor disagree *n* (%)	Disagree *n* (%)	Strongly disagree *n* (%)
If I were to taper, I believe my provider will listen to me and allow me to share my thoughts and inputs regarding the tapering plan	5 (41.7)	4 (33.3)	3 (25.0)	–	–
If I were to start tapering, I feel that I can ask my providers for help if I feel bad during my taper	8 (50.0)	1 (8.3)	2(16.7)	1(8.3)	–
If I were to taper, I would have social support from my family, friends, or community	1 (8.3)	2 (16.7)	6 (50.0)	2 (16.7)	1(8.3)
I believe I can cope with difficult situations without using opioids or illicit drugs	4 (33.3)	7 (58.3)	1(8.3)	–	–
People I am close to and others around me use opioids or illicit drugs	–	1 (8.3)	–	8 (66.7)	3 (25.0)

Note. ($N = 12$). Dash indicates no participants selected that response.

Table 4

Contemplating Tapering Group: Reasons and Motivations for Desiring to Taper

Themes	Properties	In Vivo Exemplars
Avoid long term medication		
Health impact	Gastroparesis, Weak teeth, Desire to be healthier	
Financial relief		
Increased motivation		"Years ago, when I first started using, me and my friend together were using, and he OD'd and died. I mean that was a true eye-opening experience for me and that's really the reason I wanted to get help and I heard about methadone clinics and wanted to save myself. Now I been on it for so long I'm finally ready to live without it"
Fear	Unknown, Relapse, Withdrawal	"I am a little hesitant because I am scared of how it's going to make me feel and how the withdrawal will affect me like I'm scared it's going to make me feel some kind of way and then those feelings will then make me wanna use again"
Family impact	Motivation from family, Become better for daughter	
Inconvenience	Daily commitment	

Table 5

Contemplating Group: Current Knowledge about Methadone and its Risks and Benefits

Themes	Properties	In Vivo Exemplars
Risk of relapse		
Unknown knowledge	Unknown tapering benefits, Unknown general tapering knowledge	
Healthy by avoiding daily medication		
Slow taper		
Free of restriction	Avoid daily commitment	"You'll be free of something that's holding you back like coming here every day is a commitment that you have to make and so when you don't have to do that anymore it's like you are free"

Table 6

Contemplating Group: Ideal Taper and Goals

Themes	Properties	In Vivo Exemplars
Free of methadone entirely		
Gradual decrease		
Incorrect interpretation of a slow taper		
Fast decrease		"Getting to 70 as fast as possible would be ideal and then from there getting down to zero"

Table 7

Contemplating Tapering Group: Overall Past Tapering Experience

Themes	Properties	In Vivo Exemplars
Unpleasant experience	Long wait times, Uncaring staff, Overcrowded, Understaffed	
Positive experience	Supportive staff, Effective program	"When you have caring staff and a facility that wants the best for you that's how you know your chances of successfully tapering is at good odds"
Triggers	High stress environment, Family death anniversary, Adverse childhood experience	"I always relapse, and I always have feelings of withdrawal that makes me want to use again but there are always or I should say there are usually always underlying issues that I have that makes me want to use"

Table 8

Contemplating Tapering Group: How the Project Site and its Staff will Affect the Tapering Process

Themes	Properties	In Vivo Exemplars
Unpleasant experience	Overcrowded, Understaffed, Long wait times, Additional medical care, Staff addiction knowledge	"They didn't really treat me at a personal level they just called me by my number, and I felt like just a digit like I didn't feel like I can connect there with anyone really" "The people here can be nicer I mean sometimes I just feel like they don't wanna be here or work here like sometimes you look at some of the nurses and you know they don't want to be here and that they are just doing their job because they have no other choice"
Positive experience	Positive staff experience, Supported, Shared decision making	"Everyone here has been really nice and caring, and I can have conversations so I guess that's like helped me and encouraged me to taper and made me feel like I can do it"

Table 9

Contemplating Tapering Group: Ways the Project Site can Provide Services or Support

Themes	Properties	In Vivo Exemplars
Create a positive experience	Improve wait times, Improve financial process, Add more clinics, Improve staff hiring criteria, More caring and understanding staff, Improve guest dosing, Improve take home policy	"When you get people in here that cares or understand that makes a difference in our lives. Putting doctors or nurses or even front desk staff that don't know anything like zero about addiction is not really impactful for us or the clinic do you know what I mean. I mean unless they have some kind of inner understanding of what addiction is then they won't be able to truly help us"
Poor staff experience	Be more kind and caring	"Sometimes I don't feel seen or heard here and that's a problem"
Liquid methadone	Taper slower by 1mg	

Table 10

Contemplating Tapering Group: Additional Support Outside of the Project Site

Themes	Properties	In Vivo Exemplars
Eliminate stigma	Lack of understanding, Lack of support	"When you tell someone what you're dealing with its like walking around with a missing arm. They look at me like I'm abnormal and they just don't get it and they just look at you differently and you know inside they are probably judging you"
Existing support	Family and peers	
Triggers	Viewed negatively by others	"I mean I don't want to be around those people that start blaming me or thinking of me badly or doesn't understand what this does for me I mean being around that kind of energy makes me feel worse to be honest"

Table 11

Actively Tapering Group: Reasons and Motivations for Tapering

Themes	Properties	In Vivo Exemplars
Avoid long term medication		
Family impact	Pregnancy	"Being pregnant, I do want methadone out of my system, and I do not want it in me whatsoever. And uh the second reason is that the kids I have now, I want to be there for them, and I want to be alert and fully there so that I am not groggy from my medication"
Freedom from restriction	Controlled feeling	
Financial relief		
Improved self-efficacy		"Methadone saved my life it really did but now I'm ready to be done and I'm ready to move on and live my life without it"

Table 12

Actively Tapering Group: Current Knowledge about Methadone Tapering and its Risks and Benefits

Themes	Properties	In Vivo Exemplars
Health benefit	Affects bones	
Avoid daily medication		
Slow taper	Beneficial and safe	
Unknown knowledge	Unknown benefits, Unknown risks	
Risk of relapse		
Risk of withdrawal		
Financial benefit	Discontinued payments	

Table 13

Actively Tapering Group: Ideal Taper and Goals

Themes	Properties	In Vivo Exemplars
Gradual decrease		
Free of methadone entirely		
Fast decrease		

Table 14

Actively Tapering Group: Overall Tapering Experience

Themes	Properties	In Vivo Exemplars
Overall positive experience	Positive staff experience, Shared decision making	"I feel like having the opportunity to speak with my counselors who are super supportive and caring here has helped me and having the doctors let me go down at my own pace at my own time and giving me the upper hand has been helping"
Unpleasant experience	Long wait times, Lack of organization, Lack of communication	"It's a lot for us to deal with because its hard to come here every morning and then on top of that when you gotta wait an hour and 45 minutes just to walk into a booth and get your dose which takes 30 seconds like it's so frustrating. Especially early in the morning and I come here all the time and I wait 2 hours that makes me leave upset and that triggers me, and I get mad and you know that's the main thing"
Financial concern	Cost of methadone, Ability to pay	

Table 15

Actively Tapering Group: How the Project Site and its Staff Affected the Tapering Process

Themes	Properties	In Vivo Exemplars
Shared decision making	Shared decision making exists, Lack of shared decision making	"I am part of making the decision, at the end of the days it's up to me" "I wanted to taper by a certain dose and they said no I can't and that made me frustrated because it's really up to me how much I wanna go down by"
Positive staff experience	Understanding and caring staff, Staff listens	
Unpleasant experience	Understaffed, Long wait times, Lack of organization, Limited time with providers, Uncaring staff	"There you just get thrown around and no one shows their care for you and that can really mess you up"

Table 16

Actively Tapering Group: Ways that the project site can Provide Services or Support

Themes	Properties	In Vivo Exemplars
Create a positive experience	Improve wait times, Increased organization, Add more clinics, Hire additional staff, Make methadone affordable	"They made it so difficult like for 6 months I tried to taper and I couldn't get in to see their physician. She let me go down 5 mg but would not let me go down more until I saw the doctor but I couldn't get in to see her cause she was just so busy and then I had to cut cold turkey and relapsed"
Liquid methadone	Decrease by 1mg	

Table 17

Actively Tapering Group: Additional Support Outside of the project site

Themes	Properties	In Vivo Exemplars
Eliminate stigma	Lack of understanding	“They just think I have this contagious disease and I get judged all the time every single day by people who haven't been through this process and also by people who have been through it"
		“If people were more open to the idea of addiction and like understood what methadone was and was able to talk to me openly about it and approach it in a comfortable way then yes of course that will definitely help me go through this process with a more positive outlook and feeling”
Existing support		
Triggers	Past with addiction	

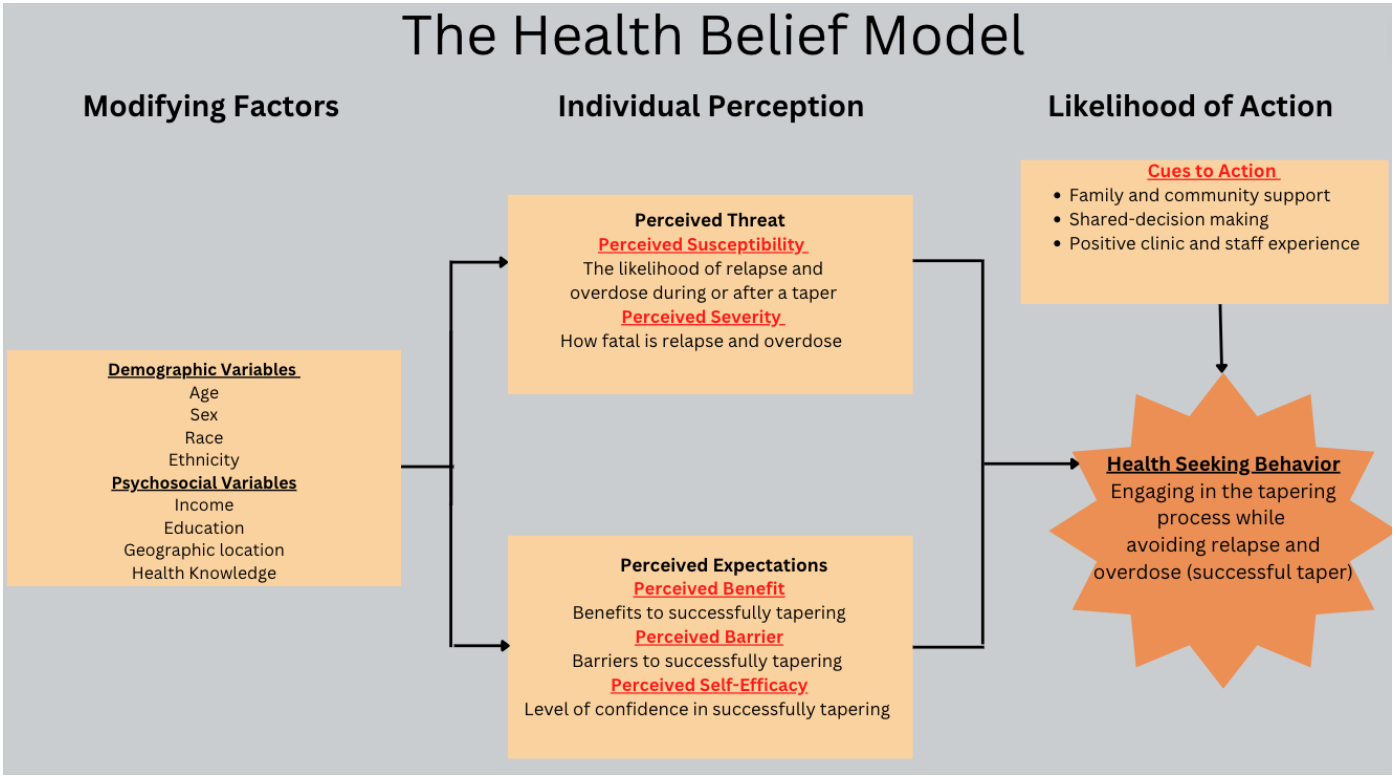
Table 18

Overall Themes

Themes
Avoid long-term medication
Family impact
Financial relief
Slow taper
Unknown knowledge
Risk of relapse
Free of methadone entirely
Fast decrease
Unpleasant experience
Positive experience
Create a positive experience
Liquid methadone
Eliminate stigma
Existing support
Triggers
Shared decision making

Figure 1

The Health Belief Model Application



Note. Adapted and modified from "The Health Belief Model: A Decade Later," by Janz, N. K., & Becker, M. H, 1984, *Health Education Quarterly, 11*(1), p. 1-47 (https://doi.org/10.1177/109019818401100101).

Appendix A

Actively Tapering Questionnaire

Thank you for agreeing to be a part of this study. We will begin the survey by asking some questions about yourself.

1. Are you currently taking methadone?
    a) Yes
    b) No

2. Which best describes your MAT plan?
    a) Currently tapering
    b) Not tapering but thinking about tapering
    c) I don't know
    d) Refused to answer

3. Please indicate your gender:
    a) Male
    b) Female
    c) Non-binary; please explain

4. What is your age in years?

5. What is your identified race?
    a) Asian
    b) Black or African American
    c) Caucasian
    d) American Indian or Alaskan native
    e) Other; please explain
    f)

6. What ethnic group describes you?
    a) Hispanic or Latino
    b) Non-Hispanic or Latino

7. What is your highest level of education?
    a) No schooling completed
    b) Some high school
    c) High school graduate, diploma, or the equivalent (i.e., GED)
    d) Some college credit
    e) College graduate
    f) Masters
    g) Doctorate

8. What is your current work commitment?
    a) Full time

b) Part-time
c) As needed
d) Retired
e) Unemployed due to other circumstances. Please describe.

9. Are you diagnosed with or experiencing any mental health disorders?

10. If yes, are you following your treatment plans and taking medications for these conditions as prescribed?
    a) Yes
    b) No
    c) Sometimes
    d) I don't know
    e) Refused to answer

11. Have you tried tapering in the past?
    a) Yes
    b) No

12. How many years you have been in treatment taking methadone?

13. How many years have you been using opioids (other than methadone) or illicit drugs?

14. When was the last time you used an opioid (other than methadone) or illicit drugs?

For each of the following statements below, state the response that best characterizes how you feel about the statement.

Likert Scale

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I feel confident that I can successfully complete the tapering process by not being readmitted to The site and not relapse after coming off methadone	○	○	○	○	○
I understand that tapering is a time of risk for relapse and potential fatal overdose	○	○	○	○	○
I believe that tapering will allow me to have better health outcomes versus staying on methadone long-term	○	○	○	○	○
I am motivated to continue tapering	○	○	○	○	○
I feel that I am at risk for relapse and overdose after I complete tapering	○	○	○	○	○
I feel that I have control and a choice in the pace of my taper	○	○	○	○	○
My provider listens to me and allows me to share my thoughts and inputs regarding the tapering plan	○	○	○	○	○
I feel that I can ask my providers for help if I feel bad during my taper	○	○	○	○	○
I have social support from my family, friends, or community while I taper	○	○	○	○	○
I believe I can cope with difficult situations without using opioids or illicit drugs	○	○	○	○	○
People I am close to and others around me use opioids or illicit drugs	○	○	○	○	○

The last few questions will be open-ended questions about your tapering experience. Please answer them to the best of your ability and stop me at any point if you have questions or need clarification.

Patient-Centered Tapering Experience Questions

1. What are your reasons and motivations for tapering?

2. What do you know about methadone tapering and what do you believe are the risks and benefits to tapering?

3. Can you please tell me what an ideal taper sounds like to you and what your goals are during this tapering process?

4. Can you please explain how your overall tapering experience has been?
    a. *Have you had any challenges during these experiences? Any successes?*
    b. *Are there any factors that contributed to that?*

5. How have the staff, providers, and programs at the project site helped or hindered your tapering process?

6. what ways can the project site provide additional services and support to help you in your tapering process?
    a. *How will it help you?*

7. What additional support outside of the project site (environment, social circle, work, community) do you think will help you in your tapering process?
    a. *How will it help you?*

That concludes our interview. Thank you very much for taking the time to speak with me about your experience with methadone and tapering. I appreciate your honest and truthful responses and hope you have a great rest of your day.

Contemplating Tapering Questionnaire

Thank you for agreeing to be a part of this study. We will begin the survey by asking some questions about yourself.

1. Are you currently taking methadone?
    a) Yes
    b) No

2. Which best describes your MAT plan?
    a) Currently tapering
    b) Not tapering but thinking about tapering
    c) I don't know
    d) Refused to answer

3. Please indicate your gender:
    a) Male
    b) Female
    c) Non-binary; please explain

4. What is your age in years?

5. What is your identified race?
    a) Asian
    b) Black or African American
    c) Caucasian
    d) American Indian or Alaskan native
    e) Other; please explain
6. What ethnic group describes you?
    a) Hispanic or Latino
    b) Non-Hispanic or Latino
7. What is your highest level of education?
    a) No schooling completed
    b) Some high school
    c) High school graduate, diploma, or the equivalent (i.e., GED)
    d) Some college credit
    e) College graduate
    f) Masters
    g) Doctorate

8. What is your current work commitment?
    a) Full time
    b) Part-time
    c) As needed
    d) Retired
    e) Unemployed due to other circumstances. Please describe.

9. Are you diagnosed with or experiencing any mental health disorders?

10. If yes, are you following your treatment plans and taking medications for these conditions as prescribed?
    a) Yes
    b) No
    c) Sometimes
    d) I don't know
    e) Refused to answer

11. Have you tried tapering in the past?
    a) Yes
    b) No

12. How many years you have been in treatment taking methadone?

13. How many years have you been using opioids (other than methadone) or illicit drugs?

14. When was the last time you used an opioid (other than methadone) or illicit drugs?

For each of the following statements below, state the response that best characterizes how you feel about the statement.

Likert Scale

	Strongly agree	Agree	Neither disagree nor agree	Disagree	Strongly Disagree
If I were to taper, I feel confident that I can successfully complete the tapering process by not being readmitted to The site and not relapse afte coming off methadone	○	○	○	○	○
I understand that tapering is a time of risk for relapse and potential fatal overdose	○	○	○	○	○
I believe that tapering will allow me to have better health outcomes versus staying on methadone long term	○	○	○	○	○
I am motivated to taper	○	○	○	○	○
I feel that I am at risk for relapse and overdose if I were to complete tapering	○	○	○	○	○
If I were to start tapering, I feel that I would have control and a choice in the pace of my taper	○	○	○	○	○
If I were to taper, I believe my provider will listen to me and allow me to share my thoughts and inputs regarding the tapering plan	○	○	○	○	○
If I were to start tapering, I feel that I can ask my site providers for help if I feel bad during my taper	○	○	○	○	○
If I were to taper, I would have social support from my family, friends, or community	○	○	○	○	○
I believe I can cope with difficult situations without using opioids or illicit drugs	○	○	○	○	○
People I am close to and others around me use opioids or illicit drugs	○	○	○	○	○

The last few questions will be open-ended questions about your tapering experience. Please answer them to the best of your ability and stop me at any point if you have questions or need clarification.

Patient-Centered Tapering Experience Questions

a) What are your reasons and motivations for wanting to taper?

b) What do you know about methadone tapering and what do you believe are the risks and benefits to tapering?

c) Can you please tell me what an ideal taper sounds like to you and what your goals are if you were to start tapering?

d) If you have tried tapering in the past, can you please explain how your overall experience was?
   a. *Have you had any challenges during your experience? Any successes?*
   b. *Are there any factors that contributed to that?*

e) How do you think the staff, providers, and programs at the project site will help or hinder your tapering process?

f) If you were to start tapering, what ways can the project site provide services and support to help you in your tapering process?
   a. *How will it help you?*

g) If you were to start tapering, what additional support outside of the project site (environment, social circle, work, community) do you think will help you in your tapering process?
   a. *How will it help you?*

That concludes our interview. Thank you very much for taking the time to speak with me about your experience with methadone and tapering. I appreciate your honest and truthful responses and hope you have a great rest of your day.

Appendix B


WANT TO BE A PART OF AN IMPORTANT STUDY?
BELMONT University
METHADONE
TAPERING EXPERIENCE SURVEY
Are you on Methadone therapy?
• Are you 18 years of age or older?
• Are you currently tapering off Methadone or thinking about tapering?
• Are you interested in being a part of an important research study?
If you answered YES to these questions, you may be eligible to participate in an interview about Methadone tapering.
The interview will take no longer than 30 minutes and will be located in a private room inside
site
Your participation is voluntary and confidential. If you choose to participate in the study, you will have the chance to win a pair of the newest 3rd generation Apple Airpods Pro.
About The Study
The purpose of this study is to understand the experiences of those who are tapering or thinking about tapering off Methadone.
Please notify your dosing nurse or provider if you are interested!
If you have any questions, please contact the Principle Investigator:
Marylu C. RN
Belmont University School of Nursing
marylu.chirayil@pop.belmont.edu
847-239-3667
The Belmont IRB number for the Study:
1305

Appendix C

BELMONT UNIVERSITY
RESEARCH PROJECT INFORMATION SHEET

FACTORS INFLUENCING THE TAPERING EXPERIENCE AMONG INDIVIDUALS ENROLLED IN MEDICATION-ASSISTED TREATMENT

Principal Investigator: **[Marylu Chirayil, RN, Belmont University]**

Co-investigator:
Faculty Advisor: **Kathryn Dambrino DNP, APRN, FNP-BC, Belmont University**

You are invited to participate in a research study about **the tapering experiences of those who are enrolled in medication-assisted treatments such as methadone. This study will involve individuals who are currently tapering off methadone or those who are thinking about tapering off methadone. The researcher is interested in understanding participants' feelings about their tapering process. The researcher is also interested in understanding the feelings of those who are desiring to taper. The researcher wants to better recognize these feelings so that the project site can support their patients during the tapering process so that the patients can successfully come off methadone without relapsing.**

If you agree to be part of this project, you will be asked to **be a part of a private one-on-one interview with the researcher in which you will be asked survey questions about your tapering experience. The researcher will ask you to be honest and open about your feelings with opioids, methadone, and tapering. There are multiple choice and open-ended interview questions on the survey. The researcher will read the questions out loud one by one. The interview will take place in a private room inside the project site, and you participation will take approximately 30 minutes. Before you start the interview, you will be asked to verbally consent to the study if you agree.**

The benefits of the research are **there are no benefits to you for agreeing to this study. However, your participation in this study may help us learn valuable information that is helpful to the providers and staff at the project site. By giving us valuable information, the providers, and staff at the project site will be able to better support you and the other patients with their current tapering plan and their decision to taper.**

You will receive **a chance to win a pair of the newest Apple AirPods Pro by giving the researcher a piece of paper with your phone number on it. At the end of the study, the researcher will randomly draw one participant and call them. Completion of the study is required to be eligible for the drawing. However, you may refuse to answer any questions that are uncomfortable to you. You will have completed the study by sitting in the private interview room with the researcher until the researcher has finished asking you all the questions.**

Risks and discomforts are **minimal, and you may stop the study at any point. You are not asked to take any tests, participate in physical activity, or take any products. Your personal information is not documented. No identifying information such as your name, medical ID number, address, or email will be asked. The interview will not be recorded and the answers to the survey questions are completely anonymous. The only risk is that you may feel uncomfortable with some of the questions. If you feel uncomfortable, you may choose not to answer the question and the researcher can help you get in contact with your provider or counselor. However, your honest response to the survey questions are valuable information to the researcher.**

COVID-19 Risk: All investigators and advisors of this study have committed to protecting the health and safety of all research participants; however, any human contact comes with a risk of exposure to COVID-19. The following information outlines the health and safety guidelines that will be utilized in this study. If you agree to participate, you are agreeing to the following health and safety procedures.

- **All participants are required to report positive COVID-19 test results to the clinic.**
- **Additionally, any participant who lives with or has had close contact with someone who has tested positive for COVID-19 AND is not up to date on their COVID-19 vaccinations is required to report their status to the clinic.**
- **Masks are required at the clinic**

***** **You may stop participating in this study at any time if you believe participation may expose you to COVID-19.** If you choose to end your participation, please contact the Principal Investigator listed at the top of this document or if you have other concerns related to COVID-19 exposure during the study, please contact Phil Johnston, PharmD, Vice Provost for Academic Affairs: (615) 460-6964 or phil.johnston@belmont.edu.

It is your choice whether or not to participate in this study. Even if you decide to participate now, you may change your mind and stop at any time.

We will protect the confidentiality of your research records by **never asking you to provide your full name or any form of identification. We will store all the answers to the survey questions in an encrypted folder on a password protected laptop that only the researcher has access to.**

Information collected may be shared with other researchers involved in this project. We will not share any information that could identify you with others outside of the research team. If results

of this study are published or presented, individual names and other personally identifiable information will not be used.

If you have questions about this research study, please contact **Marylu Chirayil at marylu.chirayil@pop.belmont.edu** If you have questions about your rights as a research participant or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact Phil Johnston, PharmD, Vice Provost for Academic Affairs: (615) 460-6964 or phil.johnston@belmont.edu.