

CLINICIANS' EXPERIENCES AND ATTITUDES TREATING  
CANNABIS USE DISORDERS IN COLORADO: A QUALITATIVE INQUIRY  
SINCE THE LEGALIZATION OF MARIJUANA IN COLORADO

by Michael Leiker

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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## ABSTRACT

The purpose of this phenomenological study has been to discover, describe, and understand the attitudes of Licensed Addictions Counselor's (LACs) in treating cannabis use disorders by accessing their lived clinical experiences, and discover what regulatory, personal, environmental, social, scientific, legal, or other clinical experiences influence the decision making of LACs who treat cannabis use disorders in Colorado. This study sought to discover the attitudes, interactions, feelings, and other unique factors that form the underlying assumptions, through reciprocal determinism, that inform clinical decision-making choices independently. These dynamics have been ignored in the literature and this study seeks to pursue it with practitioners directly to surface vital data that has not appeared in the literature concerning the treatment of cannabis use disorders. The research findings include information from practitioners concerning best practices in the treatment of Cannabis Use Disorder, but this is largely theoretical and not derived from accessing the attitudes and experiences of clinicians. The attitudes, clinical experiences, and practices of substance use disorder (SUD) treatment providers have been neglected, and yet legalization and approval of medical and recreational marijuana may be of critical impact upon their clinical practice.

*Keywords: cannabis use disorders, treatment of cannabis use disorders, clinician's attitudes and experiences toward treatment cannabis disorders, treatment of cannabis use.*

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## **CHAPTER ONE: INTRODUCTION**

### **Overview**

In this study, I provide information revealing some of the attitudes and practices for addictions counselors following the legalization of marijuana for medical and recreational use in Colorado. I present the time frames of the legalization followed by statistics on increases in violent crime, motor vehicle traffic fatalities, and specific mental health implications associated with marijuana use in Colorado. I also offer information on the societal costs and effects of legalized marijuana including the toll to the healthcare system, the relationship to trauma and legalization, as well as national trends of marijuana use. I will present the effects on youth since the legalization of marijuana as it relates to delinquency and marijuana use patterns of adolescents in Colorado, along with significant medical implications for marijuana including emergency room visits, and public health and environmental influences including risks of developing psychotic disorders, maternal use of marijuana during pregnancy, lung cancer, risk of heart attack and stroke, cyclical vomiting (i.e., cannabinoid hyperemesis syndrome), and the use of marijuana as a replacement for opioids. The implications of marijuana use present known risks in the literature, which I provided, as well as how marijuana and its intoxicating effects operate within the endocannabinoid system. I survey the neurobiology of marijuana addiction and withdrawal, followed by the risks and prevalence of cannabis use disorders (CUDs), and briefly explore the known efficacy of medical marijuana along with a summary of the adverse effects of marijuana. Finally, I review the treatment of marijuana addiction and best practices including biblical counseling and marijuana, along with the attitudes of medical and recreational marijuana among substance-use clinicians.

## **Background**

Literature focused on interventions following the legalization of marijuana in Colorado became void of the attitudes and practices of addictions counselors regarding the treatment of cannabis use disorders. The use of medical and recreational marijuana presents risks of adverse consequences. Based on cultural changes, the long-standing singular treatment goal of abstinence from all drugs, except nicotine and caffeine, challenged the legitimacy of marijuana use for medical conditions. Substance use disorder (SUD) clinicians demonstrated ambivalence towards the use of cannabis for those who accepted treatment goals that do not include abstinence. They found it very difficult to differentiate between the effects of medical and recreational marijuana use. By contrast, skeptical of using marijuana for medical purposes, some clinicians believed the medical use of marijuana justified recreational use. Van Boekel et al. (2013) found substance use clinicians' attitudes towards patients who test positive for marijuana resulted in poorer quality care. Understanding generally accepted best practices among clinicians in Colorado could improve by sampling and recording their therapeutic experiences, attitudes, and actions, particularly those with licensure. A major presupposition of this study was after the legalization Colorado potentially represented one of the most important laboratories for observing the phenomenon of marijuana use and its treatment implications. The current training and practice of addictions counseling in Colorado include a harm reduction model, which acknowledges both licit and illicit levels of drug use in our society. Using the approach, treatment providers sought to correlate treatment goals with reducing adverse consequences. Rather than solely measuring drug consumption, harm reduction treatment models support reducing the

problems associated with certain behaviors beyond mere abstinence-only interventions (Wodak, 1999). Engaging with the lived clinical attitudes and experiences of licensed addictions counselors in Colorado can assist in building consensus about effective treatment and best practices along with developing community-based strategies to prevent cannabis use disorders. One of the purposes of studying treatment implications for addictions counselors' post-legalization in Colorado acknowledges them as untapped sources of observation, and data synthesis. They can produce meaningful information concerning trends, themes, and patterns influencing addictions counseling.

### **Situation to Self**

The motivation for conducting this study connects to my desire for exploring and understanding the lived experiences of licensed addiction counselors engaged in treating cannabis use disorders in Colorado. This study aligns with my personal shared philosophical assumptions guided by constructivism, which form a methodological strategy for testing claims and gaining knowledge (Merriam, 2009). In recognizing the impossibility of conducting bias-free research, I selected the qualitative research design, which focuses more on interpreting phenomena and understanding the constructs surrounding the lived experiences of clinicians, rather than disproving or proving their experiences by measurement. As the researcher engaged in this study, I assume both the role of research instrument and reviewer in the study (Denzin & Lincoln, 2005). The desire to seek and obtain new knowledge contributing to the base of pastoral and community counseling research guided the study and facilitated implementing a generic qualitative research methodological approach and design.

### **Problem Statement**

The problem is the need to fill a gap in existing knowledge of the clinical experiences and attitudes of addictions counselors who play an important role as gatekeepers to keep clients safe. They also act as harm reduction agents. I sought to gather insights from clinicians' attitudes and experiences, to assist them in making informed decisions about the treatment of marijuana-related behavioral health problems. Ultimately, I intended to contribute to improved treatment outcomes through recursively reviewing and improving addictions counseling therapeutics.

### **Purpose Statement**

The purpose of this study was to sample the attitudes and lived experiences of addictions counselors who intervene with populations diagnosed with substance use disorders but remain neglected in the professional literature (Wildberger & Katz, 2019). A phenomenological study could help service providers discover, describe, and understand the attitudes of Colorado LACs in treating cannabis use disorders. Accessing their lived clinical experiences might enable them in discovering what regulatory, personal, environmental, social, scientific, legal, or other factors influence their decision making. Because social systems contain mechanisms of personal agencies, and clinicians develop actions to achieve efficacious treatments, I selected the reciprocal determinism theory as the guide for this study (Bandura, 2006). This theoretical framework supported discovering the attitudes, interactions, feelings, and other unique factors clinicians use to form their underlying assumptions and make clinical decisions independently.

### **Significance of the Study**

Throughout this study, I examine the personal and environmental factors that reciprocally influence thought and behavior. I was unable to locate literature containing information nor derived knowledge about the lived experiences of LACs treating cannabis use disorders in Colorado or the interpersonal interactions of practitioners. Once considered as vitally connected to their expectations, their clinical behavior ultimately reflected their beliefs, goals, and feelings (Bandura, 1986, 1989, 2001). When social interactions connect to personal characteristics, the relationship between them influences human beliefs, emotional reactions, expectations, and cognitive abilities. Based on one's social status, personal factors can prompt highly variable reactions. This activates emotional reactions through which modeling, education, and social persuasion operationalize (Bandura, 1986).

Informing the attitudes and experiences of LACs who treat cannabis use disorders following the legalization of marijuana for both recreational and medical use, including considering the personal, environmental, and sociopolitical influences for them. The theory of reciprocal determinism could assist in accessing the attitudes and experiences resulting in treatment planning and the formulation of diagnoses for LACs. Providing this knowledge potentially supports identifying key treatment themes, and new explanations of the various dynamic interactions that combine when determining the behavior of LACs who treat CUDs (Bandura (1986, 1989).

### **Research Questions**

The overarching research questions were:



RQ1. What are the personal attitudes of Licensed Addiction Counselors (LACs) in Colorado concerning the treatment of Cannabis Use Disorders (CUDs)?

RQ2. What regulatory, personal, environmental, social, scientific, legal, or clinical experiences influence the decision-making of LACs who treat cannabis use disorders in Colorado?

### **Probing the Personal Attitudes of LACs**

The intent of posing the first question was to collect data from LACs that probed their current personal attitudes in treating CUDs in Colorado. Accomplishing this required accessing each participants' clinical context questions establishing *how* the participant's attitudes developed within their experiences (Merriam, 2009). Broadly understanding the factors determinative for participants in making informed decisions about treating CUD required supporting the development of the first question by accessing the perceived experiences of participating LACs. Designing the second question would contribute to answering to *what* extent, through exploring and analyzing whether LACs behaviors, training, interpersonal clinical experiences, and especially external factors influence their treatment of CUDs in Colorado (Creswell, 2009).

### ***Perceptions of Experience***

Both research questions promoted accessing the perceived experiences and attitudes of participating LACs to broadly understand the determinative factors for participants in making informed decisions about treating CUD. A phenomenological perception of clinician's cannabis treatment perspectives exists regardless of others' views. I examined the methods used by clinicians to reveal how they make sense of their clinical experiences, shape their worldview, and influence their behavior and counseling

methods (Al-Busaidi, 2008). Both research questions probe the lived experience of LACs in Colorado through reciprocal determinism and mechanisms of personal agencies that exist within social learning systems by individuals who develop actions to achieve desired ends (Bandura, 2006). Interactions with counselees provided an understanding of how they describe clinical experiences, as these critical linkages are not predictable nor spontaneous. In asking both research questions, I sought to gain a new understanding and identification of causal factors that prompt and influence a clinician's actions and, in turn, activate reciprocal responses. The underlying assumptions of reciprocal determinism organized clinicians' decision-making processes as they choose intervention modalities differentially and quite independently (Bandura, 2006).

### **Summary**

The attitudes and practices of addictions counselors regarding the treatment of cannabis use disorders remain neglected in the therapeutic literature documented following the legalization of marijuana in Colorado. Researchers overlooked revealing the attitudes, practices, or lived experiences of LACs as they encounter and treat CUD. Accessing the lived clinical attitudes and experiences of licensed addictions counselors in Colorado can help build consensus about effective treatment and best practices while developing community-based strategies for the prevention of CUD. Colorado's licensed addictions professionals represent an untapped source for observing the effects of marijuana and synthesizing meaningful data concerning trends, themes, and patterns influencing addictions counseling.

## **CHAPTER TWO: LITERATURE REVIEW**

### **Overview**

In reviewing the literature, I explored the current treatment environment for addictions counselors following the legalization of marijuana. To discover misconceptions, bias, and gaps in the treatment of cannabis use disorders as the adverse effects become clearer, I considered prior studies regarding mental health factors, medical effects, social outcomes, and adverse consequences. There is a need for treatment goals developed by clinicians that move away from abstinence-only to a less naïve reality, accepting marijuana use as inevitable and increasingly lawful. Minimal literature exists that reveals the attitudes and practices of addictions counselors drawn from their clinical experiences in the area of cannabis use disorders. My review unveils consequences not previously predicted or known since the legalization of marijuana in Colorado. I considered the risks, consequences, prevalence, current treatments, and clinicians' attitudes toward treating CUDs to underscore the critical need for addictions counselors' ongoing awareness of the findings from science concerning the development of CUDs. In furtherance of knowledge of the treatment of cannabis use disorders since legalization, I also explored the implications for prevention and community-based treatments informed by research and clinical experience coupled with attitudes of licensed addictions counselors.

### **Theoretical Framework**

I used a qualitative, phenomenological research design to identify new information for the community of licensed addictions counselors in Colorado since the legalization of marijuana for medical and non-medical purposes. In conducting this study,

I focused on the personal attitudes and lived clinical and personal experiences of those clinicians selected as study participants. The research questions served as the foundation for the inquiry, and a qualitative approach guided the methodology for collecting and analyzing data (Merriam, 2009). The participants shared a common interest in treating cannabis use disorders or similar experiences relevant to the research topic.

A phenomenological perception of clinician's cannabis treatment perspectives exists regardless of other providers' views. Using a phenomenological approach, I examined the clinical methods used reflective of their experiences and how they influenced their behavior and counseling techniques (Al-Busaidi, 2008).

### **Reciprocal Determinism**

The main theory framing this study was reciprocal determinism. The concept supports unearthing the mechanisms of personal agencies that exist within social systems, which reciprocally help individuals develop actions to achieve desired ends (Bandura, 2006). Interactions with counselees do not occur spontaneously or linearly and predictably. Causal factors prompt and guide a clinician's actions, and these, in turn, activate reciprocal responses. The underlying assumptions of reciprocal determinism organize clinicians' decision-making processes as they choose intervention modalities independently. Clinicians work within a "dynamic self" in which unique factors and influences all contribute to the attitudes, feelings, and interactions with clients (Bandura, 1986, 1989, 2001, 2006).

## **Related Literature**

### **Marijuana Legalization Time Frames in Colorado**

During the years 2000 to 2008, Colorado passed Amendment 20 to the Colorado State Constitution, permitting a qualified medical patient and/or caregiver to possess up to two ounces of marijuana and grow up to six marijuana plants for medical purposes. Characterizing this time frame was 1,000-4,800 medical marijuana cardholders and no dispensaries operating in Colorado (RMHIDTA, 2019).

From 2009 to the present marks the legalization through the medical marijuana commercial industry. In 2012 there were 100,000 medical marijuana cardholders and 500 licensed dispensaries operating in Colorado, as well as licensed edible manufacturers and plant cultivation operations. The legalization of marijuana for recreational purposes for those who are over 21 permitted the creation of marijuana retail stores, cultivation operations, edibles, and the marijuana retail business, which began operations on January 1, 2014 (RMHIDTA, 2019).

### ***Traffic Fatalities, Impaired Driving***

Licensed Addiction Counselors (LACs) in Colorado operate licensed facilities to intervene with people arrested for criminal offenses including driving under the influence of drugs (DUID). Addiction counselors provide treatment for marijuana-related offenders, which includes mandated psychoeducation. In Colorado, addiction counselors make informed decisions about treatment issues and highlight the increase of traffic fatalities and impaired driving as causal factors. Following the legalization of recreational marijuana use, traffic deaths in which drivers tested positive for marijuana increased 109% while all Colorado traffic deaths increased 31%. Also, traffic deaths involving

drivers who tested positive for marijuana more than doubled from 55 in 2013 to 115 people killed in 2018. This equates to one person killed every three days in 2018 compared to one person killed every six and a half days in 2013 (National Highway Traffic Safety Administration, 2019). This is the overarching theme related to marijuana treatment implications because of the strong correlation with dramatic increases in mortality (death rates) since legalization. In other words, this trend connects to lethality (National Highway Traffic Safety Administration, 2019).

In 2018, a total of 632 traffic deaths occurred, of which:

- 396 were drivers
- 124 were passengers
- 89 were pedestrians
- 22 were bicyclists
- One was a personal conveyance (Colorado Department of Transportation, 2019).

Some of the most significant current developments related to addictions and implications for treatment relate to mortality and risks of death or serious injury. In 2018, of the 109 drivers in fatal wrecks who tested positive for marijuana use, 83 tested positive for Delta 9 tetrahydrocannabinol, or THC, the psychoactive ingredient in marijuana, in their blood. This indicates they used marijuana within hours of the accident, according to state data. Of those, 43% tested over 5 nanograms per milliliter, the state permissible inference level for driving (RMHIDTA, 2019).

#### **Colorado Toxicology Results of Marijuana-Related Fatal Crashes (Operators)**

Co-morbidity (i.e., drug combinations) for operators who were reportedly involved in a fatal crash in 2018, and who tested positive for Marijuana (i.e., THC), a) 13% marijuana only, b) 30% marijuana and alcohol, c) 30% marijuana and other drugs (no alcohol involved) and d) 13% marijuana, other drugs, and alcohol (National Highway Traffic Safety Administration, 2019). The court orders probationers in Colorado to undergo drug testing. However, they can use marijuana while on probation if they have a medical marijuana card. About 20-30% of probationers ages 14 -25 years old tested positive three or more times in Colorado, and approximately 18% of probationers over 26 years old tested positive three or more times (Colorado State Judicial Branch, 2018).

Addiction counselors receive training on the use of presumptive screening testing protocols, including portable breath tests for alcohol. Arresting a driver in Colorado for alcohol-related (i.e., above .08% alcohol content) impaired driving, does not include testing or screening for additional drugs because they do not receive additional punishment if the arrestee's test comes back positive for other substances (RMHIDTA, 2019). There is a potential gap in current treatment protocols because probation departments and licensed addictions counselors lack a presumptive test for use in licensed treatment facilities for the detection of whether a counselee is under the influence of marijuana (RMHIDTA, 2019).

In 2018, violent crime increased 8% in Colorado. Another implication for addiction counselors was the risk of encountering a forensic population of probationers, parolees, and those who are involved with violent crime allegations that may involve the ingestion of marijuana who presents with treatment needs. Since legalization in 2018, the per-capita violent crime rates in Colorado rose by 7.95% with falling under the category

of aggravated assault. (Hindi, 2019). Since licensed addiction counselors (LACs) in Colorado provide services within the criminal justice system, LACs can potentially expect to encounter more arrested clients in Denver (the largest treatment population). Of the nation's largest cities, Denver reported the largest rise in violent crime (Schmelzer, 2019).

### ***Social Costs of Legalized Marijuana***

Addiction counselors should be familiar with the effects on the society borne by Coloradoans because of marijuana-related phenomena. Addiction counselors in Colorado involved in harm reduction, integrate the current data about overall community outcomes into their treatment planning when addressing ongoing risks to clients. A major theme of cannabis use disorder are the associated treatment costs. For example, for every dollar gained in tax revenue, Coloradoans spent about \$4.50 to mitigate the adverse effects of legalization. Licensed addictions counselors in Colorado deliver the majority of court-ordered treatment services related to DUIs (Driving Under the Influence), and in 2016 the costs of DUI for Coloradoans who tested positive for marijuana totaled nearly 25 million dollars. However, the largest cost contributor for marijuana-related healthcare results from high school dropouts (Centennial Institute, 2018).

### **Legalization of Recreational Marijuana and Physical Trauma.**

Researchers detected and reported on physical trauma incidence differences since the legalization of marijuana in patients admitted to major trauma centers in Colorado between 2012 and 2015. The implication for addictions counselors was the expectation of encountering clients at higher risk of physical injury due to increased marijuana following the commercialization of recreational marijuana (Chung et al., 2019). I sought



to determine how clinicians experienced this in their lives and how the dynamic affected the practice of addictions therapeutics.

### **Juvenile Delinquency in Colorado Schools for Drug and Marijuana Violations.**

Colorado police officers who serve as school resource officers (SROs) reported during the academic school years 2016-2018, 69% of disciplinary incidents in the public schools related to marijuana violations (vs. 24% other drug violations), 71% of expulsions, and 77% of law enforcement referrals also related to marijuana violations in schools (Colorado Department of Education, 2018). This directly correlated with the increasing use of marijuana among adolescents alongside the attitudes in favor of marijuana legalization. This disturbing pattern was yet another common forensic psychology theme I sought to clarify and another relevant theme to develop through the common field experiences of clinicians. Licensed or certified school counselors and mental health professionals represent additional integral parts of the allied professional mental health practice in Colorado public schools. Licensed addiction counselors receive training and monitoring by the Division of Regulator Agencies (DORA), and more specifically, the Colorado Department of Human Services (CODHS), Office of Behavioral Health (OBH).

### ***Brief Summary of Mental Health Indications and Marijuana Use in Colorado.***

Discovering the experiences of addictions counselors as they related to mental health disorders involving marijuana required reaching out to field practitioners. Another major theme in the literature, documented implications for the treatment of several behavioral health disorders related to marijuana use. Some of the most relevant findings concerned adverse mental health effects issued in 2019 by the Colorado Department of

Public Health and Environment (2019), and the National Institute on Drug Abuse (NIDA), correlated with other national research findings.

***Colorado Marijuana-Related Mental Health Treatment Indices & NIDA***

The following relates information regarding the current status of pertinent marijuana-related issues:

- Adolescents and young adults who quit marijuana use have a lower risk of developing cognitive impairment or mental health disorders than those who continue to use.
- Daily or near-daily marijuana use by adolescents and young adults is associated with developing a psychotic disorder such as schizophrenia in adulthood.
- Marijuana use by adolescents and young adults is strongly associated with developing psychotic symptoms in adulthood, such as hallucinations, paranoia, and delusional beliefs.
- Weekly or more frequent marijuana use by adolescents and young adults is associated with impaired learning, memory, math, and reading achievement, even 28 days after last use (Colorado Dept. of Public Health and Environment, 2019).

Several patterns in the research literature correlate with behavioral problems and marijuana use in Colorado. The correlation provides critical insight into the most at-risk populations and clues to marijuana use disorder prevention. For example, the earlier adolescents and young adults quit, the lower the risk of developing cognitive impairment. Other common patterns involve: (a) the risks of developing a psychotic disorder from daily or near-daily marijuana use, (b) weekly or frequent use associates with impaired

learning achievement, (c) marijuana significantly impairs judgment and motor coordination and the risk of a motor vehicle crash and physical trauma increases after use, and (d) users exposed to marijuana during development risk long-term or possibly permanent adverse changes in the brain.

## **Impacts on Youth**

### ***Juvenile Delinquency in Colorado Schools – Drug and Marijuana Violations***

Juveniles are the most at-risk population in Colorado for marijuana-related problems. Researchers associated juvenile delinquency with marijuana use in the literature. In Colorado, police officers who serve as School Resource Officers (SROs) reported during academic school years 2016-2018, 69% of disciplinary incidents in the public schools related to marijuana violations (vs. 24% other drug violations), 71% of expulsions involved marijuana incidents, and 77% of law enforcement referrals involved marijuana violations in schools (Colorado Dept. of Education, 2018). These factors correlated with the increasing use of marijuana among adolescents in addition to attitudes in favor of marijuana legalization.

### ***After Only One or Two Instances of Marijuana (Youth)***

In 2019, researchers suggested observable structural brain and cognitive correlation with just one or two instances of adolescent marijuana use (Orr et al., 2018). Similarly, one month of abstinence from marijuana improved memory in adolescents (Schuster, 2018). These findings included implications for treatment planning, building resiliency, relapse prevention, and sustained recovery.

### ***High School and College Marijuana Treatment Implications***

Addiction counselors expect to encounter high schoolers who increasingly use marijuana edibles, while students who smoke marijuana decrease. For example, in 2017

students who usually consumed marijuana edibles increased 10% (up from 2% in 2015), and students dabbling in marijuana increased from about 4% in 2015 to 7.5% in 2017 (Tormohlen et al., 2017). The University of Michigan reported their findings revealing 43% of college students indicated they used marijuana at least once in the past year (the highest amount since 1983) while 6% of college students surveyed reported using marijuana 20 or more times in the past month (Stobbe, 2019).

### ***Brief Review of the Medical Implications of Marijuana Use***

In my preliminary literature review for this study, I also uncovered dramatic implications for treatment from emergency medicine intakes and marijuana use. In 2019, the Colorado Department of Health summarized emergency department discharge datasets involving marijuana use. Along with other relevant and useful data from emergency, room discharges inform the practice of addictions counselors as they encounter trends and differentially make diagnoses (ICD-10 criteria) of marijuana-related use disorders.

### **Colorado Dept. of Health ER Discharge Summary**

#### ***Colorado Marijuana-Related Mental Health Treatment Indices & NIDA***

- Adolescents and young adults who quit marijuana use have a lower risk of developing cognitive impairment or mental health disorders than those who continue to use.
- Daily or near-daily marijuana use by adolescents and young adults is associated

### ***Emergency Room Visits***

According to recent research supported by Colorado Department of Public Health and Environment grant funds, and published in the *Annals of Internal Medicine*,

emergency room visits more commonly accounted for instances of inhaled marijuana use as opposed to edible marijuana ingestion. However, when emergency department patients self-report recent ingestion of edible marijuana products, they disclosed severe psychiatric symptoms along with more emergency room visits than expected (Monte et al. 2019).

The Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS) issued its findings based on administrative data reported by states to TEDS through April 1, 2019, and the results highly correlated with the previous findings discussed maternal use of marijuana during pregnancy was associated with negative effects on exposed offspring, including decreased cognitive function and attention. However, the adverse effects may not appear until the child entered their adolescent years. The researchers also found evidence indicating THC passed from the mother's breast milk potentially affected the baby.

The most significant source of standards and training for licensed addictions counselors in Colorado is the Substance Abuse and Mental Health Services Administration (SAMHSA). SAMSHA recently updated their findings concerning risks of using marijuana, and this update also highly associated and concurred with the other major findings (SAMHSA, 2019).

### **The Paradox of Replacing Opioids with Marijuana**

An opinion piece exploring the efficacy of using marijuana in the treatment of chronic pain and opioid use disorder concluded no convincing evidence of the efficacy of cannabis in patients, and the irresponsibility of encouraging patients to stop taking

medications such as methadone, and buprenorphine in favor of an unproven cannabis treatment (Humphreys & Saitz, 2019). Proponents of medical marijuana suggested the potential of reducing opioid deaths after its legalization (dataset 1999-2010). However, a new study published in 2019 extended the time frame through 2017 for associating medical marijuana laws and opioid deaths, due to the 23% increase in overdose deaths from 1999 to 2017 prior to the introduction of medical marijuana (Shover et al., 2019).

In September of 2019, Randall, an emergency room physician who specializes in cannabis science and medicine, stated:

The legalization of marijuana has damaged, rather than helped, my home state. I think the public needs to know that we are not okay... The grand experiment is not going so well. I don't think the public is hearing about this as it should be. The state government has not only ignored scientific findings of marijuana's effects to push sales but failed in the regulatory responsibility it promised would accompany legalization (Lehman, 2019).

In support of these statements, the Pueblo, Colorado-based emergency room physician noted the increasingly high potency of marijuana products would lead to a marked increase in medical problems, misguided impressions of marijuana benefits, increasing numbers of homelessness, and a growing population of chronic, marijuana dependent users (Lehman, 2019).

## **Behavioral Health and Marijuana**

### ***Endocannabinoid System***

Addiction counselors need to be aware that, generally, there is a great diversity of the role of cannabinoid type 1 (CB1) receptors and physical or mental functions. These

receptors appeared highly concentrated in the hippocampus, basal ganglia, cerebellum, spinal cord, and peripheral nerves, whereas they found CB2 receptors primarily within cells in the immune system. The location of CB2 receptors may explain, in part, the effects of cannabinoids on pain and inflammation (Hill, 2015).

Endocannabinoid systems are critically involved in brain maturation and development, especially during adolescence and early adulthood. The concern of adolescent marijuana use focused on the adverse effect on neurogenesis, axon elongation, neural differentiation and migration, glia formation, and synaptic pruning in the developing brain (Maccarrone et al., 2014). Stimulating the CB1 receptors by THC, inhibited neurotransmitter release and the endocannabinoid system, which regulates the release of neurotransmitters. A critical system in the regulation of memory and other functions including appetite, memory, mood, pain, sleep, and inflammation, TCH causes much longer-lasting non-physiological activation of cannabinoid receptors.

### **Cognition, Motivation, Intoxication, and Addiction**

The effects of 9-tetrahydrocannabinol (TCH) critically impact developmental processes and disrupts the ability to test reality, control impulses, reason, set priorities, relate to others, and attain goals. Addiction counselors anticipate encountering mixed messages about using marijuana as an antidepressant or mood stabilizer, instead, encourage clients to smoke in moderation. However, the limited use of an addictive substance to treat mental disorders engages an intervention without the proper knowledge and evidence-based tools. For example, some existing evidence highlights moderate use of marijuana does not greatly reduce dependence risk (Swift et al., 2009).

## **Marijuana's Intoxicating Effects**

Marijuana's reinforcing effects involve the same mesolimbic dopamine system that supports the reinforcing properties of other substances of abuse (Bolkow et al., 2014). There is no scientific support that marijuana is different from other illicit drugs. Researchers have not documented whether marijuana neural systems overlap with those of other drugs of abuse.

### ***Brakes Off/Gas Pedal Floorboarded***

Both CB1 activation and opioid receptor activation “cut the brake cable” of dopamine release, and this results in the same rapid burst firing of dopamine commonly known to all drugs of abuse (Cooper & Haney, 2008). An association exists between acute marijuana intoxication and subjective quickening of euphoria, higher doses for relaxation, decreased motor activity, and significant calming, intense influx of sensory information from ordinary stimuli, focus on internal sensations of the body, along with reality testing (hallucinations, illusions, etc.). It also correlates with impairment of the executive function (inhibitory) resulting in and hinders shifts in focus, fantasies of power, and the belief in transcendent insight (Iversen, 2008).

## **Marijuana and Addiction**

Marijuana addiction vitally connects to motivation, scientifically. The question of marijuana addiction is a well-settled scientific consensus. The mechanisms of action and addictive phenomena are the same as other addictive disorders (Volkow et al., 2014).

### **Neurobiology of Addiction**

The known neuropsychological domains for marijuana are, a) reward salience (nucleus accumbens, ventral pallidum, and medial orbitofrontal cortex, b) motivation (outputs



from the accumbens to the motor cortex, cingulate gyrus, dorsal striatum, and orbitofrontal cortex, c) implicit and contextual memory (amygdala and hippocampus and d) control (self-control) (involving the anterior cingulate and prefrontal cortex) (Volkow, 2010). The initial intoxication and bursting dopamine release stamps in the experience as pleasurable in the amygdala, and these associations fade very slowly and the bursting euphoria (gas pedal floorboarded) activates the firing in the nucleus accumbens shell, coloring marijuana experiences very positively and with enhanced value. Following encounters with marijuana led to a tendency to approach the drug while experiencing a craving and this process begins before any inhibitory circuits having the chance of activating (takes control before any reflective or discerning appraisals are possible). The resulting negative emotional state may prime a stress-induced relapse because the prefrontal cortex does not function well under stress. Referred to as a euphoric state, recall leads to chasing the high. Desensitized due to excessive activation of the mesolimbic dopamine system, the dopamine receptors increasingly reject attempts to replicate the original experience with marijuana (Volkow et al., 2010). Each use raises reward thresholds and decreases natural reinforcers of motivation. For example, social praise, self-efficacy through delayed reinforcement (good grades, rewards from vocation) insufficiently compares with immediate gratification from marijuana. This is particularly evident in the moment of craving. Concurrent with negative emotional states (hungry, angry, lonely, tired, stress, and bored) decreases occur in the tonic firing of dopamine and the desire to fill the voids. This phasic and unnaturally large bursting of dopamine circuits leads to additional episodic burst firing of dopamine, which further destabilizes the reward circuitry of the brain, and the steady tonic firing of the “contented” brain

becomes more elusive (homeostatic processes are more difficult to achieve and maintain) (Volkow et al., 2014).

### ***Potency, Purity, Dosage, and Overdose in Colorado Marijuana Use Pharmacokinetics***

Interviews with LACs may reveal very practical concerns related to the monitoring of client marijuana use in the clinical setting. The pharmacokinetics of marijuana vary widely depending upon the route of administration. For example, most of the marijuana dissipates in the smoke, and the estimated bioavailability of smoked THC researchers estimated at 10% - 25% (Borgelt et al., 2013). The typical euphoric effects peak in about 30 minutes after ingestion and reach the lower levels in about 3 hours after consumption. Compared to smoked marijuana, orally ingested THC's bioavailability is less because of gastric degradation, and overall, highly variable bioavailability covaries from one person to another. Therefore, clinicians expect inconsistency in the titration of edible marijuana products (Borgelt et al., 2013). Ohlsson et al. (1980) summarized the basic pharmacokinetics of smoked and orally ingested marijuana (Table 1).

**Table 1**

*Pharmacokinetic effects of smoked vs. orally ingested marijuana*

Route	Dose	Percentage of dose in blood plasma	The onset of euphoric effect	Peak blood plasma levels
Smoked	13 mg	8% - 24%	10 minutes	3 minutes
Oral – Baked in Cookies	20 mg	4% - 12%	120-180 minutes	60-120 minutes

The dose-related neurocognitive effects of marijuana interest clinicians because marijuana remains the most prevalent illicit drug used in Colorado, the United States, as well as the western hemisphere. Clients should know the persistent effects on the brain.

In 2001, the first published reports noted the effects of THCs on cognitive function after a period of abstinence exceeded 12-72 hours (Bolla et al., 2002).

A lack of scientific data persisted concerning any neurocognitive effects of TCH. Researchers administered a battery of tests to 28-day abstinent heavy marijuana users to determine whether neurocognitive deficits persist and the decrements related to dosages (Bolla et al., 2002). They hypothesized cognitive deficits, based on previous studies, reversed after seven days of abstinence, and correlated with recent cannabis but not cumulative. They also discovered their ability to observe any lasting decrements in the heaviest users of marijuana (Bolla et al., 2002). To evaluate the treatment implications of those who presented with CUDs, very heavy marijuana users experience persistent, “...negative dose-related effects...on tests measuring verbal and visual memory, executive functioning, visual perception, psychomotor speed, and manual dexterity” (Bolla et al., 2002). Interestingly, the results were nonlinear for some tests with a dose-related association between joints per week and cognitive decline duration not strongly related to performance (Bolla et al., 2002). The most negatively impacted neurocognitive functions related to memory executive function, and manual dexterity, in which the hippocampus, prefrontal cortex, and cerebellum generally function.

### **Potency and Dosage**

Colorado officials assessed the physical and pharmacokinetic relationships in marijuana production and consumption. The original legislation for legalizing and regulating marijuana did not specifically restrict marijuana concentrates and infused edibles. Of great concern to clinicians, should be the treatment implications for clients who present with CUD and changes in the law that now include monitoring, potency,

purity, and the equivalencies of not only the flower portions of cannabis but their equivalent (Orens et al., 2015). The volume of cannabis any user can buy or possess at once (per day) for cannabis flowers is one ounce (28 grams). Medical users can possess two ounces. Dispensaries must limit the amount of concentrated cannabis to eight grams total, and 800 mg of THC in any edible product. The legal limit for driving in Colorado is more than five nanograms of THC (blood plasma) while driving (Orens et al., 2018).

Available scientific data fills a previous gap in knowledge directly affecting treatment. They measure the comparisons between the marijuana flower, concentrates, and infused products for physical equivalency in Colorado's marijuana market yielding a physical THC equivalency, and a physical production equivalency (Orens et al., 2015). Butane hash oil (i.e., BHO wax/shatter); carbon dioxide (CO<sub>2</sub>) oil; ethanol; butter/lipid (cooking oils), and water are the major product manufacturing techniques for concentrate and infused product manufacturing. The physical equivalencies reveal that "...between 347 and 413 edibles of 10mg strength can be produced from an ounce of marijuana" (Orens et al., 2015, p. 6) depending on the production method and solvent type. In other words, for concentrates the equivalent range of 3.10 and 5.50 grams of concentrate compares to an ounce of flower marijuana (Orens et al., 2015) because the purpose of current Colorado equivalency legislation limits purchase transactions or possession of THC products to a "reasonable dose" of concentrate and other marijuana products, and knowledge of the pharmacokinetic effects (i.e., the psychoactive experience or the high) yielded between product types, Orens et al. (2015) felt unable to overstate the importance of pharmacokinetic equivalencies (see Table 2)

**Table 2***Pharmacokinetic Dosage Equivalency*

	<b>Average THC Potency</b>	<b>Effective Uptake Ratio</b>	<b>1 Gram Equivalent</b>	<b>1 Ounce Equivalent</b>
Buds/Flower	17.1%	1.00	1 Gram	1 Ounce
Edibles	N/A	5.71	3 Servings	83 Servings
Concentrates	62.1%	1.00	0.28 Grams	7.72 Grams

**Purity & Dosage**

Independent private testing laboratories regulate the purity of medical and retail marijuana in Colorado. Colorado’s licensed testing facilities test recreated products for potency, contaminants, and homogeneity (Brohl et al., 2015). However, clinicians should be aware no federal guidelines exist for the testing of medical marijuana for either potency or contaminants. Because marijuana products derive from plant material, they are susceptible to contamination from bacteria, molds, fungi, pesticides, heavy metals, and amateur production techniques that introduce highly toxic substances such as Vitamin E Acetate. The Centers for Disease Control (CDC) suspected vitamin E acetate (an oil derived from the vitamin) was an additive found in 23 THC vaping patients who fell ill or died in 2019 (Krishnasamy et al., 2020). For those seeking treatment for CUD because of the inherent risks of mortality, or serious bodily injury, understanding the lived treatment experiences and attitudes of clinicians becomes important information. In 2014, estimates for marijuana supplies and modalities consumed by residents and visitors totaled approximately 130 metric tons between, or about 54.8 tons per day of dry weigh marijuana. After accounting for licensed marijuana production supply, about 53.3 tons of marijuana distribution occurred, “...outside of the regulated framework, and more when

demand from minors is considered...” (Orens et al., 2018, p. 26). The most recent estimates of Colorado marijuana reflect 51% of people use it daily, and 16.5% use it 2-3 times per week. Heavy users, who may constitute a higher proportion of clients presenting with CUD, consume between 1.30 - 1.90 grams per day (Orens et al., 2018). The known increase risks arise from a lack of purity, variability of untested marijuana supplied outside regulated frameworks, and the high average dosage of heavy users in Colorado. Clinicians can now access data and applied it to the formulation of treatment plans inclusive of strong harm-reduction interventions, including monitoring and testing of the products clients consume.

### ***Overdose, Injury, and Death from Ingestion of Marijuana***

The use of marijuana concentrates continues to escalate. In colloquial terms, distinguishing the butane extracts (BHO) or “dabbing” from flower cannabis ingestion, clarifies how the THC derived from this route of administration includes significant impurities including unpurged butane. This draws attention to the importance of detecting the heightened risk and carefully appraising clients seeking treatment for CUD. Beyond the use of butane as a solvent in amateur chemistry production methods, “blasting” vapors can pool, becoming highly flammable within enclosed spaces and ignite when exposed to a spark source.

The research into the illicit BHO amateur production represents a clear gap in information the public can rely upon, because the proportion of data reaching the public relate to BHO contains broad inconsistencies about the risks, and instead talk about dabbing as part of a broader, general discussion ignoring the risks. The implications for treating CUD include clinicians' expectation of increased at-home BHO production,

despite its consequences, a lack of detailed literature for clinicians to create a response, and profound deficits of risk awareness. The extant literature reflects a lack of knowledge concerning dabbing and blasting. Research questions directly related to clinician attitudes and lived experiences treating CUD need to address BHO “...characteristics, availability, distribution, rates of amateur production, acute and chronic harms, and the effect of legal sanctions on production and use” (Al-Zouabi et al., 2018, p. 99). Clinicians should expect to educate clients that BHO production potentially results in catastrophic events. In Colorado, a cross-sectional study using data from the American Burn Association’s National Burn Repository identified the prevalence of hydrocarbon burns via the University of Colorado Hospital Burn Center and found direct correlations between the legalization of marijuana in Colorado and an unprecedented increase in hydrocarbon “flash burns” from BHO production (Al-Zouabi et al., 2018).

While the limit on a single-serving recreational edible THC dose is 10 mg, multiple-dose recreational edibles packages contain 100mg of THC (the packaged limit made available in 2014). The treatment implications for CUDs included marijuana-attributed morbidity and mortality, along with the use of mortality surveillance for guiding preventive efforts in overconsumption in light of Colorado’s first THC-related death from edibles (Hancock-Allen et al., 2014). A 19-year-old male who ingested a single cookie jumped off a fourth-floor balcony and died from trauma. A quantitative toxicology analysis confirmed findings of the presence of cannabinoids – 7.2 ng/mL delta-9 tetrahydrocannabinol [THC] and 49 ng/mL delta-9 carboxy-THC, (inactive marijuana metabolite). The decedent was marijuana-naive, with no known history of ethanol abuse, illicit drug use, nor mental illness. They labeled the ingested cookie “65

mg THC/6.5 servings (THC, tetrahydrocannabinol, the principal psychoactive in cannabis).” The label also contained this statement: “This marijuana product has not been tested for contaminants or potency.” The retail dispensary sales clerk instructed the buyer and his friend, the decedent, to divide each cookie into sixths, each piece containing approximately 10 mg of TCH (the serving size in Colorado), and to limit ingestion to one serving at a time. It is unknown if the sales clerk instructed the buyers how long to wait between servings. The decedent, not feeling the effects of ingesting only a single piece of his cookie as directed, consumed the remainder of the cookie (all five servings) 30-60 minutes later. On February 1, 2015, Colorado instituted new packaging and labeling rules limiting recreational edible marijuana products to no more than 10 mg of THC or clearly marking each 10-mg serving. They also instituted random testing on batches of recreational marijuana edibles after this incident. This death was the first reported in Colorado linked to marijuana that was not associated with polysubstance use since the approval of recreational marijuana in 2012 (Hancock-Allen et al., 2015). The takeaway for clinicians highlighted how the delayed effects of THC-infused edibles, multiple servings consumed in close succession could result in a higher THC concentration, and therefore greater intoxication, increasing the risks for adverse psychological effects (i.e., suicidality or psychotic features), and death. Clinicians should review the cannabis surveillance literature frequently for emerging trends and associated risks.

### **Cannabis Use Disorders (CUD) – Risks and Prevalence**

The overall prevalence of cannabis use is 3.4% among 12-17 years old’s, 4.4% among 18-29 years old, and estimated lifetime prevalence = 11.8% in men and 5.4% in women (in the general population) (Khan et al., 2013). Perhaps the mistaken belief that



marijuana has a low addictive potential because the ratio of those who develop CUD after at least one use is much lower than for other drugs (11:1) may be due to social, legal, and commercial factors and not the result of intrinsic measures of addictive tendencies.

The dose, route of administration, and frequency of use affect the measures of the addiction potential of marijuana. Hall (2015) suggested 25%-50% of daily users qualify as dependent and those who continue use after turning 18 years old develop addiction about one-third of the time (Swift et al., 2008).

### **Removal of Social Constraints**

Living alone, major financial problems and impaired control resulting from marijuana use predict the transition to dependence. With continued use, the brain becomes less responsive to natural reinforcers such as social rewards, employment, and companionship. This may be due to a gradual social withdrawal from decreased social interest, and the person becoming less motivated by the pursuit of financial reward and more directed to using drugs (van der Pol et al., 2013).

Adolescence typically marks critical developmental tasks such as learning self-regulation, accumulating useful experience, acquisition of knowledge for future use in productivity, and gradually taking on adult roles. These occur in the later development of the prefrontal cortex. The hallmark of the addiction process points toward expected rewards that grow from marijuana use over time, overwhelming the brain's control circuits. This imbalance develops quickly because adolescents are high reward-oriented with poorly developed prefrontal circuitry (Casey & Jones, 2010).

Shared environmental factors predominate in those who have an early onset of marijuana use including low parental supervision, resulting in increased risk-taking. The

ease of access and perceived risk of use significantly predict marijuana use. Prevention cues in home environments help children understand marijuana use may reduce childhood risks as opposed to homes that normalize and approve of using (i.e., homes that teach risky to use, not immoral to use, lack of parental disapproval, and easy access variables) (Steen, 2010).

There are some measures such as the transmissible liability index (TLI) that probe a child's biobehavioral characteristics such as appetite variability, sleep restlessness, picking, oppositional/defiant behaviors, and impulsive responding. The TLI associates with biologically driven behavioral dysregulation and the propensity for social deviance and a tendency toward developing a substance use disorder (Kirisici et al., 2009).

### ***Marijuana Withdrawal***

The answer to whether the body can experience withdrawal with the cessation of using marijuana is that the science is unequivocal and involves a withdrawal syndrome including irritability, aggression, anxiety, sleep difficulty, decreased appetite, restlessness, dysphoria, abdominal pain, shakiness, sweating, fever, chills, and headache (Budney et al., 2004). Physical and psychological addiction are not technical terms in MJ addiction and withdrawal. The term pharmacological dependence better describes the process. MJ withdrawal symptoms negatively correlate with successful substance abuse treatment outcomes. The greater the functional impairment from MJ withdrawal, the greater risk of relapse (Allsop et al., 2012).

## **Medical Marijuana**

### **Indications**

#### ***Pharmaceutical Formulations of Marijuana***

Of the more than 70 known cannabinoids affecting the endocannabinoid system, THC is the best known (connected with the psychoactive and euphoric effects), along with cannabidiol (CBD), which was thought to have anti-inflammatory/anti-epileptic effects. Purified, tested, marketed, and FDA-approved drugs are dronabinol (Marinol) and nabilone (Cesamet) both list as schedule II substances having a high potential for abuse and restricted medical use. Nabiximols (Sativex) is not available in the U.S., but 15 countries approve its use, (including Canada and the United Kingdom. Cannabidiol (Epidiolex) is in Phase III investigational trials in the U.S.

### ***Monitoring the Clinical Use of Marijuana***

A major gap and practical concern of providers of addictions counseling is the role of drug testing and the interpretation of the tests. The most common drug test (there is not currently available portable or presumptive test for use in clinics) is a non-psychoactive marijuana metabolite TCH carboxylic acid (THC-COOH). The length of time for detection of marijuana in the urine varies widely depending on frequency and duration of use. Body fat stores marijuana allowing chronic heavy use to have positive results in urine drug screens up to 67 days after the last ingestion or intake. A naïve user may have a negative urine drug screen within hours after smoking marijuana. A major gap in treatment lies in the fact that positive test results for marijuana users do not definitively determine the date of last use. Infrequent marijuana users take 1-4 hours before producing a detectable level using urine tests, and the recommended cutoff concentration of 50 ng/mL for a positive test is a urine immunoassay test. (Heustis, 2007). Blood testing for marijuana correlates closely with time of use and level of impairment. Recent reviewers of the effects of marijuana on driving skills suggested a

blood TCH concentration of 205 ng/mL correlated significantly with driving impairment (Hartman & Heustis, 2013). Clinicians may use saliva tests in the future, and the advantages would be helpful because the non-invasive detection period correlated with impairment established for oral secretion tests (Lee et al., 2011).

### ***Efficacy***

**Pain.** Of the 31 controlled trials of various cannabinoids, neuropathic, and chronic pain, produced mixed results. A majority demonstrated only modest reductions in pain and several failing to demonstrate any significance between cannabinoids and placebo. Two revealed increases in pain (Hazekamp & Grotenhermen, 2010; Kowal et al., 2016).

**Nausea.** Evidence of oral THC formulations as more efficacious than a placebo for nausea and equivalent to traditional antiemetic medications such as prochlorperazine exists (Amar, 2006). However, most of the studies for nausea and vomiting occurred before the availability of serotonin 5HT<sub>3</sub> receptor antagonists such as ondansetron (Zofran) which they considered more effective than phenothiazine antiemetics, which researchers compared to cannabinoids. There is no evidence supporting using cannabinoids over modern antiemetic medications, and then only as adjuvant therapy. A 2001 systematic review found cannabinoids more likely caused adverse effects in chemotherapy-related nausea and vomiting and more effectively treated antiemetics than several phenothiazines. However, they more likely caused adverse effects, including dizziness, dysphoria, and hallucinations (Tramer et al., 2001).

**Psychosis.** Currently, insufficient evidence showing whether the antipsychotic effects of CBD equated with those of conventional treatments in nonrefractory schizophrenia (Pushpa-Raja et al., 2014). Heavy marijuana use, high potency of

consumed marijuana, and a younger age of onset of use worsened disease trajectories and advanced a first psychotic episode in vulnerable patients by as much as 2-6 years (Volkow et al., 2014).

**Depression and Anxiety.** In Norway a 13-year longitudinal survey of 2,033 adolescents associated a significantly increased risk of suicidal ideation and attempts when subjects are in their 20's with early onset of marijuana use (Pederson, 2008). A recent meta-analysis of cannabis and associations with marijuana concluded a dose-effect exists, pointing to heavy, habitual marijuana use associates with an increased risk of depression (Lev-Ran et al., 2014). Formulations of high THC: CBD ratios may increase scores on anxiety scales. Those with low THC: CBD ratios often decrease scores on anxiety scales. CBD appears to modulate brain activity patterns by attenuating responses in the anterior and posterior cingulate cortex and the amygdala and acts on prefrontal subcortical pathways via the anterior cingulate and amygdala producing anxiolytic effects (Crippa et al., 2010). Limits on the generalizability of any positive effects on lowering anxiety exist because the trials examine only a small number of subjects and a brief duration of treatment in which healthy subjects enrolled.

### **Summary of Major Research Findings and Marijuana's Adverse Effects**

Contrary to a common belief that marijuana has few or no adverse effects, researchers documented adverse effects of short-term, long-term (heavy use), and long-term or heavy use with initial early onset in adolescence (Croxford, 2003; Volkow et al., 2014).

### **Table 3**

#### *Adverse Effects of Marijuana Use*

### **Adverse effects associated with short-term marijuana use**

1. Impaired short-term memory and impaired ability to learn and retain information
2. Impaired motor coordination leading to an increased risk of injuries
3. Altered judgment with a possible increase in high-risk sexual behavior and increased risk of sexually transmitted infections
4. Paranoia
5. Psychosis
6. Immunosuppression
- 7.

### **Adverse effects associated with long-term or heavy marijuana use**

1. Addiction: 9.1% of overall users, 17% of those who begin use in adolescence, and 25%-50% of daily users
2. Chronic bronchitis symptoms
3. Increased risk of psychotic disorders, including schizophrenia, in persons with a predisposition to such disorders

### **Adverse effects associated with long-term or heavy marijuana use with initial use in early adolescence**

1. Altered brain development (changes in size, shape, and density of parts of the brain, especially the amygdala and nucleus accumbens)
2. Poor educational attainment with increased likelihood of school dropout
3. Cognitive impairment/lower IQ
4. Diminished life satisfaction and achievement
5. Cardiovascular effects, including tachycardia and postural hypotension
6. Decreased sperm counts

*Note.* Source: Croxford 2003; Volkow et al., 2014.

## **Treatment of Cannabis Use Disorder**

From the outset, the literature regarding the treatment of marijuana addiction tended to follow the same patterns of other illicit drugs. The outcomes of cannabis use disorder (CUD) based upon long-term studies concluded on average CUD may be less severe than other illicit drugs. It is clear from the literature CUD involves cases who experience a severe clinical course leading to very significant health and psychosocial problems, and those who typically seek treatment for CUD reported nearly daily use for

more than 10 years and attempted cessation more than six times (Budney et al., 2007). One major implication for the treatment of CUD since the legalization highlights the misconception of marijuana as a safe and organic drug that lacks any addictive properties. The continued belief may block meaningful assessments. A small minority of marijuana users enter CUD specialty treatment for marijuana problems. Instead, they present to medical providers with chronic cough and respiratory problems together with anxiety, fatigue, depression, insomnia, intermittent explosive anger, difficulty concentrating, or relationship problems. Complicating matters further, marijuana users often present in the emergency room with physical trauma from accidents or an altered mental state, and primarily request treatment for alcohol, cocaine, heroin, methamphetamines, or other substances. They only mention marijuana or nicotine use in passing. About 1 in 10 adult cannabis users develop dependence, with somewhat higher rates among adolescents. Yet, many marijuana users simply do not experience any external (noticeable) problems with use, with about half of daily users becoming dependent (Hall & Pacula, 2003). A major implication for addictions counselors treating CUD conveys how cannabis addiction often results in substance abusers exhibiting extreme skill in the ability to dismiss evidence pointing out how marijuana could be problematic. They witness their friends who use seemingly do not have any problems regardless of the veracity of these beliefs. This represents a barrier to treatment, as well as the increased cost of therapy because early detection of CUD leads to successful treatment and prevention of the disorder (Compton, 2016).

### ***Screening Tools for CUD***

Addiction counselors should be aware the taxonomy of marijuana remains highly disparate, regionally covaries considerably, and continues evolving. The implications for treatment should prompt clinicians to listen closely when marijuana users share the meaning of various terms. Before legalization in Colorado, marijuana strains typically contained only 10% TCH. An unpublished study of legal marijuana estimated some strains contained 30%-90% THC. Licensed addictions counselors should ask about preferred strains, brands, and visit local dispensaries to enhance their clinical understanding of the current levels of intake along with the effects on the client. Other implications for treatment providers include expecting amateur chemists will take a prominent role in the development and distribution of marijuana products, which will increasingly become more sophisticated, but effects remaining clinically unknown (Compton, 2016).

Currently, available valid and reliable screening tools can assist the clinician with individual assessments and appraisals such as the cannabis use problems identification test (CUPIT), the severity of dependent scale (SDS), and the cannabis problems questionnaire (CPQ), which provide more in-depth insights. An adolescent scale is also obtainable (Compton, 2016). Ideally, the aim of the assessment increases understanding of motivations, triggers for use, and the barriers to quitting. In other words, they assist clinicians in determining gains and losses for the marijuana user as well as the function marijuana initially served. Evaluating a user's readiness for quitting requires gathering data regarding what a person likes about using marijuana, paying careful attention to the differences in what they initially enjoyed and their current level of happiness. The social context should capture, times of the day, locations, and any other habits. If the various



contexts create excessive risks for safety and health, immediate targeting them for harm reduction assures the well-being of the client and the public. Identifying craving triggers including moods and feelings, as well as people and places that inspire use, provides valuable information for helping clinicians develop treatment interventions (Compton, 2016).

### ***Evidence-Based Interventions***

In Colorado, the approach to CUD treatment is motivational enhancement therapy (MET), through motivational interviewing (MI). This also serves as the main approach taught at Liberty University within the Community Care & Counseling, Pastoral Care cognate (Miller & Rollnick, 2013). Designed to help mobilize internal resources to resolve ambivalence through conversations, MI and MET do not attempt to guide the individual stepwise through recovery. Conversational styles or approaches, and the effectiveness of MET appear to vary with drug type, with primary benefits for cessation of alcohol use. MET in combination with CBT effectively treats marijuana use disorders by promoting engagement in the treatment process rather than direct changes resulting in marijuana use specifically. Clinicians' use of cognitive-behavioral therapy emphasizes discovering maladaptive behaviors and teaching strategies to challenge, identify, and correct problematic thinking and behaviors aimed at decreasing use and enhancing self-control. Relapse prevention (RP) demonstrates efficacy for treating a range of co-occurring problems including drug use (McHugh et al., 2010).

### **Summary**

The attitudes and lived experiences of licensed addiction counselors in Colorado

in the treatment of marijuana disorders directly influence personal and community mental health. Co-mingling the effects creates difficulties in differentiating its neurobiological, psychological, and social effects. Since legalization in Colorado for medical and recreational use, several very negative unpredicted societal effects have emerged and continue to grow more problematic. Marijuana does not lead to other substance use disorders inevitably, although cannabis use disorders often develop after initiation of alcohol and tobacco use. The ongoing and developing treatment implications for addiction counselors include findings that marijuana use is not the sole cause or cure for mental health problems. However, a pervasive association with some mental health disorders continues. Addiction counselors need more awareness of the association between marijuana use and panic disorders, attention-deficit hyperactivity disorders, and social anxiety. Using marijuana early in adolescence may increase the risk of anxiety and depression in adults, along with violence and suicide. However, it is not causally related to any of the conditions. A dramatic increase in traffic deaths and physical trauma associated with marijuana use, and its adverse effects on youthful populations is one of the most surprising developments in Colorado.

The extant professional literature reviewed revealed how marijuana users who engage in evidence-based psychosocial interventions expect only moderate improvements in both abstinence and reduction in related symptoms. There is a conspicuous absence of a 12-step program and biblical counseling efficacy in the literature for problematic marijuana use or addiction. The recommending or discouraging of the implementation of faith-based approaches requires conducting additional studies. Other implications for addiction counselors include a rather disparaging review of clinical trials available for

standardized treatments concluding they are a little better than no treatment. Thus far the evidence-based interventions generally do not significantly improve outcomes when compared with typical interventions. Thus, the research questions for this study probe for addictions counselors' experiences and personal attitudes, while pointing to critical gaps in strategies because "treatment as usual" is not well defined. This dilemma also requires gathering data from clinical practitioners, including their lived experiences. Compton (2016) determined, "...the main issue may not be that available interventions are not effective but rather that the therapeutic action affecting change may be nonspecific. Structured interventions may serve as convenient vessels to deliver nonspecific therapeutic benefit by skilled clinicians" (Compton, 2016). The answers to the first question participants responded to but were not limited to psychosocial interventions or pharmacotherapeutic agents for reducing marijuana cravings. At the heart of implications for addictions counselors treating CUD, is the current state of treatment has limited benefit, despite high relapse rates among those who initially achieve abstinence. I found the need for more research-based interventions with the hope of disseminating future effective treatment strategies informed in part by the current and ongoing clinical experiences of licensed addictions counselors in Colorado. In conducting the literature review, I identified several protective factors for adolescent marijuana use, and thus clinicians can seek reduction risk and enhance protective factors in youth as a primary and necessary treatment goal. Further interaction with clinicians provided this interviewer with sufficient knowledge to report on the experiences and practices of addictions counselors in the field who treat cannabis use disorders.

## **CHAPTER THREE: METHODS**

### **Overview**

Throughout this chapter, I describe the research design and methodology of the study. I selected a qualitative design to produce new information for licensed addictions counselors (LACs) in Colorado engaged in community treatment field services with those diagnosed with cannabis use disorders (CUDs). After the legalization of marijuana in Colorado for medical and non-medical use, a qualitative inquiry supports the study of the attitudes and lived experiences of LACs in Colorado and the exploration of the meaning and implications for addictions counselors and their clients (Heppner et al., 2016). Wildberger and Katz (2019) reported on the neglect of attitudes and experiences of addictions counselors who provide treatment for those with substance use disorders (SUDs), as they present at increased risk of adverse consequences. The relevancy of qualitative research methods rests in the ability to review the notes and findings from interviews with clinicians, resulting in a deeper understanding of the interactions occurring between addictions counselors and those diagnosed with cannabis use disorders. Qualitative methods offer the promise of informing new counseling methods and developing a deeper ongoing understanding of treating CUDs from the personal attitudes and experiences of professional licensed addictions counselors. Ultimately, the qualitative methods employed in this study through a narrative mode, make the findings more accessible to practicing clinicians, and a more useful instrument to bridge gaps between research-based observations and clinical practice (Morrow, 2007).

## **Design**

Utilizing a qualitative research design enabled the production of new information for the community of LACs in Colorado following the legalization of marijuana for medical and non-medical purposes. I focused on the personal attitudes and lived clinical and personal experiences of those clinicians selected as study participants. The research questions served as the foundation for the inquiry, and a qualitative approach guided the methodology for collecting and analyzing data (Merriam, 2009). The clinicians who participated shared a common interest in treating CUDs or similar experiences relevant to the research topic.

The nature of qualitative research is interpretive, which encourages the thematic outcomes emergence as opposed to quantitative approaches, which measure and configure collected data. I selected a qualitative interpretive approach to focus on gaining an understanding of participants' attitudes in treating cannabis use disorders and their lived experiences as explained by LACs in Colorado. Accomplishing this required exploring the phenomenon of the treatment of CUDs without regard to previously existing judgments or the researcher's previous experiences concerning interventions and associated implications (Al-Busaidi, 2008).

A phenomenological perception of clinician's cannabis treatment perspectives exists regardless of others' viewpoints. I examined the methods used by clinicians to reveal how they experience and make sense of their clinical experiences, along with shaping their worldview, influencing their behavior, and counseling methods (Al-Busaidi, 2008).

### **Research Questions**

To effectively explore the attitudes of LACs in Colorado after the legalization of marijuana, I developed the following research questions:

RQ1. What are the attitudes of Licensed Addiction Counselors (LACs) in Colorado concerning the treatment of Cannabis Use Disorders (CUDs)?

RQ2. What regulatory, personal, environmental, social, scientific, legal, or clinical experiences influence the decision-making of LACs who treat cannabis use disorders in Colorado?

### **Setting**

I collected data by interviewing five qualified LAC volunteers who engage in private and public in-patient and outpatient clinics, or private practice. The setting selected for the study reflected the lived experiences of LACs treating cannabis use disorders in Colorado, and the interpersonal interactions of practitioners, where were thought of as vitally connected to their expectations, beliefs, goals, feelings, and ultimately incorporated into their clinical behavioral intentions (Bandura, 1986, 1989, 2001). The LACs social interactions are connected to personal characteristics and their clinical interactions, which I found influential on their human beliefs, emotional reactions, expectations, and cognitive abilities. The personal, behavioral, and environmental factors LACs encounter varied depending on their social status as behavioral health clinicians. Activating their emotional reactions and decision-making was operationalized through modeling, education, social persuasion, and clinical experiences with cannabis use disorder clients (Bandura, 1986).

## **Participants**

The generic qualitative research method of this study provided an understanding of the meaning associated with the attitudes and clinical experiences of LACs from their actual clinical settings (Merriam, 2009). Therefore, a total of five respondents to an open letter to Colorado LACs took part in this study and met the criteria to share their attitudes and lived experiences as LACs in Colorado treating cannabis use disorders. All the participants confirmed having licenses as addictions counselors in Colorado, which I verified using the list in the Colorado Department of Regulatory Agencies (DORA) records of approximately 1,935 active LAC licensees.

## **Procedures**

In Colorado, LACs attained varying degrees of experience and training for intervening with and providing evidence-based treatment to clients who present with cannabis use disorders. I identified and reported on service delivery issues for LACs working with cannabis use disorders because clinical issues and concerns surfaced concerning the application of intervention approaches. The development of treatment plans, along with ethical and professional opinions, clarified and provided a basis for consensus about best practices and the need for changes in service delivery. Clinicians may question their therapeutic role, the scope and efficacy of their intervention approaches, and their ethical responsibilities when treating cannabis use disorders. There remains a conspicuous absence in the literature focused on the personal and professional experiences of clinicians in the delivery of competent services for cannabis use disorders. Establishing treatment protocols includes clinical experience, as well as education, and training (Hagedorn, 2009). I utilized semi-structured questions as a guide during the one-

on-one interviews with clinician-participants. The information served as the conduit for identifying themes and patterns in their attitudes and lived experiences as they encountered clients with cannabis-related mental health problems. The interview guide questions served as the primary research instrument for data collection and ensured interviews flowed in a functional manner (Merriam, 2009).

### ***Study Interview Questions with Clinician-Participants***

The following questions relate to your personal, professional, and clinical lived experiences treating adults and adolescents who present with marijuana-related mental health problems.

1. As a clinician what experiences do you have treating marijuana-related mental health disorders?
2. What guides your clinical decision-making in treating adolescents and adult cannabis use disorders?
3. Since recreational and medical marijuana was legalized, what personal and professional experiences are you encountering that are of concern to you?
4. What treatment protocols, strategies, and/or models do you find you use for adults presenting with marijuana-related mental health disorders?
5. What are your personal thoughts and feelings about the legalization of marijuana for recreational and medicinal use in Colorado?
6. What are your thoughts and feelings about providing clinical treatment to those with cannabis use disorders?
7. What do you believe influences and guides your decisions for treatment choices with



cannabis use disorders?

8. What, if any, regulatory, cultural, social, legal, environmental, scientific, clinical, and/or geographical influences contribute to your process of deciding on a treatment plan for adults and adolescents with a cannabis use disorder?

9. What are your thoughts and feelings about the process of deciding on a treatment plan for clients with cannabis use disorders?

10. Please describe the model of treatment or strategies utilized for cannabis use disorders?

11. What perceived implications can you share in treatment protocols for cannabis use disorders?

12. As a clinician who has worked with cannabis use disorders, what treatment interventions do you believe to be most effective?

13. How do you measure and/or determine treatment interventions as effective with cannabis use disorders?

14. Please describe any training or education received regarding treatment for cannabis use disorders?

15. What concerns do you have, if any, regarding the lack of regulating THC dosage and purity for medical and recreational marijuana users?

16. What concerns, if any, do you have regarding synthetic cannabinoids, and the treatment of cannabis use disorders?

17. What strategies for prevention, if any, do you utilize in the treatment of cannabis use disorders?

18. What programmatic concerns do you have, if any, in the methods and practices of the Colorado Department of Health for treating cannabis use disorders?

19. Is there anything else you would like to add?

### **The Researcher's Role**

The role of the researcher in this qualitative research design was to access the feelings and thoughts of the participants about their lived experiences treating cannabis use disorders. I accomplished this, in part, by exploring the participant's personal feelings while fresh in their minds, or in reliving past experiences. The role of the researcher was to safeguard the participants and the derived data (Sutton & Austin, 2015). The task of gaining access to the participants in their natural environment as they encounter clients in the context of treating CUDs was important in understanding how one's biases might influence the outcomes of a study. The qualitative researcher understands interpretivism does not require strict adherence to objectivity (Clark & Veale, 2018). The researcher's role in this study recognized how subjectivity was both inevitable and invaluable because the qualitative researcher presents assumptions, values, and reasoning for choosing the topic. and explicit about positionality, which I included in the findings, allows the reader to encounter the researcher's findings considering this viewpoint (Clark & Veale, 2018).

### **Data Collection**

The data collection and analysis procedures followed a qualitative methodological design as I explored clinicians' lived treatment experiences and factors that contribute to their decision-making for the selection of therapeutic interventions with clients in treatment for cannabis use disorders. To accomplish this, I recruited LACs and intentionally invited them to participate in the study (Creswell, 2009). The derived data

from semi-structured interviews of five research participants who treat, diagnose, and provide behavioral health services to clients with CUDs who served as the source of data for the study.

In conducting semi-structured interviews and the data compiled from interviews between the researcher and I examined the study participants from a meta-analytic scope and reduced them to a narrower set of perspectives (Creswell, 2007). The five participants were voluntarily interviewed in a scheduled 15 to 30-minute open-ended interview with each digitally recorded and manually transcribed with their consent. The content from the participants' interviews revealed patterns or themes characterizing clinicians' treatment experiences and associated implications for treating CUDs. I identified several themes and developed what served as a composite of the findings for this study. The focus remained on gathering previous clinician attitudes, experiences, or perspectives.

### **Data Collection Procedures**

I approached members of the Colorado Association of Addiction Professionals (CAAP) to recruit participants. A print advertisement requested volunteers for the study. An open letter to CAAP members included a private phone number for prospective participants to indicate their voluntary interest via secure telecommunication with the interviewer. I composed a letter of introduction, which was approved along with a confidentiality agreement the qualified research participants signed. In full compliance with Liberty University's IRB requirements, including confidential data collection settings, and acknowledgment of the content of consent forms, I initiated the recruitment and interview process. Following confidentiality and anonymity procedures, which

protect the data, I used numerical encoding and archived any storage of research data for the required period in a locked secure location (Liberty, 2019).

### **Data Analysis**

Treating CUDs is a new and fast-moving clinical phenomenon in Colorado. This research started with a critical need for knowledge and guidance to fill numerous gaps between the social phenomenon of cannabis use, and the subjective clinical experiences of LACs who treat CUDs. The objectives of the study were therefore subjective and intended to promote insight and displace confusion regarding obstacles to unified, ethical, and efficacious treatment modalities by those who treat CUDs (Colorado Dept. of Public Health and Environment, 2019). The qualified participants received full disclosure of the intent of this research study and assured confidentiality by maintaining their disclosure following Liberty University's IRB procedures. I patterned, coded, and organized the resulting data by themes, and analyzed the derived themes by way of induction and comparison. After extracting treatment indices for CUDs I analyzed experiential factors from the participant's interviews. The data collection analysis then transitioned to a more recursive or circular deductive process to facilitate flexibility and adapt to the emerging findings (Yeh & Inman, 2007). I coded the data received from the qualified participants along with derived basic demographics.

A thematic analysis guided data ingestion and review both theoretically and inductively (Caelli, 2003; Corbin & Strauss, 2007; Merriam, 2009). Inductively analyzing the participating clinicians' subjective experiences used open coding, organizing, and categorizing the transcribed interview text, I adopted a continual comparative method of clustering and content categorizing within each clinician's interview before analysis

(Corbin & Strauss, 2007). I uploaded the derived data clusters into the MAXQDA20 software analysis database program to narrow content to themes and subthemes (Creswell, 2007). This process assisted in predetermining factors influencing and contributing to clinicians' attitudes and treatment decisions in respect to CUDs, which I identified and described theoretically into themes (Braun & Clark, 2006; Merriam, 2009). Any derived themes represented a narratively expressed result, which helped in identifying key characteristics of a similar patterned majority of textual interview themes of the lived experiences of treating CUDs by field practitioners. These methods had a shared goal that sought to uncover, explore, and describe the study phenomenon, as opposed to empirically test, predict, or merely hypothesize (Merriam, 2009).

### **Trustworthiness**

I used multiple methods to achieve the trustworthiness of the data analysis process, resulting in a clear rendering of the study participants' clinical experiences in treating CUDs in Colorado since legalization. The techniques used to develop indicia of trustworthiness in the study included credibility, dependability, and conformability or transferability. The methods achieved the goal of validating the collected data for its trustworthiness, which allowed the researcher to interpret the intentions of participants' responses more reliably (Williams & Morrow, 2009).

### ***Credibility***

Validating the credibility of the study increased the likelihood the participants reported their lived clinical experiences in a manner that correlates with the reality of their actual experiences (Rolfe, 2006). Credibility is often equated with the internal validity of a quantitative study, and a credible study, "establish[es] a match between the

constructed realities of the respondents and those realities represented by the research(s)” (Sinkovics et al., 2008, p. 699). To ensure the credibility of the study, I employed quality assurance and control methods, which included epoche, triangulation, and member checks.

**Epoche.** Using bracketing helped me reflect upon my considerable knowledge and experience in professional counseling and isolate my thoughts and feelings throughout the dissertation classwork, interactions with my peers, and journaling in the discussion area within the online course shell (Hamill & Sinclair, 2010). The process of bracketing allows the researcher to acquire new information in one’s discipline without assuming the outcomes of the investigation (Moustakas, 1994). I maintained a mindful and disciplined approach about my past experiences and ideas concerning LACs experiences with CUDs and applied other trustworthiness techniques (triangulation, member checks, peer/expert review) to ensure I achieved the separation.

**Triangulation.** The utilization of multiple methods of data collection (interviews, journals, and focus groups) provided a corroborating effect from the collected data (Creswell, 2013; Shenton, 2004). Utilizing “a diversity of informants” (Shenton, 2004, p. 66) through various means helps to create a “rich picture of the attitudes, needs or behavior of those under scrutiny” (Shenton, 2004, p. 66). Triangulation does not “check the validity of the data” itself but validates the researcher’s interpretations because of the use of “multiple data sources” (Hadi & Closs, 2016, p. 643).

**Member Checks.** I asked participants to validate transcripts of interviews

and my analysis of all the data. This assisted in the correction of any errors in transcription from the audio recordings. Participants verified the content of their words, and “offer reasons for particular patterns observed by the researcher” (Shenton, 2004, p. 68).

**Peer/Expert Review.** I took advantage of numerous opportunities in the dissertation formulation process to ask professors and colleagues to provide a peer review and their unbiased perspective of the methodological approach and theoretical framework for this study. This provided the necessary review to “challenge assumptions ... refine methods, [and] strengthen ... arguments” (Shenton, 2004, p.67). Peer review is appropriate and “keeps the researcher honest” (Creswell, 2013, p. 251) through scrutiny and evaluation of procedures and findings to produce an accurate portrayal of the participant’s experience with treating CUDs.

### ***Transferability***

Another measure of trustworthiness is the applicability of a study in other contexts as a measure of external validity (Connelly, 2016; Hadi & Closs, 2016; Williams & Morrow, 2009). This qualitative study focused on the participants and their perceptions and stories to generalize the results in other settings, rather than on a statistical basis. I completed this step to “focus on the informants and their story without saying this is everyone’s story” (Connelly, 2016, p. 436). The current study relied on openness by clear articulation of study methods (Connelly, 2016).

Quantitative studies strive for generalizability so repetition of the study’s methods in other settings produces similar results. In contrast, qualitative studies, “focus on the informants and their story without saying this is everyone’s story”

(Connelly, 2016, p. 436). Rather than generalizability on a statistical basis, qualitative researchers should be open about their methods and analysis (Connelly, 2016). In the current study, I achieved this openness by clearly articulating my methods.

**Clear Articulation of Methods.** The nature of qualitative inquiries allows other researchers to reproduce the procedures but “not necessarily the participant sample or findings” (Williams & Morrow, 2009, p. 578). While the nature of qualitative research may limit the probability of producing similar findings, this study described the methodology openly to allow seasoned researchers to replicate the findings from having used sound methodology in data collection and analysis (Shenton, 2004; Williams & Morrow, 2009).

### **Ethical Considerations**

Ethical considerations for this study included privacy, security of the recorded interviews and text transcriptions, and the possibility of emotional or psychological discomfort experienced by the participants. The use of pseudonyms for all participants to disguise their identities, limiting demographic information to the study’s qualifications (18 years or older, an LAC, and experience treating CUDs), as well as using data encryption and multi-factor logins to lock down both the audio and written transcripts of the participants addressed and managed any questions regarding ethical conduct. I informed the participants of the opportunity to opt-out at any time, without penalty, and stated the ability in the informed consent in writing and verbally during the interviews.

### **Summary**

I expected the results of this qualitative study to produce missing knowledge, insight, understanding, and meaning of the emerging attitudes and lived experiences of



addictions counselors in Colorado after the legalization of marijuana for medical and non-medical use. One major supposition for this study was the clinical experiences of addictions counselors in Colorado drive the decision-making for client interventions and needs. Licensed addictions counselors are subject-matter experts who presently confront and treat ever-widening substance abuse problems, as well as assess and diagnose cannabis use disorders. Numerous themes emerged from the sampling of clinicians including ongoing personal attitudes, social, legal, scientific, regulatory, environmental, barriers to research, along with pharmacological nuances (i.e., dosage and purity), and a myriad of other new non-linear dynamics related to the lived experiences of clinicians in Colorado. The pace of changes in CUD treatment is quickening, making it difficult to carve out certainties and best practices. This study, informed in part by a review of the professional literature, will provide an added context from the attitudes, opinions, and experiences of LACs. I considered the extent to which interpersonal, behavioral, legal, political, and environmental influences affect addictions counselors, to identify the attitudes and lived experiences of addictions counselors who treat CUDs in outpatient mental health programs and individual therapeutic settings in Colorado.

## **CHAPTER FOUR: FINDINGS**

### **Overview**

The purpose of this qualitative study was to produce new information from licensed addictions counselors in Colorado engaged in community treatment field services for cannabis use disorders (CUDs). Since the legalization of marijuana in Colorado for medical and non-medical use, this qualitative inquiry allowed for the study of the attitudes and lived experiences of LACs in Colorado. I also explored the meaning and implications for addictions counselors and their clients. In conducting semi-structured phone interviews with the participants, I recorded the interviews and generated verbatim transcripts from the audio recordings. Thematic analysis guided the data ingestion and reviewed the results both theoretically and inductively using open coding, organizing, and categorizing the transcribed text. I adapted a continual comparative method for clustering and content categorization within each clinician's interview before analysis. Following this, I uploaded the derived data clusters into the MAXQDA20 qualitative research analysis database program to narrow content into themes and subthemes. Predeterminate factors influence and contribute to clinicians' attitudes and treatment decisions in treating CUDs, which I identified and described theoretically as themes. The themes represented in the narratively expressed results assisted in identifying similarly patterned themes of the lived experiences of LACs treating CUDs.

The research questions guiding this study were:

RQ1. What are the attitudes of Licensed Addiction Counselors (LACs) in Colorado concerning the treatment of Cannabis Use Disorders (CUDs)?

RQ2. What regulatory, personal, environmental, social, scientific, legal, or clinical experiences influence the decision-making of LACs who treat cannabis use disorders in Colorado?

### **Participants**

A total of five clinicians responded to the open letter to Colorado LACs who took part in this study and met the criteria to share their attitudes and lived experiences as LACs in Colorado treating CUDs. I confirmed all the participants as LACs in Colorado listed in the Colorado Department of Regulatory Agencies (DORA) records of approximately 1,935 active LAC licensees. I briefly introduce the participating LACs and provide their histories below using pseudonyms to protect their identities and verified each met the study criteria relating to their experience treating CUDs in Colorado.

### **Participant Backgrounds**

#### ***LAC#1***

LAC#1 worked in substance abuse treatment for the last 12 years, which included both adults and adolescents. LAC#1 has extensive experience with substance use in the forensic population and community-based therapeutic work. LAC#1 is an addiction counselor trainer, collegiate faculty, and doctoral student. LAC#1 is also an expert addiction counselor, a licensed professional counselor, and a nationally certified adolescent addictions counselor. LAC#1 is also an adjunct professor and teaches as an OBH approved Certified Addictions Counselor Trainer, providing clinical supervision and consultation to other professionals in the mental health field. LAC#1's experience would potentially epitomize the ability to relate the attitudes and experiences of a LAC

who treats cannabis use disorders and generalizable addictions work. LAC#1 concurrently identified a major theme in addictions stating,

I stated that in her clinical decision making, which is the same for CUDs and substance use disorders in general, "...I look at the use of the substance as a deeper driving issue...to be deeper in terms of specific problems or comorbidity like trauma. This is probably the biggest, yeah trauma plays one of the biggest roles in comorbidity; could be physical, emotional, or attachment trauma.

### ***LAC#2***

LAC#2 has worked in treating cannabis use disorders for the past 16 years and is a treatment provider for the State of Colorado Department of Corrections. LAC#2 primarily works with adults in prison along with probation populations. LAC#2 is a very experienced clinician who is a treatment provider for the courts and mainly works with clients and probation departments for court-ordered clients receiving treatment for cannabis problems, and other substance abuse issues. LAC#2 also has a diversity of experience in treating parole clients who are trying to re-enter society after being released from prison said, "...so people come to see me, and they'll say yes, I want to work on my substance use disorder, I'm going to give up alcohol, but I'm still going to use pot." "...they may not miss the meth or the cocaine or whatever, but they really miss the marijuana, and I don't know why, but that's the one that they want to come back to."

### ***LAC#3***

LAC#3 has 15 years of experience as a clinician in substance use disorder treatment. They work in a large university-based psychiatric treatment center that specializes in the treatment of substance use disorders including cannabis use disorders. LAC#3's

organization runs three certified opioid treatment facilities and routinely treats cannabis use disorders in the context of polysubstance abuse. It is the largest opioid treatment program in Colorado that administers methadone or other opiate substitutes as part of facilitating recovery. LAC#3 revealed a highly relevant phenomenon in this study. While administering marijuana to those in OPT methadone programs they identified an association with shorter stays because the treatment reduces cravings for opiates. LAC#3's access to medical and psychiatric providers along with numerous rigorous studies of cannabis effects proved helpful in identifying new information and experiences in the treatment of CUDs such as,

...so, in the state of Colorado, we are not required to test for cannabis, so in many of the OTPs, this is not actually done. And the state of Colorado did not consider cannabis positive in a urinalysis result to be something of an infraction, so it doesn't necessarily restrict take-home medication for methods. However, our organization has made the determination that people with more disorder are at higher risk for diversion or unsafe behaviors with regard to methadone take homes and so have determined to limit the number of take-home bottles that a patient can receive if they meet criteria for moderate or severe according to the DSM 5.

#### ***LAC#4***

Treating polysubstance use disorders, or people using multiple substances, LAC#4's 15-year career includes experience treating cannabis use disorders. LAC#4 observed

Yeah, so what's interesting is as I treat people with like polysubstance disorders or people that are using multiple substances. I find that that as far as that cannabis tends to fall lower on that list, so people come in to see me, .and they'll say yes, I want to work on my substance use disorder, I'm going to give up alcohol, but I'm still going to use pot.

LAC#4 was able to relate struggles with legalization in the context of their family history,

So, I struggle with that, have had my own brother who struggled with marijuana use from an early age and saw how it kind of really stunted his growth and decreased motivation and all the things we think of with marijuana use. Uhm, I've also seen and having a young kid. Well not young anymore. They're teenagers like 20s now. Uhm, just knowing how to navigate. How do I navigate that now that it is legal like it's just a harder conversation to have.

#### ***LAC#5***

Employed in the behavioral health and addictions field for about 8 years LAC#5 started as a clinical assistant/drug-monitoring technician at a large in-patient drug and alcohol facility. LAC#5 worked their way up into a therapist role in DUI services for court-ordered participants in treatment, as well as intensive outpatient programs. LAC#5 also worked in jail, school, and psychiatric hospital settings. The latter settings provided similar challenges to those he experienced while providing DUI services LAC#5, the least experienced of the participants, worked five years less than the average number of years' experience among the other LAC's participating in the current study. However, in the eight years of LAC#5 involvement in the behavioral health and addictions field, they

gained a wealth of knowledge and experience. The DUI referrals offered the greatest challenge since many of the clients resisted the court's insistence on treatment.

Especially relevant to the current study, LAC#5 also worked with those who have used marijuana and noted clients often referred for one reason, reveal marijuana as an underlying cause. LAC#5 reported:

“...in which marijuana was actually a major factor in being just unmanageable and essentially just ruining a person's life, and out of those there have been a couple of occasions where the patient was very aware and very vocal that marijuana was perceived as lethal. Sure. On a couple of occasions, the client definitely perceived that it was killing them. It was certainly a part of the puzzle that was creating dysfunction, in many cases even physically.

### **Results of Analysis**

This section details the analysis conducted following hierarchical, linear, and structured qualitative methods of entering and coding the participants' interrelated experiences, by multiple descriptors, and interpreting the derived themes (Corbin & Strauss, 2007). To address the research questions driving the study, I developed interview questions with the intention of revealing answers to the research questions (see Appendix C). The decision to use a qualitative methodology, guided by reciprocal determinism, resulted in a useful, flexible, and recursive analysis. The derived six themes provided straightforward and clear contexts for answering the research questions to understand how LACs experience treating CUDs in Colorado since the legalization of cannabis. The narrative includes a “textual description” of answers to the research questions follows the thematic descriptions and listings (Moustakas, 1994, p. 120).

## **Theme Development**

I transcribed the recorded interviews into verbatim text transcripts (voice-to-text) and conducted a diligent search for repeated words and phrases offered by the participants, via the MAXQDA20 database software functions. Analyzing the data included performing database keyword index searches, Boolean searches, as well as color-coding and cross-matching of the participant's responses to the semi-structured guided interview questions. After color-coding and bookmarking commonly used words and phrases, I organized the color-coded themes based on their similarity, repetition, which resulted in data clusters, or words and phrases placed together in parallel (Moustakas, 1994). The theorist called this action, "redaction, reduction, and elimination" (Moustakas, 1994, p. 120). The repeated words and phrases arranged in data clusters facilitated the development of specific themes, which I validated based on the totality of the recorded data (Moustakas, 1994).

I used the derived themes produced from the coded patterns that appeared most often to report the findings. Analysis of the data produced six themes. The themes were a) LAC clinical experiences that inform treating CUDs, b) LAC clinical decision making, c) LAC treatment models, theories, and interventions for CUDs, d) LAC CUDs treatment implications since the legalization of marijuana, e) LAC concerns regarding TCH dosage, purity, and safety, and f) LAC strategies for prevention.

## **Discussion of Findings in Relation to the Theoretical Framework**

I relied on the theoretical framework for this study, Bandura's conceptualization of reciprocal determinism, which he derived from social cognitive theory. It essentially posits the causation of social phenomenon is rooted in one's



personal, environmental, and behavioral influences (Bandura, 1986). The theoretical literature does not contain the application of this theory specifically to clinicians' experiences as LACs in Colorado treating CUDs, therefore several assumptions guided the study drawn from reciprocal determinism. For example, one presupposition of this study indicated the bases of participants' projected clinical cognitive decision-making rested on personal and environmental factors. These were a strong impetus and motivators for treating clients with CUDs. Therefore, social learning factors gleaned from the participants' data were analogous to words, statements, and shared stories from the recorded study interviews (reciprocally determined). The basic idea of reciprocal determinism is that stimulus events are transformed into individual behaviors (Williams et al., 2010).

### ***Personal Factors***

Bandura (1989) found reciprocal interactions between thoughts, affect, and behaviors. Personal factors include one's affective, interpersonal, and cognitive perceptions. This study incorporated examples of how participants related their personal and professional histories treating CUDs. For example, one participant, reflecting on the dosage, purity, and potency of cannabis shared how their concerns escalate about the safety of cannabis after reading a story about children ingesting a THC edible mistaking it for candy.

### ***Environmental Factors***

Bandura (2006) concluded environmental influences associate with interactions between personal characteristics and environmental influences and social influences convey information affecting human beliefs, expectations,

emotional reactivity, and relative cognitive competency. Physical attributes such as gender, culture, age, and perceived attractiveness, can prompt a variety of reactions related to a person's social status and role, and these environmental factors coupled with "status" then activates emotional reactivity through modeling, instruction, and social persuasion (Bandura, 1986). The theorist thought social status related to an individual's actions (Bandura, 1989).

As participants reflected on their experiences and field observations with clients with CUD, they revealed the influences of multiple environmental factors in clinical decision-making and treatment choices. One example of the persuasive nature of environmental factors on LACs was their considerable training, modeling, instruction, and social persuasion embedded in master's level academic preparation, and required advanced training. LACs take mandated state-certified classes (from LAC trainers) in the areas of the nature of actions, two courses in psychopharmacology, two courses in motivational interviewing (including the mandatory taping of a mock session and peer feedback), infectious diseases, history of addictions treatment, and two supervision courses. Another example of environmental factors discernable from the development of the participants' philosophy of the legalization of marijuana, involved conversations with their family members. For example, LAC#4 shared:

So, I struggle with that, have had my own brother who struggled with marijuana use from an early age and saw how it kind of really stunted his growth and decreased motivation and all the things we think of with marijuana use. Uhm, I've also seen and having a young kid. Well not young

anymore. They're teenagers like 20s now. Uhm, just knowing how to navigate. How do I navigate that now that it is legal like it's just? It's a harder conversation to have. It's not something that I would want my kids to be partaking in and just from my personal experience and what I've seen throughout my family and harder conversation to say, yeah, I'm OK. with you having a beer, but for you to smoke pot seems more uncomfortable, so uhm yeah, I think it's a much difficult, much more difficult conversation.

### ***Behavioral Factors***

Within reciprocal determinism, behavioral factors heavily affect environmental influences and reciprocally alter them, (Bandura, 1989). I conducted the study under the presupposition within reciprocal determinism, people's bi-directional environmental factors exert influence in a way people become both producers and by-products of their environments. People's interactions shape their behavioral intentions from their thinking, values, beliefs, expectations, and self-perceptions (Bandura, 1986, 1989, 2001). I assessed behavioral influences from the participants' statements concerning their perceptions of treatment strategies "directionally" and deduced through the dynamic environmental factors experiences working with cannabis use disorder clients. All the participants agreed about the use of assessment procedures and protocols for evaluating clients as by-products of their environments and related numerous instances of training and personal influences that affected their clinical decision-making processes and outcomes.

## **Discussion of Findings in Relation to the Literature Review and Developed Themes**

### ***Theme 1: LAC Clinical Experiences that Inform Treating CUDs***

The LAC clinical experiences compiled from their responses to the guided interview questions revealed their adeptness in multi-modal treatment practices (Primm et al., 1999). The LAC participants also used their intuition drawn from the consequences they observe treating CUDs. They garnered unique cause and effect relationships in absence of current and specific guidelines and standards for treating CUDs once obscured by a lack of scientific findings of the full extent of consequences when the body and brains exposure to increasingly higher concentrations of THC. The LAC participants unanimously identified their default approach as a compassionate, nonjudgmental client-centered approach, free of any pre-conditions including abstinence, and concurred regarding ethical treatment practices when intervening with CUDs use DSM, which controls and defines disorders. The DSM prescribes the need for a significant impairment to functioning, and all the LAC participants rejected the use of punishing, guilt or shaming clients with CUDs. LAC participants unanimously favor legalization because they perceived this leads to better treatment outcomes.

Specifically, LAC#2 reported, “Thing is I am now seeing actual physical withdrawal other than just psychological withdrawal. It’s not a severe thing, but irritability will be increased, sleep will be disrupted, appetite will be lessened. But those all go away in a couple of weeks.” LAC#2 attributed this in part to clinical experience of increases in THC potency and concentration. They shared, “Cannabis used to come in at between 3% and maybe 5% THC, and anymore it’s pushing 30%, and that’s not dealing with the concentrates that are out there.”

LAC#5 stated their clinical experience included a very small number of clients (less than five cases over 7-8 years), purporting:

... marijuana was actually a major factor in being just unmanageable and essentially just ruining a person's life, and out of those there have been a couple of occasions where the patient was very aware and very vocal that marijuana was perceived as lethal. Sure. On a couple of occasions, the client definitely perceived that it was killing them. It was certainly a part of the puzzle that was creating dysfunction, in many cases even physically. More specifically, eating habits and appetite. I've had clients experience needing marijuana in order to eat and when they attempted to cease use of the substance they struggled with eating, and other basic needs sometimes too. Also, client's marijuana use leading to them experiencing an increase in anxiety or depressive symptoms to the point of suicidality or first-time occurrence of psychosis. Erratic and unsafe behaviors often resulting.

The LAC participants were unanimous in their belief that clients tended to overlook all evidence of THC as addictive. LAC#5 stated, "...people don't have all the information, don't know the risks, particularly the long-term risks...they're willing to overlook all other evidence that points to negative implications." LAC#3 commented:

...marijuana is addictive and there are a lot of people that use marijuana that don't think it is. And yet when you read the diagnostic criteria in the DSM for CUD it is clearly addictive. It has the potential for addiction and overdose. And Prof. Emeritus Dr. Tom Crowley at the University of Colorado Dept. of Psychiatry, did a study a few years ago about psychosis and a correlation of marijuana use and psychosis, and there should be some type of warning in Colorado, and do a better job of packaging as well in terms of ingredients and warning as well.

The LACs also agreed that clients do not see CUD as a disorder, and CUD occurs most often in the context of polysubstance abuse. LAC#3 remarked, “ It's pretty rare these days to find somebody who's just solely using cannabis and only meets criteria for cannabis use disorder. You know generally, we have, you know, polysubstance users.” LAC#4 observed:

Yeah, so what's interesting is as I treat people with like polysubstance disorders or people that are using multiple substances. I find that that as far as that cannabis tends to fall lower on that list, so people come in to see me, .and they'll say yes, I want to work on my substance use disorder, I'm going to give up alcohol, but I'm still going to use pot.

LAC#2 informed by their work with the forensic population:

“...for whatever reason, it's the one that they miss and a lot of times I'm an approved treatment provider for Department of Corrections and have been for a long time and a lot of times people have been incarcerated for substance-related issues, once they have been released from prison they like they miss the marijuana. They may not miss the meth or the cocaine or whatever, but they really miss the marijuana, and I don't know why, but that's the one that they want to come back to.” LAC#3 observed in the context of her very large OTP treatment population, “...so in the state of Colorado we are not required to test for cannabis, so in many of the OTPs this is not actually done. And the state of Colorado did not consider cannabis positive in a urinalysis result to be something of an infraction, so it doesn't necessarily restrict take-home medication for methods. However, our organization has made the determination that people with more

disorder are at higher risk for diversion or unsafe behaviors with regard to methadone take homes and so have determined to limit the number of take-home bottles that a patient can receive if they meet criteria for moderate or severe according to the DSM 5.

Paradoxically, LAC#3 found in their clinical experience that:

...there are shorter lengths of stay for people using marijuana when receiving methadone treatment...it's helpful to be on medication at least for opioid use disorder or alcohol use disorder, and then we find that in a lot of cases that cravings and the number of days used are decreased.

### ***Theme 2: LAC Clinical Decision Making***

The LAC participants qualified their clinical decision making and practice in treating CUDs with all LACs identifying the DSM diagnostic criteria for an accurate differential diagnosis, standardized assessment, well-researched and established standards (e.g., SAMSHA), together with adequate supervision, as vital to their clinical treatment decisions. LAC#3 related their treatment center:

...absolutely relies heavily on the DSM5, and we also use an assessment tool called the Global Appraisal for Individual Needs, which is also known as the "GAIN Engine." Historically we used the Addiction Severity Index Light Version and had special permission to use it from Dr. McLellan, but what we found was that the ASI wasn't substantial enough for our needs for reimbursement frankly, so we switched over to the GAIN Engine, and it's a much more comprehensive assessment so we generally use that.

LAC#5 related that when asked about what guides clinical decisions in treatment CUD:

Yeah, the first things that come to mind are the diagnostic criteria of cannabis use disorder in the DSM, and quite a bit of background working with the DSM criteria and determining the level of care options are a pretty big part of my practice.

LAC#5 emphasized, “You really need to determine whether you really have a cannabis issue that needs to be addressed.”

Two other areas of special focus with respect to clinical decision-making surfaced within this theme. The first is the necessity for clinicians to assess neuropsychological and neurophysiological processes in all substance abuse populations and provide clients with psychoeducation in this area to help them understand the effects of THC in the brain, and as LAC#5 put it, “...helping them understand how far along we are with understanding a general kind of framework as far as how compulsive substance abuse creates disordered brain functioning.”

LACs were also particularly united in their regard for how a client’s history of trauma informs their decision-making in substance abuse populations, including CUDs. LAC#2 remarked, “...I work a lot with trauma survivors for 16 years and I find a lot of substance use disorders are rooted in a history of trauma.” LAC#1 stated that in their clinical decision making, which is the same for CUDs and substance use disorders in general, “...I look at the use of the substance as a deeper driving issue...to be deeper in terms of specific problems or comorbidity like trauma. This is probably the biggest, yeah trauma plays one of the biggest roles in comorbidity; could be physical, emotional, or attachment trauma.”

### ***Theme 3: LAC Treatment Models, Theories, and Interventions for CUDs***



The five participants followed a cognitive-behavioral approach primarily informed by a harm-reduction model, contingency management, disease model, or client-centered focus with repeated words from the participants that, “meet the client where they’re at” with LAC#2 concluding:

...and if they don’t think that there’s an issue to be addressed you’re not going to make any progress. I like to go back and take a look at the reasons for using, and what we find is one of two issues or both. It’s either that we are turning on a positive or we’re turning off a negative. Turning on a positive means like the buzz for hanging out with my friends and having a good time. Turning off a negative cognitively is hey I don’t want to feel this way anymore and reflected in a trauma history.

LAC#1 argued:

...the hard part of the moral model is the construction of the disorder itself and it still influences treatment and treatment conversations. Rather than saying let’s get inquisitive and try to understand why people want to get high, we instead say that it’s just bad, and we, therefore, have to regulate and control the substance because people can’t use it safely when really the science would suggest that 90% of people who use don’t have a problem, so the science isn’t validating in a lot of ways. The layman’s construction and really continually influences, bi-directionally, the moral model, and the moral conceptualization—we still punish people, we still kick them out of treatment, we still try to just control the substance, that’s the whole “abstinence” construct too.

The participants, without exception, agreed that cannabis about decriminalizing because, as LAC#1 framed it:

... this still acknowledges that abused substances are dangerous and also acknowledge that people will still use them, but that we would treat them rather than incarcerate them. Criminalization produces the narrative to influence the lens through which the substance is based.

The participants in this study all utilize motivational interviewing techniques to facilitate change talk, resolve ambivalence, and find this to be the prime model and intervention for CUDs that helps move clients through the stages of change (Miller & Rollnick, 2013). LAC#2's narrative summarized the participants preferred model of intervention, in that:

clinicians should understand that clients need to be ready for treatment, with the best results in treatment outcomes occurring if the client is doing it for themselves. External influences have an effect on treatment outcomes, but lasting change is associated with being motivated to benefit oneself. In other words, it has to move from a punitive focus to an internal locus of control.

#### ***Theme 4: LAC CUDs Treatment Implications Since Legalization of Marijuana***

The participants concurred with the need for removal of cannabis as a Schedule I controlled substance and decriminalized. LAC#5 put it this way:

I would like to see the Feds get off of their conservative high horse and get cannabis off the Schedule I classifications so that we can get vital research done. You're not going to get any federal money for research as long as it's a Schedule I. So, if we can move the needle down a notch and some funding and research

done, that would be very, very helpful. There are dozens of cannabinoids that we don't know what they really do. Anecdotally, I have clients that say they get significant benefits from CBD, and it will help with sleep, pain, and a lot of different conditions. It would be nice to get some actual evidence of the use of CBD to help these certain issues. It would also be helpful to do the same thing with THC. We need to get the research done, we know more about almost every other substance and the mechanics of how they work than we do cannabis.

LAC#1 summarized the primary treatment implications since legalization stating:

I think when we can better science and really understand what's unique about those who struggle we have a greater opportunity to create effective treatment options. But right now, they're trying to treat with incomplete science means we're shooting darts in the dark. We're facilitating the narrative that the substance should not have an application when really every psychoactive substance is just a chemical compound and it's neither moral nor immoral.

***Theme 5: LAC Concerns About THC Effects, Medical Efficacy, Dosage, Purity, and Safety***

The LACs in this study expressed concern about a lack of research-based findings of the effects of THC, and they generally did not have any confidence in the medical efficacy of THC based upon research. Collectively, they described their concerns about the steadily rising potency of THC and the potential consequences of use worsening. This runs parallel to and concurrent with deep concerns by the participants about synthetic cannabinoids as well.

LAC#3 stated:

Well, I think that first and foremost just how I would, how I like to approach things is with policy and some type of organization and I think the field cannabis is grossly under-organized and doesn't have enough oversight. So, I spoke with somebody a couple of years ago who happened to be a member of the health inspectors' team and their focus was cannabis dispensaries and what they said was if it's a liquid, they treat it like olive oil, and it's just very bizarre because there's just not any rules in place. For example, when you have a serving of cereal with milk you have some nutritional facts and labels that are heavily regulated by the FDA, and these organizations have to follow those rules and identify how many nutrients are in a serving. And that the servings are going to be equal in terms of these nutrients, and so that a person can confidently, you know, have one serving and then another serving, and know that the nutrients are going to be the same. But in marijuana, for example, you know you have a cookie that has 100 milligrams of THC and there are 10 servings in a cookie. And I don't know if you've ever tried to cut a cookie into tenths and just eat 1/10 of a cookie. It's probably pretty difficult and there's no regulation that forces organizations in the cannabis industry to ensure that 10 milligrams are in each 10th of a cookie, so you could have 1/10 of a cookie and you get 40 milligrams, or a 10<sup>th</sup> a cookie and 0 milligrams of THC. So, I think that first and foremost there, there probably should be some additional oversight and some rules that dispensaries need to adhere to. And it's potential to be addictive and potential to overdose and doctor Tom Crowley, who is Professor Emeritus at the University of Colorado in the

Department of Psychiatry. did a study a few years ago about psychosis and a correlation between marijuana use and psychosis.

In LAC#2's forensic population, they observed:

I don't run into synthetics much anymore. The only people that I see, particularly with the advent of legalized cannabis. I don't see much in the way of synthetics. The only ones that I see generally are people that are on probation because it doesn't show up on a drug test. So yeah, and people on parole, people that are on parole if they have a medical card for well, let's him go ahead and use cannabis, right? So, the only ones that I see are ones that are on probation and most of those anymore understand that the synthetics are pretty dangerous. They can actually induce a full-blown psychotic episode, landing in the hospital. Most people anymore are aware of that and don't use Spice or any of the other synthetic. They don't want to be hospitalized and a lot of them have seen that happen with some of their peers and they don't want any part of that.

LAC#1 reflected the concerns in this theme this way:

It's scary to believe that marijuana was never on the street black market, it was always on the street. Getting factual information about the roulette of using a substance and you don't know what the outcomes can be powerful in prevention, treatment, and intervention. Does this keep people from making the decision to use? No. So without the science to demonstrate that it's scary and dangerous, is a historical fearmongering that we use with substances over time. And any substance that was used in teas and elixirs, if you look at opiates and opium, of course, they become more potent, more dangerous, of course, the effects are

factored the effects are greater when you eliminate the plant. This is true of any known substance that is plant-based. When we look at refining heroin out of the plant, or cocaine out of the coca plant, this isn't a new process, it's not often applied to marijuana. This is something well known in our field and how people use substances. The risk goes up when bang for the buck goes up, and you have to have a bigger effect because the risk is too high in using the substance. This is big business now, but this is not a new game. I have great concerns about synthetic cannabinoids because we know very little about them. Again, when anything is regulated or illegal it not only stops use on the street, but it also stops the science. So, all the substances that are coming to market to get around the regulation systems, like the spices and synthetic TCH are very scary because they are chemical molecular compounds that we do not understand, we do not understand how they alter the system, and therefore you can't teach people effectively about the potential risks. We don't even know what they're made of, and we don't know what people are using. The market is so adulterated now, with substances that are legal to buy, legal to sell, and legal to use and will not show up in UA's. This is the best marketing scheme for anyone who is looking to get around a regulatory system.

***Theme 6: LAC Strategies for Prevention***

The LAC participants in this study related their concerns about deficits in any meaningful prevention strategies in treating CUDs, including a lack of funding, and confusion that potentially exists from a lack of research and perspicuity, combined with a

misunderstanding and misapplication of the current models in treatment. This in their view, hindered the development of evidence-based prevention strategies.

First, LAC#1's observations are potentially instructive about constructing meaningful psychoeducational prevention strategies observing:

I think the greatest thing that needs to be addressed in treatment and prevention with substance use disorders is we don't teach how we do our work in models, so in mental health, you learn CBT and yes, we apply these models in a cross dynamic. So, we teach clinicians about the models they use eclectically so we say, look, there's a biological construction, it's a disease, it's a disease. it's a disease. We have people crossing models and understanding without the base knowledge exactly of what tools they're using and how they're affected to use, and it confuses the population receiving treatment. It makes us not be able to effectively talk to them about why and how they're using, which means that treatment is not going to be effective because you are not actually treating the issue, or you're creating complicated models that are in conflict with each other. As my greatest issue in education, the historical constructions around the socio-cultural intergenerational perspectives of the dangerousness of substances. Again, often not based on science, but rather based on a perception of the user, both by race, by poverty, socioeconomic status, and the intergenerational impact in our system.

LAC#3 offered these reflections concerning this theme:

...you know the Reagan program, right? And so, and I just don't know. I have two kids in elementary school right now and they're not receiving any education around drugs and alcohol and. And I, I think that that is a failure in part in our

society and they go to public school. I think that those programs were blamed for not working, and so we've kind of swung the pendulum to almost really not talk about it unless there's a problem and, and I think that's a misstep in the academic system, I think that it is important to provide some type of program or education. Starting in elementary school because we're seeing, you know I mentioned we have an adolescent unit. We're seeing kids young. As you know, 8-9 years old. that are trying substances here in the state of Colorado and then by the age of 24, a lot of those individuals have become injection drug users. So, I think that we can do a better job of providing education at an earlier age.

LAC#3 presented a concurring view about prevention:

I just think that there should be some warnings since it is legal in the state of Colorado, you know a pack of cigarettes has warnings on the side as well, and they've done a better job of packaging, but I'd still like to see it not be advertised for children, so in the New York Times, I think it was last week there was an article comparing like some kind of like Swedish fish product to a cannabis Swedish fish product, and if you didn't recognize that very, very, very small marijuana green leaf that's on the package, you might mistakenly give a child you know a cannabis product because you're thinking you're giving a child as sweetest Swedish fish, and it comes in a regular, you know bag that looks. Very similar to Swedish fish, which I happen to love. Regular Swedish fish, you know, and so, I think it's very dangerous and it reminds me of was the 50s when The Flintstones were advertising Winston cigarettes. And I think that's kind of akin to what's going on right now with the cannabis industry and unintentional marketing. That



is, that is targeting. our children. So yes, I do want to see safer practices and more education in place, and more disclosures. In order to keep people who are using these types of products safer and better informed so that they are more knowledgeable about the doses that they're ingesting.

### **Summary**

Chapter 4 displayed a summary of synthesized data collection clusters and the analysis procedures together with the results of six identified themes (Braun & Clarke, 2006; Creswell, 2006; Merriam, 2002, 2009). After identifying the theoretical underpinnings under which I conducted the study and discussed related literature with the development of common themes. This process sufficiently answered both research questions through data collection and analytics derived from the participant interviews. The clinician's lived experiences of LACs treating CUDs Colorado following the legalization of cannabis in Colorado generated six themes: a) LAC clinical experiences that inform treating CUDs, b) LAC Clinical decision making, c) LAC treatment models, theories, and interventions for CUD, d) LAC CUDs treatment implications since the legalization of marijuana, e) LAC concerns about TCH dosage, purity, and safety, and f) LAC strategies for prevention. Upon the conclusion of synthesizing the themes, I developed and presented exemplifications of LAC responses related to the derived themes by quotations from the data clusters generated in the MAXQDA20 qualitative research software database audio-to-text interview transcripts.

The LAC participants shared their lived experiences and attitudes in treating cannabis use disorders since the legalization of cannabis in Colorado via semi-structured interviews and concluded with descriptive narratives of each clinicians' experiences

about the research questions. Their answers resulted directly from data collection, synthesis, and analysis from the derived participants' perspectives. The interviews and data collected from the participants resulted in the ability to display the participants' professional, personal, and clinical experiences of their reciprocally stemming from decision-making processes in the treatment of CUDs in Colorado since the legalization of cannabis. I discussed the theory of relating one's interpersonal, behavioral, and environmental influences and summarized the contributing factors of their actions and processes for decision-making with CUDs cases through the application of multi-modal interventions drawn from reciprocal learning, integration, and practices of addictions counseling therapeutics. In the final chapter, I will discuss the research findings, recommendations for future research, and the potential implications of the study.

## **CHAPTER FIVE: CONCLUSION**

### **Overview**

The purpose of this qualitative phenomenological study was to acquire and describe clinicians' experiences and attitudes in treating cannabis use disorders in Colorado since the legalization of marijuana. The purpose of this chapter was to discuss the implications of the study's findings and provide recommendations based on the outcomes. The chapter begins with a summary and review of the outcomes of the study. I present a synthesized discussion of the implications of the study corresponding to the literature I reviewed. After describing the limitations of the study, I conclude the chapter concludes with recommendations for future research in the field of behavioral health care based on the findings. The research questions guiding this study were:

- RQ1. What are the attitudes of licensed addiction counselors (LACs) in Colorado concerning the treatment of Cannabis Use Disorders (CUDs)?
- RQ2. What regulatory, personal, environmental, social, scientific, legal, or clinical experiences influence the decision-making of LACs who treat cannabis use disorders in Colorado?

### **Summary of Findings**

Analysis of the data revealed six themes related to the LAC participants' attitudes in treating cannabis use disorders in Colorado, which describes their clinically identified experiences that influence their treatment decisions. I used a qualitative phenomenological method (Creswell, 2007; Merriam, 2009) to capture and explore clinician's attitudes and experiences influencing their decision-making. The concept of reciprocal determinism or the interplay of personal, behavioral, or environmental

influences, (Bandura, 1986, 1989, 2001, 2006) provided guidance to analyze and interpret the contributing factors to the addictions counseling therapeutics base of knowledge in the direction of identifying any regulatory, personal, environmental, social, scientific, legal, or clinical experiences influencing their decision-making when treating cannabis use disorders in Colorado.

Reciprocal determinism was a suitable theoretical base so the participants could project clinical cognitive decision-making based on personal, behavioral, and environmental factors because these are a strong impetus and motivator for treating clients with CUDs. The theoretical social learning factors gleaned from the participants' data, analogous to words, statements, and shared stories from the recorded study interviews (reciprocally determined). This provided insight and definition into addiction treatment praxis and the lived experiences of LACs in Colorado, and applicable with patients treated in substance use in-patient and out-patient settings for cannabis use disorder.

This applied theoretical perspective, conducted through the auspices of guided interview questions, allowed the participants to share their attitudes as LACs in Colorado treating CUDs and allow them to do so by sharing any personal, environmental, and behavioral influences guiding their clinical decisions in treating CUDs.

### **Discussion**

I drew the theoretical framework for this study from and relied on Bandura's conceptualization of reciprocal determinism derived from the social cognitive theory that essentially posits the causation of social phenomenon is rooted in one's personal, environmental, and behavioral influences (Bandura, 1986). While the

theoretical literature does not contain the application of this theory specifically to clinicians' experiences as LACs in Colorado treating CUDs, I adapted the social cognitive theory for the participants to project clinical cognitive decision-making based on personal, behavioral, and environmental factors because they were a strong impetus and motivator for treating clients with CUDs. Therefore, I gleaned these social learning factors from the participants' data, analogous to words, statements, and shared stories from the recorded interviews (reciprocally determined). The basic idea of reciprocal determinism focuses on stimulus events transforming an individual's behaviors (Williams et al., 2010).

### **Discussion of Findings in Relation to the Theoretical Framework**

I interpreted the discussion of the results of this research investigation from the findings derived from participant interviews and verbatim transcripts from voice-to-text processed with MAXQDA20 qualitative research software (Kuckartz & Radiker, 2019). The findings of this study uncovered new information that identified six themes from the processed participants' interviews (Braun & Clark, 2006; Corbin & Strauss, 2007; Merriam, 2002, 2009). I used the constant comparison methodology described by Corbin and Strauss (2007) for categorizing and data clustering the participant's transcribed interview text before data analysis.

In drawing the theoretical framework for this study from Bandura's conceptualization of reciprocal determinism, which he derived from social cognitive theory, essentially posits the causation of social phenomenon was rooted in one's personal, environmental, and behavioral influences (Bandura, 1986)

### ***Personal Factors***

Bandura (1989) found reciprocal interactions between thoughts, affect, and behaviors. Personal factors reflect a person's affective, interpersonal, and cognitive perceptions. I produced the personal factors of how participants related their personal and professional histories treating CUDs.

### ***Behavioral Factors***

Under the presuppositions within reciprocal determinism, people's bi-directional environmental factors exert influence in a way people become both producers and by-products of their environments. People's interactions shape their behavioral intentions from their thinking, values, beliefs, expectations, and self-perceptions (Bandura, 1986, 1989, 2001). Behavioral influences assessed from the participants' statements concerning their perceptions of treatment strategies "directionally" deduced the dynamic environmental factors they experienced working with cannabis use disorder clients.

### ***Environmental Factors***

Environmental influences are highly correlated with the interactions between personal characteristics, environmental influences (Bandura, 2006), and social influences, conveying information affecting human beliefs, expectations, emotional reactivity, and relative cognitive competency. As participants reflected on their experiences and field observations with clients with CUD, they revealed the influences of multiple environmental factors in clinical decision-making and treatment choices.

## **Theme 1: LAC Clinical Experiences that Inform Treating CUDs**

All the participants described clinical experiences they believed relevant to

treating CUDs through oral vignettes that were very rich, brief evocative descriptions, or accounts of lived clinical experiences. The responses under this theme revealed the participants' adeptness in multi-modal treatment practices (Primm et al., 1999). One of the areas of concern was LACs now see actual physical withdrawal and not merely psychological withdrawal with cannabis use. While this does not appear to be severe or have the attending consequences of other abused substances, clinicians expect to see increased irritability, sleep disturbances, and appetite lessened. All of these seem to dissipate with about two weeks. This may be attributable to marked increases in TCH potency and concentration observed from numerous clinical experiences. One participant estimated previous cannabis products contain between 3% to 5% THC, whereas now it may be upwards of 30% which does not include cannabis concentrates.

Another concern arising from LAC clinical experiences is a small but growing number of clients in which marijuana was potentially a major factor in lethality, although most likely indirectly. One participant recalled two clients that perceived their CUD was “killing them.” This appears to be a very curious and new finding, in that when these clients attempt to stop (typically multiple times) they struggle with eating and meeting other basic needs. Additionally, they may report an increase in anxiety or depressive symptoms to the point of suicidality and/or a first-time onset of psychosis. This results in erratic and unsafe behaviors, which contributes to the risk of death or serious bodily injury.

The participants were unanimous concerning how clients with CUD tended to overlook all evidence of THC as addictive. Clients appear not to have sufficient

information about TCH, they do not know the risks, particularly the long-term risks. One LAC participant stated, "...marijuana is addictive and there are a lot of people that use marijuana that don't think it is. And yet when you read the diagnostic criteria in the DSM for CUD it is clearly addictive. It has the potential for addiction and overdose..." It likewise seems to be a very settled matter of science and practice with all the participants, THC is addictive, and there is a syndrome of marijuana withdrawal.

The participants also collectively observed CUD suffers did not see CUD as a disorder. From the clinical experiences of the participants, other treatment providers can expect to see CUD most often in the context of polysubstance abuse. It may be rare to find a client who is solely using cannabis and only meets the DSM criteria for cannabis use disorder. One participant described their typical clinical experience this way, "...so people come to see me, and they'll say yes, I want to work on my substance use disorder, I'm going to give up alcohol, but I'm still going to use pot." Conversely, in the context of treating prisoners and probationers in forensic populations, one of the participants, an experienced certified treatment provider for the Colorado Department of Correction, expressed how those previously incarcerated for substance-related issues, upon release from prison clients, miss marijuana. They shared, "...they may not miss the meth or the cocaine or whatever, but they really miss the marijuana, and I don't know why, but that's the one that they want to come back to."

Another participant related a very interesting but unexpected clinical observation from a large university methadone OTP (Opioid Treatment Program)



with over 4,000 patients:

...so, in the state of Colorado, we are not required to test for cannabis, so in many of the OTPs, this is not actually done. And the state of Colorado did not consider cannabis positive in a urinalysis result to be something of an infraction, so it doesn't necessarily restrict take-home medication for methods. However, our organization has made the determination that people with more disorder are at higher risk for diversion or unsafe behaviors with regard to methadone take homes and so have determined to limit the number of take-home bottles that a patient can receive if they meet criteria for moderate or severe according to the DSM 5.

Paradoxically this LAC participant also revealed another experiential phenomenon regarding cannabis administered in the OTP setting:

...there are shorter lengths of stay for people using marijuana when receiving methadone treatment...it's helpful to be on medication at least for opioid use disorder or alcohol use disorder, and then we find that in a lot of cases that cravings and the number of days used are decreased.

### ***Theme 2: LAC Clinical Decision-Making***

The study participants unanimously endorsed the basis of their clinical decision-making in the treatment of CUS upon identifying the DSM symptoms for a differential diagnosis, completion of standardized assessments, and using well-researched and established standards (particularly those found at SAMSHA), together with adequate supervision, as vital when making treatment planning decisions. The participants all insisted the practitioner must determine whether their

CUD is an issue requiring redress. This is a critical and foundational finding for this study because the participants found greater than 95% of cannabis users do not have symptoms rising to the level of the DSM criteria for CUD:

Use of cannabis for at least one year, with the presence of at least two of the following symptoms, accompanied by significant impairment of functioning and distress:

1. Difficulty containing the use of cannabis. They use the drug in larger amounts and over a longer period than intended.
2. Repeated failed efforts to discontinue or reduce the amount of cannabis used.
3. An inordinate amount of time occupied with acquiring, using, or recovering from the effects of cannabis.
4. Cravings or desires to use cannabis. This can include intrusive thoughts, images, and dreams about cannabis, or olfactory perceptions of the smell of cannabis, due to preoccupation with the drug.
5. Continued use of cannabis despite adverse consequences from its use, such as criminal charges, ultimatums of abandonment from spouse/partner/friends, and poor productivity.
6. Other important activities in life, such as work, school, hygiene, and responsibility to family and friends are superseded by the desire to use cannabis.
7. Cannabis is used in potentially dangerous activities, such as operating a motor vehicle.

8. Use of cannabis continues despite awareness of physical or psychological problems attributed to use, for example, anergia, motivation, and/or chronic cough.

9. Tolerance to Cannabis, as defined by progressively larger amounts of cannabis necessary to obtain the psychoactive effect experienced when using first commenced, or noticeably reduced effect of the use of the same amount of cannabis

10. Withdrawal, defined as the typical withdrawal syndrome associate with cannabis, or a similar substance used to prevent withdrawal symptoms.

The status of the disorder can be further qualified as early or sustained remission.

An additional specifier for the status of the disorder is:

In a Controlled Environment, e.g., a treatment facility or correctional facility with limited access to cannabis. The severity of the disorder also depends on the number of symptoms noted:

- Mild – Two or Three Symptoms
- Moderate- Four or five symptoms
- Severe- Six or more symptoms (American Psychiatric Association, 2013).

I detected two other highly significant areas of special focus with respect to LAC clinical decision-making within this thematic category. First, the study participants were again in complete accord concerning the necessity for clinicians to assess for neuropsychological and neurophysiological processes in all substance abuse populations and provide clients with psychoeducation to help them understand the effects of THC in the brain. One participant stated how “...helping them understand how far along we are

with understanding a general kind of framework as far as how compulsive substance abuse creates disordered brain functioning.” Secondly, the study participants all shared clinical observations regarding informing their decision-making by identifying the typical finding of a history of trauma in substance abuse populations, including CUDs. One experienced participant reflected on this:

...I look at the use of a substance as a deeper driving issue...to be deeper in terms of specific problems or comorbidity like trauma. This is probably the biggest, yeah trauma plays one of the biggest roles in comorbidity; could be physical, emotional, or attachment trauma.”

This was also particularly significant for forensic populations with one of the specialists remarking, “...I work a lot with trauma survivors for 16 years and I find a lot of substance use disorders are rooted in a history of trauma.”

### ***Theme 3: LAC Treatment Models, Theories, And Interventions for CUDs***

The five participants followed a cognitive-behavioral approach primarily informed by a harm-reduction model, contingency management, disease model, or client-centered focus with repeated words from the participants to “meet the client where they’re at.” All the participants argued against the moral model involving abstinence-first and agreed concerning the need for the decriminalization of cannabis. The participants in this study all utilized motivational interviewing techniques to facilitate change talk, and resolve ambivalence, finding this a prime model and intervention for CUDs that helps move clients through the stages of change. Another participant summarized the preferred model of intervention suggesting:

clinicians should understand that clients need to be ready for treatment, with the best results in treatment outcomes occurring if the client is doing it for themselves. External influences have an effect on treatment outcomes, but lasting change is associated with being motivated to benefit oneself. In other words, it has to move from a punitive focus to an internal locus of control.

***Theme 4: LAC CUDS Treatment Implications Since Legalization of Marijuana***

One very significant treatment implication revealed since the legalization of marijuana, was all the participants concurred on the need for removal of cannabis as a Schedule I controlled substance and decriminalized. The Schedule I category carries with it a pre-determined finding of no evidence of medicinal value. The participants all shared how the only registered research-grade marijuana registrant received authorization to grow marijuana for research at a secure facility under contract with the University of Mississippi. This singular facility has access to varying potencies and compositions along with marijuana-derived compounds also available for study (Singh et al., 2008). They shared how a long and onerous process could last for years. Considering greater barriers to cannabis research includes adhering to purchasing all cannabis used for research purposes through the National Institute on Drug Abuse (NIDA). The highest TCH level available to researchers is 12.4%, however, strains in Colorado now average 18.7% TCH, with some strains containing as high as 35% (Stith & Vigil, 2016).

One participant shared:

I would like to see the Feds get off of their conservative high horse and get cannabis off the Schedule I classifications so that we can get vital research done.

You're not going to get any federal money for research as long as it's a Schedule I. So, if we can move the needle down a notch and some funding and research done, that would be very, very helpful. There are dozens of cannabinoids that we don't know what they really do. Anecdotally, I have clients that say they get significant benefits from CBD, and it will help with sleep, pain, and a lot of different conditions. It would be nice to get some actual evidence of the use of CBD to help these certain issues. It would also be helpful to do the same thing with THC. We need to get the research done, we know more about most every other substance and the mechanics of how they work than we do cannabis.

Another participant summarized this primary treatment implication since legalization sharing:

I think when we can better science and really understand what's unique about those who struggle we have a greater opportunity to create effective treatment options. But right now, they're trying to treat with incomplete science means we're shooting darts in the dark. We're facilitating the narrative that the substance should not have an application when really every psychoactive substance is just a chemical compound and it's neither moral nor immoral.

***Theme 5: LAC Concerns about THC Dosage, Purity, and Safety***

All the participants concurrently and urgently expressed apprehension about a lack of research-based findings on the effects of THC. They generally do not have any confidence in the medical efficacy of THC based upon research. They are likewise unified in their concerns about their clinical experiences with the steadily rising potency of cannabis and the potential adverse consequences of use worsening. This

runs parallel to and concurrent with their even deeper concerns about synthetic cannabinoids and concentrates as well. The participants perceived a grossly under-organized cannabis industry and market lacking sufficient oversight. One remarked,

So, I think that first and foremost there, there probably should be some additional oversight and some rules that dispensaries need to adhere to and its potential to be addictive and potential to overdose and doctor Tom Crowley, who is Professor Emeritus at the University of Colorado in the Department of Psychiatry. did a study a few years ago about psychosis and a correlation between marijuana use and psychosis.

Another participant who is an expert clinician, trainer, and researcher reflected the concerns under this theme this way:

Risk goes up when bang for the buck goes up, and you have to have a bigger effect because the risk is too high in using the substance. This is big business now, but this is not a new game. I have great concerns about synthetic cannabinoids because we know very little about them. Again, when anything is regulated or illegal it not only stops use on the street, but it also stops the science. So, all the substances that are coming to market to get around the regulation systems, like the spices and synthetic TCH are very scary because they are chemical molecular compounds that we do not understand, we do not understand how they alter the system, and therefore you can't teach people effectively about the potential risks. We don't even know what they're made of, and we don't know what people are using. The market is so adulterated now, with substances that are legal to buy, legal to sell, and legal

to use and will not show up in UA's. This is the best marketing scheme for anyone who is looking to get around a regulatory system.

***Theme 6: LAC Strategies for Prevention***

Finally, the participants in this study found a conspicuous absence of any meaningful prevention strategies in treating CUDs, including a lack of funding, and confusion that exists from a lack of cohesive research and perspicuity, together with a misunderstanding and misapplication of current models and methods of treatment. This significantly hinders the development of effective evidence-based prevention strategies. An expert participant stated:

I think the greatest thing that needs to be addressed in treatment and prevention with substance use disorders is we don't teach how we do our work in models, so in mental health, you learn CBT and yes we apply these models in a cross dynamic. So, we teach clinicians about the models they use eclectically so we say, look, there's a biological construction, it's a disease, it's a disease. it's a disease. But you're self-medicating and that's related to Khantzian's self-medication hypothesis. We have people crossing models and understanding without the base knowledge exactly of what tools they're using and how they're affected to use, and it confuses the population receiving treatment. It makes us not be able to effectively talk to them about why and how they're using, which means that treatment is not going to be effective because you are not actually treating the issue, or you're creating complicated models that are in conflict with each other. As my greatest issue in education, the historical constructions around the socio-cultural intergenerational perspectives of the dangerousness of substances. Again,



often not based in science, but rather based in a perception of the user, both by race, by poverty, socioeconomic status, and the intergenerational impact in our system.”

Other findings within this thematic category included the need for testing of retail cannabis products for dosage and purity, as well as packaging labels that provide details about the contents and clearly visible warnings denoting THC content and safety warnings. One participant recently encountered this in a widely reported incident:

so in the New York Times, I think it was last week there was an article comparing like some kind of like Swedish fish product to a cannabis Swedish fish product, and if you didn't recognize that very, very, very small marijuana green leaf that's on the package, you might mistakenly give a child you know a cannabis product because you're thinking you're giving a child as sweetest Swedish fish, and it comes in a regular, you know bag that looks. Very similar to Swedish fish, which I happen to love. Regular Swedish fish, you know, and so I, I think it's very dangerous and it reminds me of was the 50s when The Flintstones were advertising Winston cigarettes. And I think that's kind of akin to what's going on right now with the cannabis industry and unintentional marketing. That is, that is targeting our children. So yes, I do want to see safer practices and more education in place, and more disclosures. In order to keep people who are using these types of products safer and better informed so that they are more knowledgeable about the doses that they're ingesting.

Another participant offered this thematic reflection:

I have two kids in elementary school right now and they're not receiving any education around drugs and alcohol and. And I, I think that that is a failure in part in our society and they go to public school. I think that those programs were blamed for not working, and so we've kind of swung the pendulum to almost really not talk about it unless there's a problem and, and I think that's a misstep in the academic system, I think that it is important to provide some type of program or education. Starting in elementary school because we're seeing, you know I mentioned we have an adolescent unit. We're seeing kids young. As you know, 8-9 years old. that are trying substances here in the state of Colorado and then by the age of 24, a lot of those individuals have become injection drug users. So, I think that we can do a better job of providing education at an earlier age.

In sum, the participants sensed the need for increasingly efficacious prevention and interventions programs targeting kids and adolescents because they present as most at risk. They argue the essential need to appropriately monitor longitudinal outcomes in Colorado. This is imperative for the participants because education regarding “safer” use can help to detect cannabis-related impairment reductions. The participants concur generally with the need for research that identifies risk modifiers that distinguish between medicinal vs. recreational use. Because of their urgent concerns associated with an unregulated cannabis market whose products sell or are distributed in legalized dispensaries and black markets (Sahlem et al., 2018).

### **Implications**

This study may offer highly significant insights and information drawn from the lived experiences of expert field practitioners who treat CUDs. The outcomes I ascertained revealed critical new information that provides new platforms for continued research and practice. This study has practical implications for treatment providers in dual diagnosis service delivery areas including in-patient and outpatient substance use treatment facilities as well as opioid treatment programs. Since the legalization of both medical and recreational marijuana in Colorado, I uncovered a variety of complex issues revealed through the lived experiences and attitudes of front-line expert LACs who practice in Colorado and treat CUDs. The ability to accurately diagnose CUDs and their co-occurring disorders correlate with better treatment outcomes.

Within the theme for clinical experiences that inform the treatment of CUDs, highlighted the participants' skills in multi-modal treatment practices. The participants' concern focused on the period following the legalization in Colorado when clients experience physical as well as psychological withdrawal from cannabis use. Clinical experience with this phenomenon appears comparatively less severe than with other abused substances. Clinicians can expect to see typical withdrawal symptoms including irritability, sleep disturbances, and decreased appetite, with all ailments resolving in about two weeks corresponding with the reviewed literature findings (Budney & Hughes, 2006).

The results of this study imply clinicians may encounter a small but growing number of clients in which marijuana withdrawal syndrome may indirectly be a

major factor in lethality, which may be associated with multiple attempts to quit using cannabis. They may struggle to meet basic needs and report poor appetites, not eating, and an increase in anxiety or depressive symptoms to the point of suicidality and/or the first onset of psychoses. This may result in erratic and unsafe behaviors, which increases the risk of death or serious bodily injury. The participant's clinical experience includes an overall tendency of clients with CUD to overlook evidence of THC as addictive and a disorder. The participants attributed this to insufficient information about the effects of THC, and the lack of awareness of the risks, particularly the long-term risks of cannabis use. This correlates with the reviewed literature, which details how cannabis can lead to problem use (CUD) and become a form of addiction in severe cases. Recent data suggested 30% of cannabis users also reported some degree of CUD. People who start using marijuana before the age of 18 are four to seven times more likely to develop CUD than mature adults. (Winters & Lee, 2008). Nine percent of people who use marijuana will develop a dependency and approximately 17% of those who start using it in their teens (Center for Behavioral Health Statistics and Quality, 2013). In 2015, 4 million people in the U.S. met the diagnostic criteria for CUD (Substance Abuse Center for Behavioral Health Statistics, 2018), and 138,000 voluntarily sought treatment for their marijuana use (Office of National Drug Control Policy, 2020). On average, adults seeking treatment for marijuana use disorders have used marijuana nearly every day for more than 10 years and have attempted to quit more than six times (Diamond et al., 2006).

The participants' clinical experience with CUD suggested treatment

providers can expect to see CUD most often in the context of polysubstance abuse, and in forensic populations, upon release clients are apt to return to using marijuana as a preferred substance. An unexpected research implication arose through the auspices of a skilled and experienced participant in a large methadone OTP (Opioid Treatment Program) with over 4,000 patients. Based on their clinical experience they suggested patients with more CUD disorder presented at higher risk for diversion or unsafe behaviors with regard to treatment take-home medications and were limited in the number of take-home bottles if they met the criteria for moderate to severe CUD.

Paradoxically, this same participant revealed another clinical phenomenon associated with the administration of THC in the OTP setting with shorter stays and reduced cravings for opiates. The results of this study, drawn from factors that contribute to the participant's clinical decision making, indicated the treatment of CUDs required evaluation from the DSM symptoms to produce a differential diagnosis, as well as complete histories and standardized assessments. The use of well-researched and established protocols, especially from the Substance Abuse and Mental Health Services Administration (SAMSHA) is essential to making an accurate diagnosis and designing effective treatment planning. The participants fully endorsed those practitioners who treat CUDs as having adequate supervision and training in order to competently practice within the scope of the discipline. This is a critical and foundational implication from the study results because the participants found that greater than 95% of cannabis users do not have symptoms that rise to the level of the DSM criteria for CUD.

Drawn from the experiences informing the participant's clinical decision-making was the finding that clinicians must assess for neuropsychological and neurophysiological functioning and provide clients with psychoeducation to help them understand the effects of THC in the brain and how compulsive substance abuse creates disordered functioning. Another highly significant area of special focus the participants identified as essential in making quality treatment decisions was a typical finding from clinical observations of a history of trauma in substance abuse populations, including CUDs. Therefore, clinicians can expect to encounter a history of trauma, and carefully conduct an assessment.

The treatment models and theoretical orientations and CUD interventions of the study participants used a cognitive-behavioral approach primarily complemented by a harm reduction model, contingency management, drawn from the disease model. All participants reported following a client-centered approach and used a similar language of "meet the client where they're at." They also collectively argued against the moral model involving abstinence first and endorsed the decriminalization of cannabis.

All the participants utilized motivational interview (MI) techniques to facilitate change talk, resolve ambivalence and found this a prime model, modality, and intervention for CUDs because they show the greatest promise. Motivational enhancement therapy is a systematic form of an intervention designed to facilitate internally motivated change. The MI intervention and modality does not attempt to "treat" the person but draws on the extant internal resources for change and engagement in treatment. The participants acknowledged people with CUDs often

also suffer from other co-morbid psychiatric disorders, particularly those with heavy use and chronic mental disorders. The behavioral treatments they deploy were found helpful in reducing marijuana use and entering recovery (Di Forti et al., 2019).

Another shared thematic urgent concern of the participants surfaced concerning the lack of research-based findings of the effects of TCH. They also do not have confidence in the medical efficacy of TCH because of the deficits of science-based knowledge in this area. This concern runs parallel to a unified concern of their experience with what appears to be a steadily rising potency of cannabis and the potential worsening of adverse consequences.

The participants perceived a grossly under-organized cannabis industry and market without sufficient oversight and quality controls. One participant framed this stating:

Risk goes up when bang for the buck goes up, and you have to have a bigger effect because the risk is too high in using the substance. This is big business now, but this is not a new game. I have great concerns about synthetic cannabinoids because we know very little about them. Again, when anything is regulated or illegal it not only stops use on the street, but it also stops the science. So, all the substances that are coming to market to get around the regulation systems, like the spices and synthetic TCH are very scary because they are chemical molecular compounds that we do not understand, we do not understand how they alter the system, and therefore you can't teach people effectively about the potential risks. We don't even know what they're made of, and we don't know what people are using. The market is so

adulterated now, with substances that are legal to buy, legal to sell, and legal to use and will not show up in UA's. This is the best marketing scheme for anyone who is looking to get around a regulatory system.

The identified LAC strategies for prevention revealed and the participant's concerns and recognized a conspicuous absence of any meaningful prevention strategies in treating CUDS, including a lack of funding, and an attending confusion that exists from a lack of cohesive research and perspicuity that helps guide clients. The participants alluded to misunderstandings and misapplications of current models and methods of treatment significantly hindering the development of effective evidence-based prevention strategies.

Participants would like to see an integration of retail testing for cannabis products for dosage and purity, as well as packaging labels that provide details about the contents, along with clear and visible warnings that differentiate the presence of THC content to prevent children from mistakenly ingesting THC.

Finally, the participants perceived a wholesale lack of any drug abuse prevention education, and kids as early as 8-9 years old are trying substances in Colorado. Many of those individuals become injection drug users who are seen in the OTP treatment centers. The participants sense the need for increased intervention and prevention programs targeting kids and adolescents because they are most at risk with longitudinal studies that monitor the outcomes in Colorado. Education regarding "safe" can be of great benefit to detect cannabis-related impairment reductions.



## **Delimitations and Limitations**

I made certain design decisions that defined the boundaries of the study. The delimitations section below explains those choices. Additionally, I identified potential weaknesses of the study that were beyond my control due to the focus of the study. I describe the limitations in the following section.

### **Delimitations**

The purpose of the qualitative phenomenological study was to access and acquire clinicians' experiences and attitudes in treating cannabis use disorders in Colorado since its legalization. For that reason, I defined several boundaries to focus the study. I chose a qualitative phenomenological design because the study intended to allow participants to describe their clinical experiences. Bandura's (1989) social cognitive theory with its concepts of reciprocal determinism formed the theoretical framework for the study and is appropriate to give voice to those with similar experiences of a specific phenomenon (Creswell, 2013; Husserl & Kerson, 1980;). In this case, the lived experiences and attitudes of LACs in Colorado who treat CUDs. The choice of selecting LACs in Colorado was one of convenience to my location. Other factors presented in the areas of experiences of substance abuse treatment encounters. I restricted participation in the study to only those who are active LACs in Colorado to ensure this criterion met the focus of the study.

### ***Limitations***

There are several potential limitations in this study based on its focus, design, sample size, and study population. Because of its qualitative and phenomenological

nature, the results are not generalizable and may be difficult to duplicate. The sample size of five is small but acceptable for a qualitative phenomenological study due to data saturation, although this may have produced a limited view of LACs in Colorado who encounter and treat CUDs.

Another limitation inherent to the study was I am a licensed professional counselor (LPC) in Colorado with considerable clinical experience treating substance use disorders. I, therefore, took care to bracket out my experiences as a clinician, but there remained the possibility of bias in the description of the findings. In addition to bracketing, I took steps to minimize this limitation through member checking of the collected and analyzed data, but I may not have eliminated my biases.

### **Recommendations for Future Research**

A major concern surfaced by the study's participants highlighted the steadily increasing potency of marijuana over several decades in confiscated samples. The average TCH content in the early 1990s in confiscated marijuana samples was less than 4% (Mehmedic et al., 2010). In 2018 it had grown to more than 15% (Freeman et al., 2014). Researchers do not yet know the attending consequences when exposing the body and brain (particularly the developing brain) to high concentrations of THC, nor whether the increased emergency department visits detected in the literature review related to the rising potency in those who test positive for THC. Research efforts in this area are recommended to inform users of any correlation between the believed strength of the marijuana they are using and understand the dynamics of potency variations.

An additional concern with medical marijuana highlighted the minimal knowledge regarding the hundreds of unknown active chemicals in botanicals such as

marijuana. THC has known adverse health effects such as THC-induced cognitive impairment. Colorado has nevertheless legalized the dispensing of marijuana and its extracts to people with a range of medical conditions. Further research can assist in determining the efficacy in treating behavioral health disorders because the FDA has not approved any medications for the treatment of CUDs.

Further research on the effects of THC cannot proceed until removal of the impediment of prohibiting possession of marijuana due to its current scheduled classification, and designation of having no known medical use federally. The effects of legalizing cannabis on treatment and research priorities for CUDs require further research. Current treatment approaches, over multiple trials, resulted in only modest observed efficacy and interventional durability (Sahlem et al., 2018). Available CUD treatment trials demonstrated abstinence durability as generally poor, with one exception that combined CBT with abstinence-based contingency management (CM), which achieved an abstinence rate of 37% that persisted for one year (Budney et al., 2006).

It seems likely legalization will increase the need for efficacious intervention and prevention programs for CUDs, particularly those that target adolescents. Sahlem and associates summarized this in their discussion of public health outcomes affected by the increases and unlimited cannabis availability:

...There have been several investigations that have evaluated the efficacy of school-based prevention programs. The majority of such investigations were randomized controlled trials focused on universal prevention among middle school students...reviewed trials of interactive programs which emphasized skill-building and peer interactions rather than relying on a traditional didactic, lecture-

style model. These programs yielded a small, pooled effect on reducing cannabis use, but did not reduce the intention to use or improve refusal skills relative to control conditions... a systematic review of middle school-based programs revealed few statistically significant positive effects of active interventions when compared to control conditions (Sahlem et al., 2018).

The study participants urgently recommend the further development and implementation of prevention and intervention programs for adolescents. The available programs have only small beneficial treatment effect sizes, making this research area vitally important given cannabis will be more

...acceptable as its perceived risk continues to fall...programs utilizing comprehensive educational programs would likely have the largest overall impact given the rate of conversion to CUD appears to be highest in this group (Sahlem et al., 2018).

The potential implications of legalization and the prevention of CUD, along with the increased vulnerability of adolescents to cannabis' negative effects, would be reduced by programs that, "delay the onset of use beyond this critical time and be of particular benefit in reducing the adverse impacts of cannabis use" (Sahlem et al., 2018, p.220).

The study participants unanimously suggested researchers should focus on more effective treatment availability. Regrettably, the majority of psychosocial treatments lack durability, and no pharmacological treatment attained FDA approval for the reduction of cannabis use. The study participants likewise perceived the best way to avoid the adverse effects of cannabis use is through harm reduction approaches that may provide individual patients the freedom and autonomy to set their own self-directed treatment goals,

particularly for those who, “recognize that their use of cannabis is associated with harm, but do not want to abstain entirely. Harm reduction approaches may modify both how and what clinicians communicate to patients in treatment settings...” (Sahlem et al., 2018).

### **Summary**

I provided previously unknown attitudes and experiences of LACs who treat cannabis use disorders in Colorado since its legalization based on the results of this study. This information will help professional addictions practitioners and substance use treatment facilities who encounter those with CUDs. Utilizing a qualitative phenomenological research method, I explored LACs’ treatment experiences with CUDs in a variety of treatment settings. Semi-structured interview questions guided the inquiry and increased ways of understanding the CUD phenomenon (Merriam, 2009). Research questions provided structure and guidance for the inquiry, and I expounded on themes derived from themes, which emerged as each contributor revealed their experiences that inform their treatment of CUDs, as well as their decision-making processes. The study participants provided key insights into their treatment models and modalities, theories, and interventional protocols for treating CUDs. I explored a vitally important theme related to treatment implications since the legalization of marijuana and uncovered new information. The participants expressed concern about the unknown effects of THC and evidence-based research as they remain skeptical about the medical efficacy of marijuana. The dosage, purity, and safety of the products in the cannabis market, including retail and black-market sources, were a special focus of the participant’s concerns. The participating LACs recommend emphasizing developing effective treatments and making them available as soon as possible.

All the study participants related experiences by recalling events, scenarios, or personal experiences that warrant changes in the way providers manage CUDS. Based on the findings, I suggest the clinical experiences of LACs who treat CUDS should be considered and applied to improvements in the development of interventional strategies for marijuana users and consumers. Revealing their field experiences greatly contributed to a better understanding of the behavioral sciences and human services disciplines.

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**APPENDIX A: IRB APPROVAL LETTER****LIBERTY UNIVERSITY**  
INSTITUTIONAL REVIEW BOARD

June 10, 2021

Michael Leiker

Richard Green

Re: IRB Exemption - IRB-FY20-21-831 CLINICIANS' EXPERIENCES AND  
ATTITUDES TREATING CANNABIS USE DISORDERS IN COLORADO: A  
QUALITATIVE INQUIRY SINCE THE LEGALIZATION OF MARIJUANA IN  
COLORADO

Dear Michael Leiker, Richard Green:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved

application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

Category 2. (iii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at [irb@liberty.edu](mailto:irb@liberty.edu).



## **APPENDIX B: CONSENT FORM**

### **Consent**

**Title of the Project:** Clinicians' Experiences and Attitudes Treating Cannabis Use Disorders in Colorado: A Qualitative Inquiry Since the Legalization of Marijuana in Colorado

**Principal Investigator:** Michael Leiker, Doctoral Candidate, Liberty University

#### **Invitation to be Part of a Research Study**

You are invited to participate in a research study. In order to participate, you must be 18 years of age, and a Licensed Addiction Counselor (LAC) in Colorado and have treated Cannabis Use Disorders (CUDs). Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

#### **What is the study about and why is it being done?**

The purpose of the study is to fill a gap in the attitudes and practices of Licensed Addiction Counselors and the treatment of Cannabis Use Disorders in Colorado. The

current state of generally accepted best practices among clinicians in Colorado would be better understood if their therapeutic experiences, attitudes, and actions could be sampled and recorded. Colorado's licensed addictions professionals should be tapped as a rich source of the effects of marijuana use, so that meaningful trends, themes, and patterns can be identified so that overall treatment outcomes might be improved. This study seeks to improve addictions counseling therapeutics derived from the lived experiences of LACs who treat cannabis use disorders.

<b>What will happen if you take part in this study?</b>
---

If you agree to be in this study, I will ask you to do the following things:

1. You will be meeting with Michael Leiker via a confidential phone number, and a series of questions will guide the interview. This interview would probably last for approximately 30 minutes, and the interview and an audio recording will be made.
2. During the phone interview, a series of study questions will guide the interview to discover what informs your decisions about treatment of cannabis use disorders.
3. The interview questions are designed to allow you to describe your personal attitudes concerning the treatment of Cannabis Use Disorders (CUDs).

**How could you or others benefit from this study?**

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include, or potentially include implications for prevention and community-based treatments that are informed by research and the clinical experience and attitudes of LACs. The attitudes and lived experiences of LACs in Colorado can vitally inform treatment practices and interventions through the stories of field practitioners using their own experiences in treating CUDs, as described as their narratives are explored and described in their own words.

**What risks might you experience from being in this study?**

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

**How will personal information be protected?**

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous. Participant responses will be kept confidential through the use of identifying a participant by a numerical code only. The interviews will be conducted in a location where others will not easily overhear the conversation.
- Data will be stored on a password-locked computer database, and the database will be encrypted by a passcode and may be used in future presentations. After three years, all electronic records will be deleted.
- Interviews will be recorded and transcribed. Recordings will be stored on a password-locked computer for three years and then erased. Only the researcher will have access to these recordings.

**How will you be compensated for being part of the study?**

Participants will not be compensated for participating in this study.

**Is study participation voluntary?**

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

**What should you do if you decide to withdraw from the study?**

**How to Withdraw from the Study**

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

**Whom do you contact if you have questions or concerns about the study?**

The researcher conducting this study is Michael Leiker. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at xxx-xxx-xxxx, xxxxxxxxxxxx@gmail.com. You may also contact the researcher's faculty sponsor, Dr. Richard Green, at xxxxxxxx@liberty.edu.

**Whom do you contact if you have questions about your rights as a research participant?**

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515, or email at [irb@liberty.edu](mailto:irb@liberty.edu)

**Your Consent**

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

*I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.*

☐ The researcher has my permission to audio-record me as part of my participation in this study.

---

Printed Subject Name

---

Signature & Date

## **APPENDIX C: PARTICIPANT RECRUITMENT LETTER**

To: Colorado Licensed Addiction Counselors (LACs):

As a graduate student in the School of Behavioral Science at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to interview Licensed Addiction Counselors (LACs) in Colorado and record how they describe their personal attitudes concerning the treatment of Cannabis Use Disorders (CUDs), and also how LACs would describe what influences their decision making in the treatment of CUDs. I am writing to invite eligible participants to join my study. Participants must be 18 years of age or older, are a Licensed Addictions Counselor in Colorado, and have Cannabis Use Disorder treatment experience. Participants, if willing, will be asked to be interviewed and audio-recorded, and transcribed. The phone interview will be guided by participant interview questions. The purpose of the recorded interview is to access your personal, professional, and clinical experiences treating clients who present with marijuana-related mental health problems. It should take approximately thirty minutes to complete the procedure listed. Participation will be completely anonymous. Names and other personal identifying information will be collected for screening purposes, but the information will remain strictly confidential.

In order to participate, please contact me at xxx-xx-xxxx to schedule a confidential study interview, or email address xxxxxxxxxxxx@ gmail.com.

Participants will not be compensated for their participation in the study.

Sincerely,

Michael Leiker

Doctoral Candidate, Liberty University School of Behavioral Sciences

xxx-xx-xxxx

xxxxxxxxxx@gmail.com



**APPENDIX D: SAMPLE OF PARTICIPANT TRANSCRIPT**

[Audio file](#)

[Transcript](#)

Leiker

Well, thank you. So, I've got a a set of interview guide questions, so I'm just going to start at the top.

Leiker

Yeah, what? What experiences do you have, say treating or dealing with marijuana related behavioral health problems?

LAC#5

Yeah, uhm.

LAC#5

Quite a bit, actually. Let let's see I've I guess I've been in a behavioral health and addictions field for about 8 years now, and uh, started as a.

LAC#5

Like a.

LAC#5

A clinic assistant Slash drug monitoring technician for a uh.

LAC#5

Place called Arapahoe house. Actually, probably heard with them. And, uh.

LAC#5

Yeah, and uh, kind of worked my way up with that, uh, into some more, some even more clinical roles as a therapist starting in the like DUI services so clients that were only in treatment because they were court ordered from a DUI case.

LAC#5

Or they were anticipating being court ordered because of a DUI up to.

LAC#5

Uh, intensive outpatient programs, UM.

LAC#5

Jail settings, school settings. Psych hospital settings. Kind of a bit of a lot of.

Speaker 1

Different levels of care and settings, and, uh, marijuana.

LAC#5

I think, especially in Colorado, probably is a is fairly prevalent, and, uh, you know, you see, you definitely see.

LAC#5

Challenges and, uh, uh, symptoms that come up for patients, uh.

LAC#5

You know, oftentimes those are underlying. UM, sometimes you know they have been.

LAC#5

Likely caused by marijuana use, but usually they come like in combination with them.

Leiker

Good, let's talk about these then as we move through these, we're about to capture. Now some of those unique themes from us. So what? What guides your clinical decision making?

In treating you know kids and adults with cannabis you know marijuana related problems.

LAC#5

Yeah, so it would be the first things that come to mind is a just like a.

LAC#5

Diagnostic criteria of cannabis use disorder. So looking at the DSM there, uhm in addition to.

It's order.

LAC#5

I have quite a bit of background working within the DSM criteria and determining.

LAC#5

A level of care options UM.

LAC#5

What's a pretty big part of my practice is, uh?

LAC#5

Just looking at the.

LAC#5

Neuroscience, and uh yeah. When appropriate, providing psychoeducation for the client around that.

LAC#5

Uhm, so just helping them understand, uh?

LAC#5

You know what happens, uh, in the brain.

LAC#5

As it relates to UM?

LAC#5

Addiction UM and.

LAC#5

Yeah, just.

LAC#5

Helping them understand how far along we are with understanding that certainly more so than ever before, although there's still probably a lot of unknowns, but just get giving them a a general kind of framework to work with as far as how those that type of you know compulsive substance abuse.

LAC#5

Becomes disordered.

So, like, uh, particularly personally, but also professionally. One of my biggest concerns.

LAC#5

Around marijuana use is kind of the, uh.

LAC#5

What sometimes seems like a.

LAC#5

Widespread belief, uh, that marijuana is a.

LAC#5

That there's nothing risky about marijuana use. Uhm, I have thought and said at times in the past that maybe one of the biggest.

LAC#5

Risks related to marijuana use is just that attitude that there are no risks, and we've obviously known that to not be the case.

LAC#5

This, uh, I think there's in my experience and I don't have like the most up-to-date information about laws and so forth, but in my experience, last I checked, even with medical marijuana, you know, being in Colorado for many years.

LAC#5

At this point is that they still don't quite know what to do with, uh.

LAC#5

LAC#5

With that as it relates to a DUI or DWI's you.

LAC#5

You know it's a bit trickier to test somebody for that on the spot as a.

LAC#5

As opposed to alcohol, uhm?

LAC#5

You know there's this, really.

LAC#5

You know common perception or attitude, I think.

LAC#5

Of like oh marijuana is legal now marijuana is legal. It can't be bad and I think that that's really a dangerous. I don't think marijuana is a bad thing. I think you know my lens as a.

LAC#5

Addiction counselor is that of which you know it's all about what is our relationship to the substance and what can be.

LAC#5

Kind of a saving grace for one person that could be used medicinally or that can have a lot of great benefits for one person it could.

LAC#5

You know, potentially kill somebody else. Uhm, on some level, uhm or or create a.

LAC#5

Just some kind of a really, uh?

LAC#5

Just health impacts, so uh.

LAC#5

Yeah, I think, uh, attitudes of the general public and the way, UM.

LAC#5

Like, uh, the law is managing if you will, or navigating uh enforcement things of that nature in addition to UM.

LAC#5

Just that.

LAC#5

Younger people come.

LAC#5

Using marijuana and not to mention the uh.

LAC#5

Uhm, just the potency levels. Nowadays it's just there's a lot to be. There's a lot that.

Leiker

Yeah, I'm going to talk about that here in just a minute. OK? Those are great points.

So as we move, we're moving that way as well.

Leiker

What are your? What are your thoughts and feelings?

Leiker

About legalization.



Leiker

Of marijuana.

LAC#5

Yeah, I support.

Leiker

In Colorado.

LAC#5

I I definitely support UM legalization UM.

LAC#5

I don't know where.

LAC#5

All that tax money is going exactly. I'm sure they've had a lot of.

Leiker

Leiker

LAC#5

Great ideas for where that could go and where that should go. I think probably come.

LAC#5

Uh, it needs to be a lot of that, uh, ideally in my opinion, should be funneled into very specific.

LAC#5

Areas like treatment and prevention and.

LAC#5

So forth, but ultimately I support legalization as opposed to as opposed to.

LAC#5

You know, prohibition and I certainly support, uh?

So now could you describe?

Leiker

Your models or models or theories or strategies.

Leiker

When you're, you know, treating when you're thinking about treating.

Leiker

Disorders and for that matter polysubstance abuse. But maybe you have a particular model.

Leiker

Theory and strategy, that's.

Leiker

May be standardized or preferred. I wonder if you could share that.

LAC#5

Yeah, definitely well. The first thing that comes to mind for me is I.

LAC#5

I mean, there's this really wonderful documentary that you may have seen or.

LAC#5

I mean it's called a pleasure unwoven

LAC#5

And uh, it goes in. It's only about an hour long and I think its award-winning. It's it's pretty great, but it poses the argument of his addiction.

LAC#5

Is it a choice or is it a disease and I definitely believe in the disease model. I definitely believe that there's kind of four categories of use with starting with non-use.

LAC#5

Uh, use abuse and addiction and that a significant amount of people you know in our world.

LAC#5

Abuse substances and experience unmanageability to their lives because of it and less amount of people but still a significant amount of people it develops to addiction. So, I believe strongly in the disease model.

LAC#5

Uhm, as far as an approach goes, uhm?

LAC#5

Definitely a motivational interviewing is huge. Uhm, uhm?

LAC#5

And in tandem with, uh?

LAC#5

Kind of a, uh, CBT or DBT approach? Uh, mindfulness, space all of these things are, UM, kind of what I

LAC#5

That's how I would summarize my approach with most patients.

LAC#5

Yeah, it's called it's called pleasure unwoven

Leiker

LAC#5

So what I'll tell you about?

LAC#5

To answer that is really mostly falls under the umbrella of motivational interviewing.

LAC#5

Uhm, so really, just uh.

LAC#5

LAC#5

Kind of a person-centered like strength-based.

LAC#5

Uh, uh.

LAC#5

It's extremely.

LAC#5

Compassionate, nonjudgmental approach where I'm going to meet the person where they're at and I'm not going to. I'm not going to set.

LAC#5

A ton of expectations for them or goals for them. I'm going to help them.

LAC#5

You know, identify what they want to work on and what they want to work toward, but not really having an agenda for that client. Uh, a lot of psychoeducation around things like.

LAC#5

Uh, uhm.

LAC#5

And really, looking at where they're at through the lines of like the.

LAC#5

Stage of change models. So yeah so identifying.

Leiker

They did finish Feb 5.

LAC#5

Where they're at there?

Leiker

You find most people are in a sort of a.

Leiker

Maybe pre contemplative, obviously. Or do they?

Leiker

It can't move from the, you know.

Leiker

The contemplative kinds of things. Or do they show up, you know, sort of actively seeking. They're actively involved in the change.

Leiker

Right?

LAC#5

You know, it's really. It can be really tricky, and I think you can talk to 10 different collections and get several different answers. As far as like where a particular patient is and the stages of change.

LAC#5

Uhm, but honestly I think most clients who are in treatment or seeking treatment.

LAC#5

Tend to be in those earlier stages, pre contemplative or contemplative.

LAC#5

You know, a lot of ambivalence with these folks, which speaks to that contemplation stage the.

LAC#5

The way I was taught and how to work with the stages of change might be really unique, uhm, but.

LAC#5

Honestly, I think people usually are not in those later stages of change. Usually in my experience.

LAC#5

If someone in the later stages have changed, they're not looking for my help.

LAC#5

And there.

Leiker

Like they're functioning. There might be those people you said about who have a relationship with cannabis that.

Leiker

Typically, with just cannabis problems, or is it more Brandon polysubstance abuse where cannabis is involved?

LAC#5

Uh, I would say the latter more polysubstance with cannabis involved.

Leiker



And in that context, then, which seems to be another theme that's been identified in this study.

You know, for example, do they say? You know I'm having problems with opiates.

Leiker

But I use cannabis, which is OK, you know right?

Leiker

Is that is that so the presentation? Or is it something else in your practice?

LAC#5

Yeah, most frequently a cannabis.

LAC#5

I would not is not the primary concern of the patient and it is not the primary.

LAC#5

Diagnosis, as far as I'm concerned.

LAC#5

Uh, you know, kind of the lesser.

LAC#5

Of evils if you will.

LAC#5

Uhm, there have been, uh.

LAC#5

Couple cases that I've been involved in and, and I mean like a very small amount like probably less than five cases over 7-8 years in which.

LAC#5

Marijuana was actually like marijuana in and of itself was actually a.

LAC#5

Uh, a major factor in just the unmanageability and essentially just ruining a person life and out of those there have been a couple occasions where that patient was very aware and very vocal of that of marijuana is killing me. More specifically, eating habits and appetite. I've had clients experience needing marijuana in order to eat and when they attempted to cease use of the substance they struggled with eating, and other basic needs sometimes too. Also, client's marijuana use leading to them experiencing an increase in anxiety or depressive symptoms to the point of suicidality or first-time occurrence of psychosis. Erratic and unsafe behaviors often resulting.

LAC#5

Essentially so I have seen that as well, which is you know. Again, maybe rare, but definitely possible.

Regarding the lack of regulating THC dosage purity, we were talking about that.

Leiker

For both medical and recreational users.

Leiker

Dosage curing

Leiker

Do you have any concerns about what?

Leiker

Thinking well themselves into in terms of.

LAC#5

Yeah, I just think, uh, people, uh, don't have all the information and uh, don't know the risks, particularly the long-term risks associated with their behaviors and, uh.

LAC#5

You know there's it's easy to.

LAC#5

It's easy to, uh, to look the other way when that information does come in person way, and they just experience something that you know.

LAC#5

Uh makes them feel a certain way, and, uh, they're willing to overlook all other evidence, or any evidence that that points toward hey, like there are some cons of this too. There are some negative implications.

LAC#5

Well, so yeah, I'm very concerned about.

LAC#5

Uh, just, uh.

LAC#5

The level.

LAC#5

The level of use and abuse, and uh, particularly with these, uh.

LAC#5

This really.

LAC#5

Highly potent, uhm.

LAC#5

Yeah, all the above I I'm.

Leiker

Like the concentrates.

LAC#5

Oh yeah, yeah. And like and with people of all ages, but especially younger people who really that their brains aren't even like fully developed yet and they're getting.

LAC#5

LAC#5

Uh, addicted to these concentrates and you know these you know.

LAC#5

You know the marijuana ceases to be marijuana anymore on some level and really becomes a.

Leiker

Qualities of producing a euphoric state, but as we think about synthetic cannibal, it kind of cannabinoid's. What concerns do you have?

Leiker

You can.

LAC#5

Yeah, I think concerns that there's not a lot of research out there on them in comparison.

LAC#5

Concerns that with a lot of these substances, all it takes is one time you know, and one person could it, it could.

LAC#5

It could be very soothing and very helpful. Uh, another person. It could be really enjoyable, will have you and another person that could. It could put them in the hospital.

LAC#5

With like the same amount, uhm, I mean?

LAC#5

We all have different brain chemistry. We all have different stuff going on and I I think it's a.

LAC#5

Particularly with these synthetic.

LAC#5

Uh, substances. It's a. It's a roll of the dice as to, I mean, even if even if it's.

LAC#5

Just a one in.

LAC#5

A million chance that this could seriously.

LAC#5

Hurt a person and it's probably even more common than that. I mean, there's still that chance, and it could happen to anybody.

Leiker

So, as we close up, do you have any programmatic concerns?

Leiker

As to the methods, practices of color. Department of Health.

Leiker

In terms of treating cannabis.

LAC#5

No, not right now. I don't think so. I just I. I definitely appreciate this focus you have and the and the work you're doing. I'm there's. There's a lot of there's a lot of gaps out there, whether it's in the research.

LAC#5

Well, well, what have you, and, uh, I just think it's very important work and you know we need more people who are who are passionate and committed to.

LAC#5

To doing the work.

Leiker

Well, thank you very much. That concludes our participant input. I'm going to come.

You know, do it with no shame in the room. Just accept and see if they want to. You know, get involved in change talks for motivational interviewing and CBT and the other thing.