MARIJUANA AND SUBSTANCE USE DISORDER:

Screening and Treatment

Introduction

Marijuana is the most widely used illicit drug in the Western world and the third most commonly used recreational drug after alcohol and tobacco. According to the World Health Organization, it also is the illicit substance most widely cultivated, trafficked, and used.

Although the long-term clinical outcome of marijuana use disorder may be less severe than other commonly used substances, it is by no means a "safe" drug. Sustained marijuana use can have negative impacts on the brain as well as the body so it is important to look at ways to detect the presence of substance use. Screening procedures are designed to detect the possible presence of a substance use disorder and the need for further care. This second part course of Marijuana And Substance Use Disorder will focus on the screening and treatment of marijuana use and addiction using DSM-5 criteria and evidenced-based screening tools and guidelines relied upon to develop a plan for recovery.

Screening For Marijuana Use

Screening refers to methods and procedures, often of a brief nature, designed to rule out the possibility of substance use problems. Screening is not the same thing as providing a diagnosis (determining if one meets criteria as established in a diagnostic manual) or evaluation (a more thorough analysis of substance use problems, of which screening is but one component). Screening procedures are designed to detect the possible

presence of a substance use issue and the need for further care. In general, screening methods can be informal and observational or more formal with the use of brief screening instruments.[83] Once a clinician detects substance use and addiction to marijuana, treatment plans are developed to stop the patient's marijuana use.

Screening Methods and Procedures

Screening consists of comparing substance disorder criteria — that is, the concept defining harmful use — against the actual pattern of use. This process can provide a variety of insights on the side of both the practitioner and patient, which are open to diverse interpretation. Thus, it is crucial to design screening tools that adequately reflect the criteria defining problematic use, and those that ensure that responses are accurate, valid and actionable.

It is important to note that the following is a list of general screening and observation procedures. These categories, and their associated criteria, are adjusted to assess for specific substance disorders. For example, when marijuana use disorder is suspected the screening process will not include observations for track marks.

The DSM-V Criteria in Screening

Harmful use criteria can differ from one population to another. For example, the DSM-V does not completely fit adolescents. Within DSM-V, criteria applicable to adolescents are often absent for concepts such as withdrawal, tolerance or giving up other activities providing pleasure and interest. Thus, it has been argued that DSM-V concepts, when applied without adaptation to adolescents, do not deliver the prognostic value they have for adults. According to many researchers, current tools made for the screening of

adults only deliver a late screening of youth-specific problems. So, it has become common for research teams working with adolescents to try to develop their own tools.

Screening Tests

Standard marijuana screening tests are generally too long to apply as part of a general population survey. The application of such instruments requires more time than available in most cases in population surveys, and sometimes by skilled interviewers. They have only been tested in clinical populations, which might not be sufficient to assess their applicability in the general population. However, they do have some merit and are worth discussing. The following table provides an overview of the most common screening tests.[74]

Cannabis Problems Questionnaire (CPQ)	The Cannabis Problems Questionnaire (CPQ) was very recently modeled (Copeland *et al.*, 2005; Martin *et al.*, 2006) on the 46 items of the Alcohol Problems Questionnaire (APQ) (Williams and Drummond, 1994). The study was conducted among 72 adolescents smoking at least 15 days per month. It left the final CPQ as a 22-binary-item scale, which seems to be an efficient and reliable measure of cannabis-related problems for use with populations of current cannabis users, offering more than 80% sensitivity and specificity according to DSM IV criteria.
Marijuana Craving Questionnaire (MCQ)	Heishman *et al.*, (2001) have developed and validated the Marijuana Craving Questionnaire (MCQ), a 47-item multidimensional questionnaire on marijuana craving, based on the model of the Questionnaire on Smoking Urges (Tiffany and Drobes, Chapter 2 p.41, 1991) and the Cocaine Craving Questionnaire (Tiffany *et al.*, 1993). In their study, current marijuana smokers (n = 217) not seeking treatment had completed forms assessing demographics, drug use history,

	marijuana quit attempts and current mood. The findings suggested that four specific constructs characterize craving for marijuana, which are reviewed as follows: • Compulsivity — an inability to control marijuana use; • Emotionality — use of marijuana in anticipation of relief from withdrawal or negative mood; • Expectancy — anticipation of positive outcomes from smoking marijuana; • Purposefulness — intention and planning to use marijuana for positive outcomes. Heishman, *et al.*, (2001) found that the MCQ is a valid and reliable instrument for assessing marijuana craving in individuals not seeking drug use treatment, and that marijuana craving can be measured in the absence of withdrawal symptoms.
Marijuana Effect Expectancy Questionnaire (MEEQ)	The Marijuana Effect Expectancy Questionnaire (MEEQ) assesses motivation to use marijuana (Schafer and Brown, 1991). It has 70 yes/no format items with agree/ disagree instructions similar to those of the Alcohol Expectancy Questionnaire (AEQ). Subjects are asked to respond according to their own beliefs and whether they have actually used marijuana. Although MEEQ is not designed for general clinical screening, it contains items with potential for screening. It has been tested in a psychometric evaluation on 279 adolescents from a clinical and community sample and on 149 males from a clinical sample.
Marijuana Screening Inventory (MSI-X)	The Marijuana Screening Inventory (MSI-X) is a 39-binary-item scale. Thirty-one of the items are used to calculate a simple score to classify into one of the four following categories: no problem; normal or experimental marijuana use; potentially problematic marijuana use; and problematic marijuana use. The study was conducted on a sample of 420 military reservists (a convenience sample). The MSI-X was found to be promising, especially for rapid diagnosis assessment, but a clinical validation is yet to be

	conducted.

Diagnostic Interview

Screening typically occurs via a diagnostic or intake interview. If the client reports a problem in a specific area, the clinician has the option to focus on this by asking more specific questions related to the substance problem. Screening also occurs through observation of the client's immediate signs and symptoms as well as his or her behavior outside the counseling setting, including past history.[75] Part of screening is addressing and exploring the red flags that provide clues as to what role, if any, drug use plays in the client's life. These red flags become even more important when the client is not forthcoming about his or her substance use at the beginning of the screening. In general, observational red flags fall into three categories: physiological, psychological, and behavioral.

Physiological

A brief inquiry into typical physiological issues or general medical conditions can sometimes point to the extent of possible substance use problems. Liver problems, hypertension, ulcers, tremors, or injection track marks are indications of severe use. For clients who do not immediately admit to use but are still using problematically, these and other physiological symptoms can tip off the clinician that problematic substance use is a possibility and needs further exploration.

An additional area of exploration, although not directly about current physiological symptoms, is the client's potential genetic predisposition. Inquiry about family history of substance use provides additional insights to help clarify the assessment and diagnostic picture. For example, a client who

suggests that he or she has a drink now and then, but insists drinking is not a problem, may report that a mother and father were "alcoholics" and that the father used other substances as well. In this case, the possible genetic link to alcohol use would warrant further and more targeted substance use assessment, especially if the client reports some negative consequences as a result of the person's substance use.

Psychological

Many clients report symptoms of depression, anxiety, or other emotional problems and use substances to self-medicate or cope. Indeed, psychological symptoms, such as depression and anxiety, are often associated with problematic substance use. Also associated with use are negative or difficult emotions such as guilt, shame, anger, or boredom. At minimum, practitioners should check in with clients who report severe negative emotions related to their substance use history, current behavior, and typical methods of coping.

Behavioral

There are many behavioral signs of substance use and addiction, some of which are obvious (*i.e.*, evidence of intoxication), and some of which are indirectly related (*i.e.*, work problems). Perhaps the most important area of inquiry is if there has been any past treatment for substance-related problems. Clients who affirm previous attempts at treatment to address substance-related problems often struggle currently with those same problems. Additional behavioral problems often associated with substance use include legal problems, poor work history, financial problems, extreme talkativeness, poor judgment, erratic behavior, frequent falls, increase in risk taking, and frequent hospitalizations. One or more of these behavioral

issues should alert the clinician to the possibility of significant substance use.[76]

Biological Screens

An effective addition to self-report screening instruments is biological lab tests designed to detect the presence of substances. Typically, biological drug screens occur by sampling via urinalysis and hair analysis but there are other methods as well. These tests may be most useful to corroborate self-report data, especially when there is high suspicion that one is not being honest about his or her substance use.[77] Some agencies or substance use programs require random screens, particularly when medication is used as part of the addiction treatment. Clinicians, however, may not have the ability to screen for recent drug use within their agency. In these instances, the clinician will utilize a referral list of medical specialists who are trained to perform biologically based substance use screening.[78]

It is important to know that biologically based screens are not a substitute for self-report data. Biological screening tests tend to have low sensitivity (producing a high false positive rate) and are impacted by one's age, gender, smoking status, metabolism, how the drug was taken, how long ago the drug was ingested, and the drug's potency.[79] They are best used as one piece of the screening process and in conjunction with self-report data. If possible, the clinician should utilize all available resources in the screening process, such as well-established screening instruments, biological measures, intake interviews, and collateral reports.[80]

Blood Testing for Marijuana

Urinalysis:

There is very active interest in testing urine for the presence of marijuana. The standard urine drug screen will cover a range of different drugs. The urine test can detect marijuana for days or weeks after use and detect the *non-psychoactive* marijuana metabolite THC-COOH. THC-COOH has an unusually long elimination time (days to weeks), so that the urine test is considered to be more sensitive to marijuana.

Hair and Saliva Testing:

It is possible to detect marijuana and its metabolites in other tissues besides blood. At present there is great interest in hair and saliva analysis. To date, methods for the detection of THC in hair have been somewhat problematic, but there seems to be progress in this area. The relationship between blood and saliva concentrations has been poorly studied. Only two systematically controlled studies have addressed the relationship.

Although great effort has gone into developing methods for the detection of THC in saliva (toxicologists tend to refer to saliva as "oral fluid," acknowledging that saliva contains many cellular components), and a number of devices have come to market, the results are not particularly encouraging. The oral kinetics of THC is not understood well enough to use for forensic purposes.

Results with hair testing are much more encouraging, and it may even be possible to quantitate, not just detect, long-term use. In one recent study of 22 healthy men, hair samples from 12 chronic marijuana users (average age 22 ± 2 years) were compared to those obtained from 10 non-users, and detailed histories of their drug-use pattern were obtained; average cannabis

usage ranged from 0.25 to 2.5 g/day (mean ± SD: 0.74 ± 0.60 g/day). Most of the subjects had smoked at least every 2 days for the past year. Concentrations of δ-9-tetrahydrocannabinol (THC), cannabidiol (CBD), and cannabinol (CBN) were measured in the hair of each subject. In every one of the users, concentrations of all three metabolites were detected in the hair and there was an increase in the concentration of all major cannabinoids in hair proportionate to the amount consumed. The more marijuana smoked, the higher the concentration of marijuana and its metabolites found in the hair. Hair color and hair treatments had no effect on the outcome. Both the reported cumulative cannabis dose during the last 3 months and the cannabis use during the last 3 months — estimated from the daily dose and the frequency per year — were more closely related to the sum of THC, CBN, and CBD concentrations rather than to the THC content alone.[81]

Testing Fat Tissue for Marijuana Use

Because of marijuana's very great steady state volume of distribution, it can be recovered from many tissues. One study, published nearly 20 years ago, analyzed THC concentrations in fat samples obtained from heavy marijuana users one week before and four weeks after smoking. The concentration of δ-THC in these samples ranged between 0.4 and 193 ng/g wet tissue. While fat biopsies are unlikely to become routine forensic tests, they provide an alternative method to screen for marijuana use.

Detection Times for Screening Tests

Some metabolites of the THC, a number of which may still be active in the system, can be detected in the body at least 30 days following ingestion of a single dose and in the urine for several weeks following chronic use. In one reported study researchers collected urine from seven healthy volunteers (ages 20– 35 years, four male), all chronic cannabis users, during enforced

abstinence on a locked ward and for up to 29 days. All of the subjects were regular marijuana smokers who reported smoking one to five "blunts" (marijuana rolled into a tobacco leaf which results in the appearance of a cigar) per day. Urine specimens collected during their confinement was analyzed, using a method that had a 2.5 ng/mL limit of quantification. The minimum time until the urine was cleared of 11-OH-THC ranged from 7.56 to 29.8 days, with concentrations ranging from 25 to 133 ng/mL. Maximum urinary concentrations of the other metabolite, THCCOOH, fell into the same time range as 11-OH-THC. In federally regulated workplace testing, a 15 ng/mL cutoff is mandated for workplace drug testing, and the volunteers studied above would have been considered active marijuana smokers even though they had not smoked for more than one week.

Similar results have been observed with plasma measurement. Twenty-eight self reported daily marijuana smokers (ages 19 to 36 years, approximately equal numbers of men and women, and 84% African American) underwent enforced abstinence in a locked ward. Plasma specimens were collected when the volunteers arrived on the locked ward and then daily. After not smoking marijuana for 16 hours, 93% of the participants were still positive for the drug (THC > 0.25 ng/mL — the minimum level of detection). On the seventh day of observed abstinence, half of the participants continued to test positive for THC, and four of these individuals had levels > 2.0 ng/mL, the value that is usually considered proof of recent use by the European Union and some U.S. states. The median THCCOOH concentration in this group was 11.5 ng/mL after one week's abstinence.

The above study results suggested that the detection of THC in plasma is a dubious forensic value because it does not reliably differentiate between acute and chronic use. This observation is almost certainly explained by the

accumulation of THC in deep tissue compartments with gradual release of THC from tissue stores into the bloodstream. It has been found in alive individuals that the detection of low THC concentrations does not reliably identify recent use.[8,9,13]

Collateral Interviews: Family and Friends

Given the prevalence of denial on the part of substance users, if there is any suspicion about a possible substance use problem, it is important in the first interview to request permission to involve family members, friends, coworkers, and others who may be able to provide more objective information about the client's pattern of substance use and related behaviors. Collateral interviews often help to give a more complete picture of both the user and the impact they are having on others in their environment. Partners and family members of substance users often want to be helpful in the affected individual's treatment.

If either a substance user or family member is describing examples of domestic violence, legal problems, financial problems, medical complications, or other issues that are often related to substance use, it is important to determine if they think the problem would have occurred if drugs were not a factor.[82] Questions for family members include:[83]

- Does the user's personality change while using?
- Has anyone been concerned or embarrassed about the use?
- Have you or others been uncomfortable about your safety in circumstances such as riding in a car when the user has been driving after using drugs?

It is important to note that family members and significant others may be unaware of, or reluctant to divulge, information about the client's substance use patterns. Like the client, they are often experiencing denial or avoiding a

confrontation with the user. Common misinformation about substance use may divert the focus of the problem to other factors that are then presented as the primary problem.[84] Due to the shame and embarrassment that frequently accompany the admission of substance use, the clinician may need to reassure everyone involved in the assessment that appropriate help can only be made available if an understanding of the problem is accurate and complete.

Structured Interviews

The most important aspect of any assessment of substance use is the diagnostic interview. A carefully planned and conducted interview is the cornerstone of the diagnostic process. The initial contact with someone for the assessment of substance use may occur within the context of individual, family, group, or marital counseling. The clinician may be aware of the possible problem by the nature of the referral, or it may be discovered within the context of a family or marital problem. Referrals from physicians, other clinicians, or the legal system may be clearly defined as a referral for the purpose of assessing a drug or alcohol problem. Many assessments, however, will initially be undertaken as a part of a clinician's normal interviewing procedure.

A routine clinical interview should include questions about a client's habits of using prescription drugs and/or illicit drugs, alcohol, tobacco, and caffeine. An important part of the diagnostic interview is an assessment of the client's readiness for change. The transtheoretical model offers clinicians very useful guidelines and information to assist in evaluating where the client is in the process of change. This model describes a series of six stages people experience in making changes, whether the changes are in therapy or not: 1) precontemplation, 2) contemplation, 3) determination, 4) action,

5) maintenance, and 6) relapse. By determining the stage that the client is in, therapists can focus treatment on helping that client proceed through the various stages of change.[85]

The transtheoretical model has been incorporated into the principles of motivational interviewing with substance use clients. It elaborates on targeting specific questions and responses to the stages of change, which can be very helpful in the process of diagnostic interviewing. A clinical interview that incorporates motivational interviewing techniques sets the stage for a successful counseling relationship and helps with treatment planning. Therapists who plan to work with clients that have a substance use disorder benefit greatly from familiarity with the model and techniques of interviewing.[86]

Given the frequency of denial and minimization encountered with clients who are experiencing substance use problems, having a supportive, respectful, effective strategy for interviewing is essential. Initially, it is still important to ask the client directly about his or her use of drugs or alcohol. Many clinicians find it helpful to assure the client that they are not asking questions about substance use in order to make judgments.[87]

People will often respond less defensively if they are reassured that the clinician is trying to determine the impact of drugs and alcohol on the patient's life, rather than trying to determine if he or she is an addict. If either a substance user or family member is describing examples of domestic violence, legal problems, financial problems, medical complications, or other issues that are often related to substance use, it is important to determine if they think the problem would have occurred if alcohol or drugs were not a factor.[82]

An interview format that gathers information specific to substance use should be a standard part of the assessment process. An example of a structured interview format is the *Substance Use History Questionnaire.* It may be given to the client to complete, or the questions can be asked during the interview. The information from this procedure will help in determining what additional assessment instruments to use. Information regarding work habits, social and professional relationships, medical history, and previous psychiatric history are also necessary for the assessment. Questions related to each of these areas should be included as a part of the standard intake interview.[88]

Marijuana Use Disorder Treatment And Recovery Programs

Few patients seek treatment for marijuana addiction. Many patients in drug treatment programs are marijuana users, but it is fairly uncommon for an individual to seek treatment just to stop marijuana use. As such, there are limited specific treatments reserved for patients who are using or addicted to marijuana. The main concern for treating heavy marijuana users is that cessation of drug use may lead to depression and drug craving. Those attempting to stop use of marijuana may also be irritable, anxious, and have trouble sleeping. Antidepressant medication and psychological therapies can be helpful. Cognitive-behavioral therapy and motivational incentives (such as providing vouchers as rewards to patients who remain abstinent) have been successful in treating marijuana use and addiction. There are no specific psychotherapeutic medications that are used for marijuana addiction, although the increase in knowledge regarding the cannabinoid system in the brain suggests that new alternatives may be on the horizon.

Treatment Planning

Part of the treatment process involves the development of a treatment plan. Treatment plans are individualized documents that outline the problems and treatment goals of each individual patient. Treatment plans identify targets, identify interventions, suggest resources, clarify provider responsibilities, and provide indicators of progress. They are very specific to the needs of the patient and are used to set goals and chart the patient's progress. While treatment plans are developed at the beginning of treatment, they must be flexible as they will need to be updated throughout the process to address any issues that arise. Key components in the treatment program include:[89]

- addressing problems present along with drug use
- exploring solutions for problems
- expanding the patients worldview
- projecting long-term goals
- using measurable objectives
- using a variety of resources and interventions

The treatment plan is essentially the agenda that emerges from the assessment process. It is highlighted by a delineation of treatment goals and a corresponding set of clinical interventions designed to assist in the achievement of these goals. The treatment plan is unique to the individual because the presenting needs of clients vary considerably from person to person, as do their available strengths and resources for effecting change.[90] The better and more precise the tailoring of the treatment plan to the client's needs and resources, the better the potential fit and the greater the likelihood of achieving the specified treatment goals.

The clinician and the client must develop a list of treatment goals and then prioritize those goals. In many cases the primary goal is a decrease in, or cessation of, substance use. Focusing on this goal may have an impact on

other key goals, such as improving a family or employment situation. Secondary goals might include extending one's social support network, returning to school, and so on. Whatever the objectives are, it is important to prioritize them. While one obvious benefit of such prioritizing is that attention is focused on the most pressing problem areas, another advantage is that successes in these primary areas, such as cessation of substance use, often place the client in a much better position to address secondary goals.[91]

As they identify and prioritize goals, the clinician and the patient also need to specify what are the short-term goals and what are long-term goals. Although there is no consensus about setting these terms, short-term goals often are identified as those that can be significantly addressed within 6 months. Long-term goals are those more likely to be achieved over longer periods, although this would not preclude initial efforts to address such goals in the short term and over time. The distinction between short-term and long-term goals is important to highlight, as clients move through the stages of change at different times and at different paces.[92]

A number of variables will influence the establishment of short-term and long-term goals. One of the key factors is the extent and seriousness of the problem. Any pretreatment evaluation of a substance will include assessment of severity of substance use and need for detoxification or some other form of medical management. Problems in this domain would require immediate attention.

Goal setting is also influenced by the nature and extent of the client's motivation to invest in and pursue treatment goals. An assessment of the client's stage of change will yield information on his or her extent of readiness to embark on the change process, along with insights on which

processes of change might be targeted. The client in contemplation will likely be wavering between the advantages and disadvantages of making changes in his or her life. A client in the action stage will be more ready than one in an earlier stage to start the change process and much less likely to want to devote time and energy to deciding on whether to commit to change.[93]

The determination that a client is in the contemplation or action stage of change does not preclude the full development of the treatment plan, but it has implications for how the treatment goals are established and operationalized. A possible short-term goal for the person in the contemplation stage would be evaluation of the pros and cons of making changes in substance use patterns, and using principles of motivational counseling. Short-term goals for the client in the action stage could include, for example, attendance at self-help groups and problem-solving alternatives to substance use, as such clients are going to be more ready to embark on such change efforts.[94]

It is important to identify goals that are achievable, and where procedures can be established to allow the client to take small and progressive steps in gradually achieving these goals. There are two reasons for adhering to such a strategy. The first is that complex problems are not generally amenable to easy, one-step solutions, regardless of the person's level of motivation. Rather, breaking down the problem into its subcomponents and successively addressing these is both a more manageable and a more successful approach to the larger problem. Second, developing a step-wise plan for addressing problems will set the stage for the client to experience a series of small but meaningful successes in pursuit of his or her goals. This is particularly important when the client is not fully confident about his or her ability to succeed in the change process. Experiencing some initial successes

lessens the likelihood of the discouragements clients often experience when their expectations or goals for treatment are too ambitious. Such discouragements are a major contributor to dropping out of treatment.[95] There are several other factors that can influence the development of short-term and long-term treatment goals. These include the treatment setting, the availability of a support network, and the projected period of treatment involvement. In terms of setting, for example, short-term goals for clients in an inpatient unit will differ in certain ways from those established for outpatient clients. Outpatients have the benefit of trying out treatment strategies in their actual living environments but do not have the benefits of the more protective inpatient unit, which affords more opportunities for regrouping and consolidation.

Availability of a support network and their investment in the client can influence the plans for achieving treatment goals. For example, spouses, other family members, and friends may be available to participate in treatment sessions or can be called upon by the client in other ways to support and contribute to his or her efforts to make changes.

The projected treatment period can influence treatment planning. The treatment plan for a client allocated 3 months of outpatient treatment will differ from that developed for a client with the opportunity for a lengthier treatment intervention. Insurance policies can determine treatment periods, but clients themselves bring their own expectations about how long treatment should last — and such expectations need to be acknowledged and respected. For the client who expects treatment to be more brief than the therapist thinks advisable, negotiating a treatment plan that incorporates a compromised duration, whereby at the end the plan the progress to date would be reviewed, may be possible.[96]

It is important that the client and the therapist alike recognize the treatment plan as flexible and changeable. They should view the initial treatment plan, based on the pretreatment assessment and evaluation, as a working blueprint for change, and both should understand and acknowledge that changes can — and likely will - be made in it over time. As such, treatment planning actually is a continuous and dynamic component of the treatment process. There are several reasons for this. First, there may be some needs or problems that are not apparent during the pretreatment assessment.[84] Second, progress on some treatment goals may need to await progress on other problem areas. In such cases, it may be necessary to rearrange treatment goal priorities. Third, some problems may take longer to address than other problems or than originally anticipated. Revisions of the treatment plan will help the client and the therapist to keep abreast of relative progress in the pursuit of treatment goals. Finally, it is not unusual for new problems to arise during treatment, problems that may require immediate incorporation into the treatment plan.[97]

Common features of an *individualized* treatment plan include:[95]

- Developed as a result of a comprehensive assessment and modified over time as warranted.
- Reflects participation from appropriate disciplines (*i.e.*, medicine, psychiatry, psychology, social work, vocational rehabilitation) as warranted.
- Reflects the client's presenting needs and specifies the person's strengths and limitations.
- Consists of specific goals that pertain to the attainment, maintenance, and/or reestablishment of physical and emotional health.
- Identifies specific objectives that relate directly to the treatment goals.

- Identifies the services and/or settings necessary for meeting the client's needs and goals.
- Specifies the frequency of treatment contacts.
- Includes provisions for periodic (and at other times, as indicated by changes in the client's life-functioning) reevaluations and revisions, as warranted, of the treatment plan.
- Identifies specific criteria for determining whether goals have been achieved and for terminating treatment.

Phases in the Recovery Process

Substance users will go through four distinct phases in the recovery process. However, the phases differ depending on the type of drug being used. Individuals with marijuana use disorder will not experience the acute phase of treatment in the same way that an individual who is addicted to opioids will. Since marijuana does not have the same addictive properties and physical affects as other substances, the acute phase will be primarily mentally challenging rather than physically difficult.

Each phase requires special consideration and individualized treatment planning to ensure the patient moves forward to the next stage of recovery. It is important to note that many patients do not make it through all four stages of recovery; however, for those that do, the likelihood of relapse decreases significantly.

Acute Phase: Detoxification

The acute phase is the stage of recovery that occurs immediately following cessation of drug activity. This period can last for a few days or a number of months, depending on the type of substances the patient is consuming and the severity of any comorbid conditions. The presence of medical, legal,

family, and social problems can also impact the duration of the acute phase of treatment. The goal during the acute phase is to eliminate the use of substances while minimizing the occurrence of other conditions, such as medical, legal, family, and social problems.

Throughout the acute phase of treatment, it is important to monitor patient substance use, any increase in comorbid symptoms, as well as the development of any secondary complications. Since the acute phase is the phase of recovery with the highest level of attrition, it is necessary for practitioners to have frequent contact with patients. In addition, engaging the patient in sessions and activities that support and promote recovery can help maintain patient motivation. Therefore, patients should be engaged in individual and/or group counseling sessions, support groups, and any other programs that help maintain sobriety.[98]

Once a patient has successfully completed treatment in the acute phase, he or she will transition to the next stage of treatment, which is full abstinence. Indications that patients have reached the goals of the acute phase can include:

- Elimination of symptoms of discomfort or craving for marijuana.
- Expressed feelings of comfort and wellness throughout the day.
- Engagement with treatment staff in assessment of medical, mental health, and psychosocial issues.
- Satisfaction of basic needs for food, shelter, and safety.

Second Phase: Abstinence

The second phase of substance use treatment is the abstinence phase. This phase of treatment begins right after the patient completes the acute phase, and lasts a number of months. It continues until the patient enters the early

remission phase of treatment. Once the patient completes the acute detoxification stage, he or she will begin to work on maintaining abstinence. During this phase of treatment, the focus is on:[99]

- Recognizing the medical and psychological aspects of addiction and withdrawal.
- Identifying triggers to drug use and developing techniques for avoiding these triggers.
- Learning how to handle drug craving without using.

The goal of treatment during this phase involves encouraging the patient to remain substance free. This can be accomplished in a number of ways, but typically includes participation in self-help groups, support programs, and individual counseling sessions. During this phase of treatment, patients begin replacing drug related activities with healthy activities that do not include the use of substances.

Counseling sessions in the abstinence phase of treatment will involve addressing issues and concerns surrounding substance use. The patient will be encouraged to address any underlying issues that may increase the chances that he or she will relapse. The specific issues addressed will depend on the patient and his or her needs. Therefore, the clinician and/or therapist will work to identify areas of concern and tailor treatment sessions to address these specific issues.[100] While sessions should address patient concerns and underlying issues, it is imperative that the number of concerns introduced at each session remain manageable.

It is recommended that no more than two topics be introduced in a session. This will allow time to review topics previously addressed, while ensuring adequate time to process and identify the impact of the new topics that have

been introduced. The introduction of more than two topics per session increases the chances that the patient will feel overwhelmed and will be less willing to participate fully in the session.[101] The following two topics are a primary focus of treatment sessions and are typically discussed during the abstinence phase of treatment.[102,103]

1) Cravings:

   A primary focus during the abstinence phase is helping the patient cope with cravings. The counselor should discuss the concept of craving with the patient. Individuals appear to experience craving differently, but they usually describe physical and psychological symptoms. These symptoms may include heart palpitations, rapid breathing, obsessional thinking about the drug, and planning how one can get the drug or get the money needed to buy it.

   Craving is thought to be due in part to biological factors and in part to learning. The practitioner must help the patient to understand and recognize what craving or having an urge feels like. Recognizing craving will help the patient to maintain abstinence. The counselor should communicate to the patient that he or she could experience and recognize a craving but choose not to act on it in the usual, self-damaging way. Craving, however strong, does not have to lead to drug use. One can just "sit the craving out," and it will pass. A useful analogy may be likening the craving to a strong ocean wave. The wave will feel very strong when one is in the throes of it, but it will wash over and pass. It is also helpful to explain that the strength of cravings will decrease over time if the patient does not use, but if he or she uses the drug, the craving phenomena will remain strong.

2) High-Risk Situations:

High-risk situations are those times that involve the people, places, and things that trigger substance use. The clinician should discuss situational triggers with the patient and help the patient to avoid them if possible or learn to cope by developing the alternative responses necessary to deal with these situations without using. This topic should be largely a review of what the patient has learned about people, places, and things in general but with an emphasis on the actual situations that recur in the patient's own life.

Learning how to avoid these times, or to develop alternative responses to whatever triggers the desire for substance use, is central to recovery from addiction and bears regular repeating. In treatment sessions, counselors will review with the patient actual and potential "high-risk" situations that might occur and what can be done to avoid them. Examples of high-risk situations are being offered drugs, being around a drug-using friend, or attending a social function where drugs are available. The counselor should rehearse with the patient alternative responses to exposure to these situations. Identifying such situations well in advance and rehearsing how one could deal with such exposure should provide a better chance of avoiding a relapse from such exposure.

First, a patient must identify his or her particular high-risk situations; then the counselor and patient should work together to develop strategies for avoiding these situations. Other potential high-risk situations also should be considered. The counselor should offer reasonable alternative responses to unavoidable high-risk situations,

such as calling a friend or talking to one's partner or spouse. The patient should be encouraged to use the support of drug-free or recovering friends, family members, and acquaintances.

The abstinence phase of treatment can be broken into two separate categories. The first phase is the early stage of treatment, and it involves the introduction of abstinence strategies and methods. The topics addressed above are the focus of the early abstinence phase. Once a patient has established abstinence, he or she will transition to the abstinence maintenance stage. In this second half of abstinence, the patient will focus on maintaining abstinence and modifying behaviors. In the abstinence stage, the patient works to avoid environmental triggers as well as to recognize emotional and psychosocial stressors with the goal to learn healthy responses to stress in everyday living. It’s essential for the patient to assume an attitude of recovery, continually moving forward toward progress despite setbacks that may occur along the way.

The goals of the abstinence phase of treatment include:

- Help the patient continue to maintain abstinence.
- Make the patient aware of the relapse process, so it can be avoided or reversed quickly.
- Assist the addict in recognizing emotional triggers.
- Teach the patient appropriate coping skills to handle life stresses without returning to drug use.
- Provide the opportunity for the patient to practice newly developed coping skills.
- Keep encouraging the behavior and attitude changes necessary to make sobriety a lifestyle.

There are a number of treatment issues that can make this stage of recovery difficult. Therefore, the practitioner will need to address these issues with the patient, as well as be aware of them during the treatment planning process. Some issues will not be present at the beginning of the abstinence phase, but will likely develop as the patient moves through treatment.

Some issues will be triggered by the elimination of substances, while others will occur as a result of emotional or behavioral complications. The following is a list of the most common treatment issues present during the abstinence phase:[99]

- Tools for preventing relapse
- Identification of the relapse process
- Relationships in recovery
- Development of a drug-free lifestyle
- Spirituality
- Shame and guilt
- Personal inventory
- Character defects
- Identification and fulfillment of needs
- Management of anger
- Relaxation and leisure time
- Employment and management of money
- Transfer of addictive behaviors

Once the patient successfully establishes abstinence, he or she will begin to focus on preventing future relapse. This is a key component in the recovery process and a primary focus of the abstinence phase of treatment. As part of this process, the patient will identify and develop strategies and skills that

will help prevent future relapse. The patient will also begin working through the difficult and uncomfortable feelings associated with abstinence.[104]

Prior to developing strategies and working through uncomfortable feelings, the patient will need to develop an awareness and understanding of the actual relapse process. This will enable the patient to identify when he or she is at risk of relapsing. The concepts below should be presented to the patient in whatever way he or she can best understand and use them. There are eleven steps in the relapse process, which are as follows:

1) A change in attitude in which the patient no longer feels participating in the recovery program is necessary or a change in the daily routine or life situation that signals a potentially stressful life event.
2) Elevated stress, as seen by overreactivity to life events.
3) Reactivation of denial, particularly as related to stress, as seen when the patient is stressed but refuses to talk about it or denies its existence. This behavior is of great concern because of its similarity to denial of drug use and addiction.
4) A recurrence of post acute withdrawal symptoms, which are especially likely to occur at times of stress. They are dangerous because the patient may turn toward drugs or alcohol for relief.
5) There is behavior change. The patient begins to act differently, often after a period of stress, as signaled by a change in attitude or daily routine.
6) There is social breakdown. The social structure the patient has developed begins to change. For example, he or she no longer meets with sober friends, or becomes seclusive and withdrawn from family.

7) There is loss of structure. The daily routine that the patient has constructed in the recovery program is altered. For example, he or she sleeps too late, skips meals, or does not shave.
8) There is loss of judgment. The patient has difficulty making decisions or makes decisions that are very unwise. There may be signs of emotional numbing or over reactivity.
9) There is loss of control. The patient begins to make irrational choices and is unable to interrupt or alter them.
10) There is loss of options. The patient feels stressed and believes that the only choices are to resume drug use or to undergo extreme emotional or physical collapse.
11) Relapse occurs in which substance use is resumed.

The chance of relapse will be reduced if the patient is able to understand that he or she is in control of the process. As part of this process, the patient will identify and implement behavioral changes that can be used if a relapse begins to occur. The patient will use these changes to move out of the relapse process and return to recovery. The most common behavioral changes include:[105]

- going to meetings more frequently
- spending time with people who support recovery
- maintaining structure in his or her lives
- avoiding external triggers (*i.e.*, going back to the neighborhood where he or she obtained drugs)

While the patient is given primary responsibility to identify triggers and develop strategies for moving out of relapse, it is also the clinician's responsibility to monitor the patient's status. The clinician should evaluate the patient throughout the abstinence phase of treatment as a means of

identifying any signs that relapse is occurring. If the clinician observes any signs of relapse, he or she will need to address them with the patient and help the patient identify and implement strategies to prevent further relapse.[106]

The abstinence phase of treatment will require constant monitoring, and the provider will need to modify treatment throughout to decrease the risk of relapse. If patients can successfully complete the abstinence phase of recovery and transition to early remission, the chances of lifelong recovery increase significantly.

Third Phase: Early Remission

The early remission phase of treatment is classified as the period of full abstinence and recovery that lasts for at least one month after cessation of substance use, but no longer than twelve months. In this phase of treatment, the patient will have completed the process listed above, but will still be in the early stages of recovery. This stage of treatment will often overlap with the abstinence phase of treatment, and may co-occur with the maintenance phase of abstinence.[103]

Topics addressed during this phase of treatment are similar to those covered during the abstinence phase. The patient will continue to focus on relapse prevention strategies and will begin to make lifestyle changes that will support recovery. Counseling sessions may be reduced depending on the patient's progress. At this point in the treatment process, the chance of relapse begins to decrease, although the patient will still have to exercise caution around trigger situations. If a relapse occurs during this phase, the patient may be able to recover more easily than in earlier phases.

Fourth Phase: Sustained Remission

Sustained remission occurs once a patient has remained abstinent for twelve or more months. This is the final stage in treatment and is maintained indefinitely. There are three types of remission that may occur during this phase:

1) Sustained Remission:

   After 12 months of early remission have passed without relapse to using, the person enters into sustained remission.

2) Sustained Full Remission:

   This specifier is used if none of the criteria for substance use or addiction have been met at any time during a period of 12 months or longer.

3) Sustained Partial Remission:

   This specifier is used if full criteria for substance use have not been met for a period of 12 months or longer; however, one or more criteria for substance use or addiction have been met.

Once a patient enters the sustained remission phase of treatment, the focus will shift to maintenance. At this point, the patient will have developed effective coping skills and will have made significant lifestyle changes to prevent relapse. Regular monitoring and counseling sessions will be replaced with intermittent check-in meetings and possibly attending self-help support group meetings. During this phase, the patient has a greater understanding of what is necessary for relapse prevention, and is able to identify triggers that may impact recovery.[103]

Recovery Education

Recovery refers to the period or state of deliberate and intentional non-use of substances. It includes efforts to abstain and implement behavioral changes that minimize the risk of relapse.[107] This process can be difficult and lifelong. Individuals often make several attempts in striving for this goal before it is successfully reached. Although failures in recovery are to be expected, they also can be great learning opportunities for growth.

Recovery education provides patients with strategies that can help maintain recovery and minimize the risk of relapse. However, recovery education extends beyond maintaining abstinence. At this stage, the patient will begin identifying skills and modifications that improve the quality of his or her life beyond the reduction in drug use. The path of recovery can look different for each client, but a typical pattern might include changes in the flow of drinking or drug use, with decreases in quantity and frequency, some waves, and eventual stabilization.[108]

Identify Stressors and Triggers

Gaining control of one's environment is an essential component in relapse prevention. Whereas it is impossible for an individual to control every element in his or her environment, an individual with a substance use disorder can take many actions to minimize risk. One of the simplest strategies is to encourage clients to remove all items directly related to substance use from their homes, cars, and offices. This may include supplies, paraphernalia, pictures, and other objects associated with use.[106]

Teaching stimulus control refers to three primary activities: avoidance, escape, and delay. The most obvious way to help prevent relapse is to avoid the environments or situations in which drug use occurs. Patients must

understand that it is much safer for them to stay away from situations that place them at increased risk of a return to substance use. Many individuals recognize the importance of staying away from high-risk situations but lack the confidence that they can do so.[109]

Escape refers to removing oneself from a high-risk situation. Patients may not always be able to avoid experiences in which drugs and/or alcohol are present. The following scenario regarding a recovering marijuana user provides an explanation of how this may occur:[110]

Case Scenario:

A recovering marijuana user decides to go to a class reunion in his hometown. He sees many of his old high school friends and has a good time. Soon after, he is invited out to a friend's house to continue the party. He decides to go, thinking that he will just hang out, that he has been substance-free for nine months, and that the risk of relapse is low. When he gets to the house, however, everyone is smoking marijuana. He experiences surprise cravings and a strong urge to use. Although difficult to manage, the client must *escape* the situation.

Although patients should not place themselves in situations like the one described above, many people can underestimate high-risk situations.

Clinicians should discuss an escape plan with clients should such a situation arise. If avoidance or escape seems difficult or impossible, the client might delay action as a way to interrupt negative cognitions and flow of experiences toward relapse. To delay action simply means to hold off on using a substance until these strategies can be used effectively.[105]

Management of Cravings

One of the reasons many patients relapse is the failure to manage cravings for drug use. Even clients who have been clean and sober for years may occasionally need to work through a spontaneous craving. Craving is one of the least understood concepts related to substance use. The traditional view of craving is that it is primarily a physiological phenomenon, based on biological susceptibility and exposure of the brain to drugs. However, craving has many cognitive elements. Regardless of what causes cravings, managing them goes a long way in helping clients avoid relapse.[111]

A first step in managing cravings is to help individuals understand that they do occur, and to anticipate and even accept these reactions as normal learning responses. Another method for avoiding or minimizing cravings is teaching the client stimulus control. Cravings strengthen when one is exposed to sights, sounds, environments, or situations that either include drugs or strongly remind the client of previous using behaviors.[109] Reminding oneself that a craving will eventually recede may offer little comfort when the intensity is high. Some clients may tolerate cravings well and are therefore able to ride them out, while others have limited psychological resources and mental strength and, therefore, struggle greatly. Additional strategies, such as relaxation training, breathing exercises, and removing oneself from the situation may offer some benefit.

Self-monitoring strategies can be an effective way for clients to monitor and have some control over their craving experiences. Using a craving diary is helpful whereby clients record their experiences with drug cravings throughout the day. Clients are encouraged to write down internal and external cues, situations, the people they are around, what they are thinking, and so forth. Reviewing the diary can be an effective intervention as clinician and client look for themes and design strategies to prevent relapse.[112]

Relapse Management

Relapse management refers to helping clients manage a lapse so that it does not spiral out of control, leading to a full-blown relapse. Relapse management differs from relapse prevention in that the focus is on managing a return to use. The goal of relapse management strategies is to minimize the degree of setback. Relapse management strategies are general, which involves helping clients to shift perceptions of a lapse; and, specifically, involves taking behavioral actions to minimize the psychological impact of a lapse.[113,114]

One of the greatest risks for full-blown relapse is when a client slips, returning to drug use, and determines that he or she is incapable of maintaining sobriety. General relapse management strategies help clients place a lapse into perspective. For example, a client might be told that a lapse is similar to a mistake or error in the learning process and that it is a specific, unique event in time and space. Clients can be taught that abstinence or control is always a moment away. While they might be in the throes of a lapse, they can decide to stop at any time.

Specific relapse management strategies involve behavioral skills and interventions that the client can do to avoid falling off the wagon. In the case of a lapse, the client is instructed to do the following:[115]

1) Stop, look, and listen:

   In this instance, the individual is coached to enhance awareness of his or her surroundings and tune in to behavior. If the individual slips, he or she is instructed to stop, look around, and listen so as to interrupt the negative flow of events.

2) Make an immediate plan for recovery:

   Patients who slip and who do not have a plan to address the aftermath are climbing up a slippery slope. Lowered self-efficacy and positive expectancies combine as powerful factors that pull the individual toward heavy drug use. Clinician and client should co-construct an immediate plan for recovery. Preferably, a plan is written down so that the client can take it to keep in important places such as a car, workspace, or home.

   The sooner the client can implement the plan, the better the chance to avoid a full-blown relapse. There is no one right template for a plan; plans will vary depending on the client circumstances. In addition, it is ideal to co-construct a plan that is realistic to the client. If a client does not feel confident that he or she can perform an action on the plan, most likely the plan will be ignored when it is needed.

3) Stay calm:

After a slip, the client is likely to experience a rush of negative emotions. It is important that the client stay calm both physically and emotionally. Clients can be taught breathing exercises or brief relaxation methods to stem the tide of negative thoughts and feelings. Repeating some of the general strategies discussed earlier also may help with this process.

4) Renew commitment:

Clients are taught to shake it off similarly to how an athlete is instructed to shake off a mild pain or injury in order to keep playing. Reaffirming one's commitment can empower clients and is effective in blocking negative and self-defeating self-statements. It can be helpful for clients to remove themselves from a situation, even if for a brief time, to renew their commitment to abstinence. For example, clients who attend social gatherings may be encouraged to go to the bathroom to get away from a tight situation. While there, they can have a moment of privacy to renew and strengthen their commitment.

5) Review the situation leading up to the slip:

The client is encouraged to pose questions to him- or herself, such as, "What events led to the slip?" or "What warning signs preceded the relapse?" or "What was the high-risk situation that led to the return to use?"

6) Use support network:

It is well known among addiction professionals that healthy human relationships provide a strong antidote to the isolating impact of

addiction. Clients must seek out and find those who will support them in their recovery. Obvious examples of this include fellow members of 12-Step mutual help groups and sponsors. However, other supportive individuals include family members, members of a religious organization, and nonusing friends. Clients should be encouraged to make a list of key people and their phone numbers to hold onto in case of a slip. If other people in the client's life are willing to help out and be supportive, the client has a much greater chance of moving successfully through a lapse.

7) Work through/process guilt and other negative emotions related to relapse:

   Using many of the general strategies mentioned earlier can help minimize the relapse. Other self-statements that reaffirm recovery and address negative thinking also can be helpful. As noted, clients can keep a 3 × 5 card full of positive self-statements and read over it as necessary.

Relapse management strategies are designed to minimize lapses and help the person get back on track as soon as possible. Both general and specific strategies rely on cognitive and behavioral skills and interventions to accomplish this goal.

Build Coping Skills

A key part of relapse prevention requires learning how to successfully cope with high-risk situations. When a person with a substance use disorder faces a high-risk situation, he or she can either use an effective coping response and subsequently avoid relapse or not use a coping response, thus greatly

increasing the probability of relapse. Therefore, one of the first sets of skills a clinician should assess is the client's ability to cope. If coping skills are lacking, the clinician should attempt to teach new skills and help the client practice them in therapy. Clinicians should not assume that clients have all the skills necessary to cope with high-risk situations. Some clients may think they can resist temptation only to be disappointed at their subsequent loss of control. At other times, clients are all too aware of their inability to cope.[116]

The clinician assesses for strengths and limitations across several areas — family, work, recreation, diet, exercise, stress management — and helps promote behavioral action to improve the client's life. If a client possesses strong coping skills and uses them regularly, then his or her self-efficacy increases and the risk of relapse is low. If he or she possesses poor or nonexistent coping skills, then the chances of relapse increase greatly.

Cognitive Behavior Therapy

Cognitive therapy lends itself well to the treatment and counseling of substance use and addiction issues. The application of cognitive methods to the treatment of substance use problems can be comprehensive and complex. Behavior therapy serves as the foundation for many approaches to substance use counseling. Well-established substance use intervention models such as Rational Emotive Behavior Therapy (REBT) and Dialectical Behavior Therapy (DBT) use cognitive and behavioral principles as primary components in helping clients change substance use patterns.[117]

Cognitive theory rests on the assumption that thoughts, thought patterns, and cognitive themes, play a large role in psychological distress and behavior problems.[118] Many patients have a particular internal dialogue that

contains themes of self-blame, self-criticism, judgment, and negative interpretations. These negative themes may cause patients to experience negative emotions and problems, such as depression and anxiety. It is important to note that these cognitive processes are not considered the cause of all psychological disorders; however, they do play a major component.[95]

Cognitive and cognitive behavioral therapy has proven to be an effective form of treatment for clients struggling with substance-related problems. For example, cocaine users rated the cognitive model and cognitive therapy as more helpful than supportive expressive therapy and general education. In a study on marijuana use, researchers found that cognitive behavioral therapy had superior outcomes and attendance compared to other forms of therapy. In a systematic review of cognitive strategies used in the treatment of substance use, cognitive behavioral interventions showed positive changes as well as reductions in use, even after a few sessions, compared to controls. In general, research has supported the cognitive mechanisms of addiction as well as cognitive interventions when combined with behavioral strategies.

Irrational distorted thinking has been shown to be involved in several psychological problems, including depression, anxiety, PTSD (post-traumatic stress disorder), eating disorders, psychosis, and substance use. In the case of a substance use disorder, these distorted patterns serve to maintain and justify one's addictive pattern. The connection between thinking, feeling, and behaviors is at the heart of cognitive behavioral theory, providing a framework from which clinicians can assess and help clients struggling with substance use problems.

According to the cognitive theory of substance use and addiction, "a major road-block to elimination of problematic substance use is the dysfunctional beliefs about substances and their effects. Examples of such beliefs include, 'I cannot function without cocaine' or 'Drugs are the only way to handle my stress.' These dysfunctional beliefs are problematic in that they often distort reality, create negative mood states, and justify using substances to handle problems. It is interesting that a client's dysfunctional beliefs often intensify when they experience deprivation. For example, the client might believe, 'I can't stand being without marijuana' or 'These cravings are too strong for me to handle.' In essence, such beliefs become self-fulfilling in that the client believes they can't control their use or cravings, leading them to give up trying, which then leads to relapse, thus confirming the original belief."[119]

Cravings and urges present significant problems when trying to maintain abstinence. In many instances, dysfunctional beliefs contribute to the formation of urges. This process starts with a belief, which leads to an expectation, which then creates the internal urge to use. Most substance related beliefs center around pleasure seeking, problem solving, relief, and escape. Components of these dysfunctional beliefs include:[120]

- The expectation that drugs will maintain internal balance.
- The belief that drugs will make one more sociable and smarter.
- The expectation that drugs will give one pleasure and fun.
- The belief that drugs will increase energy and make one feel powerful.
- The conviction that drugs will calm stress and tension.
- The idea that drugs will relieve boredom and depression.
- The belief that the only way to manage cravings is to take the drug.

The cognitive model of substance use relies heavily on the impact of beliefs in the development of substance use and addiction. However, before core

beliefs are activated, one must encounter an activating stimulus, which can be internal (feeling stressed, depressed, or anxious) or external (hanging out with friends, feeling awkward at a party). The stimulus serves as a trigger to core beliefs, setting in motion a series of additional thoughts, emotions, and cravings, ultimately leading to addictive behavior.

Cognitive therapy can be used at any point in the complete cognitive process, including as a means to modify core beliefs or address anticipatory or permissive beliefs that can lead to the development of substance use and associated problems.[121] The nature of automatic thoughts is that they can occur spontaneously. Therefore, an individual can develop substance-related problems quickly and without much warning. One goal of cognitive therapy is to help clients become more aware of their automatic thoughts and how they create cognitive vulnerabilities toward using substances.

When used as a framework for working with those struggling with substance use problems, cognitive therapy is active, structured, and focused on goals that are generated in a collaborative manner.[161] The spotlight of therapy is primarily on reducing faulty thought processes that contribute to emotional struggle and addictive behavior. Cognitive techniques and strategies also help reduce cravings and promote a stronger system of intrinsic control. Cognitive therapy for substance use is designed to decrease pressure and increase control. The mechanism to accomplish these objectives is challenging and helping the client to modify dysfunctional thinking related to substances and substance use.

In cognitive therapy for substance use, much more attention is centered on addressing underlying thought patterns that lead to or maintain one's substance addiction. Sessions are geared toward helping clients think more

rationally and logically about their lives.[122] Cognitive therapy offers a number of strategies and tools to aid in assessment and diagnosis of substance-related problems. Whereas, assessment is an important clinical skill across the spectrum of mental health disorders, it is particularly relevant when ascertaining the extent of problematic substance use. The following is a partial list of critical elements in formulating a case using cognitive therapy:

1. Relevant history:

   This would include questions that assess when the substance use began:

   a. Why did you start using drugs?
   b. How did your use develop into dependency or addiction?
   c. What has prevented you from stopping by yourself?

2. Current life difficulties:

   This involves assessing when life problems started, as well as when they began in reference to substance use. For example, did problems occur before substance use, as a result of substance use, or both?

3. Core beliefs or schemas:

   Core beliefs or schemas are an essential component to understanding cognitive theory. Biased schemas can serve as the foundation for the development of cognitive distortions and automatic thoughts. Maladaptive schemas are usually global in nature, comprising one's whole being, such as "I am unlovable," I am vulnerable," or "I am ineffective". These thoughts go to the core of who the person is as a human being. In other words, the thought is not "I was ineffective in

that performance the other day" but rather "I am ineffective." The assessment of these core beliefs becomes an essential practice when working with substance use through the lens of cognitive and cognitive behavioral theory.

4. Vulnerable situations:

   Environmental stimuli often trigger core schemas leading to automatic thoughts and eventual substance use. For example, a client may engage in a period of abstinence from cocaine; yet upon driving through his or her old neighborhood or seeing an old using buddy, a chain reaction is set off in which schemas are triggered, leading to biased thinking, difficult emotions, and inappropriate coping (using substances). Assessing high-risk situations is a critical skill in determining the sequence of events leading to substance use. It also plays an important role in preventing relapse.

5. Automatic thoughts:

   Automatic thoughts are triggered by environmental stimuli. Typical automatic thoughts among those who use substances include, "I can't stand the urges and cravings," "Just a little bit won't hurt," and "Go for it." Automatic thoughts can be assessed through careful questioning of what a person was thinking before he or she used or more formally through objective questionnaires, such as the beliefs about substance use.

In addition to the components listed above, the clinician will also attempt to identify emotions and behaviors that may play a role in maintaining problematic substance use. Although emotions and behaviors are not the central focus of therapy, they are associated with automatic thoughts.

Cognitive techniques are often combined with behavioral interventions to help clients struggling with addiction.

The next step in the assessment process is to use the data to develop a comprehensive case conceptualization. The case conceptualization summary is composed of many elements designed to aid the clinician in developing treatment plans and goals. Major elements of the case conceptualization include:[123]

- demographic information
  diagnoses
- assessment scores
- presenting problem
- developmental profile
- cognitive profile
- integration of cognitive and developmental profiles
- implications for therapy

Many clinicians use cognitive therapy because of its emphasis on structuring the counseling session. Structured sessions are especially important for those who use substances because topics can quickly spiral into nonproductive discussions. Cognitive therapists place a premium on maximizing time and efficiency. Structured sessions are necessary to realize this aim.[95] Although there will be great variability from client to client and session to session, certain common elements operate in a cognitive therapy session with someone using substances:[121]

1. Agenda

   The first element is setting the agenda. Agenda setting is an important skill, especially when there is a limited amount of time. It is

appropriate for the clinician to share his or her agenda with the client as well as to provide an opportunity for the client to share what is on his or her mind. This strategy respects what the client brings to the session and facilitates a collaborative atmosphere. Clients who use substances may indeed come to sessions with numerous problems other than their use of drugs. This can make focusing on what is most pertinent a challenge. The danger of not setting an agenda, from the cognitive viewpoint, is that discussions too often steer in directions where not much is accomplished.

2. Mood Check:

   The link between negative emotional states and substance use is well established, so a mood check is considered a second element in the structure of a cognitive therapy session for substance use. The most formal way to assess for mood status is to encourage clients to complete one or more short assessment instruments, such as the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), the Symptom Checklist 90, or the Beck Hopelessness Scale (BHS). Each of these instruments takes little time to administer, score, and interpret (except for the Symptom Checklist, which may take a little more time to hand score, so it would probably not be productive to do it every session).

   The advantage of using these instruments is that they provide an objective, quick way of checking in with clients regarding difficult emotions they are currently experiencing. Scores in the moderate-to-high range indicate that the client may be in a vulnerable state and at higher risk for relapse. The clinician can use this information to either place it on the agenda or to at least check in with the client about his

or her mental and emotional state. There is, of course, a less formal but effective way to conduct a mood check: simply ask clients how they are feeling. One way to accomplish this is through a simple scaling-type question, such as, "On a scale of 1 to 10, where would you rate your mood, with 1 being not so good and 10 feeling great?" Ultimately, the mood check can be done a number of ways, depending on clinician preference and time.

3. Bridging:

   The third element of the structure of a cognitive therapy session for substance use is bridging from the last session. Many clients who are addicted to substances lead chaotic lives where the potential exists for them to bounce from one issue or problem to the next between therapy sessions. To establish continuity from one session to the next, clinicians can summarize the last session(s) and ask if the client has any unfinished business or unresolved issues that he or she would like to cover. As the counseling session begins, clinicians need to ask themselves, "How does our current topic connect to what we discussed the last time we met?" Rather than a formal technique, making a bridge from the last session is more about awareness on the clinician's part of where the discussion was previously and how that connects to the current discussion. If the client strays too far from therapy goals and/or agenda items, the clinician can gently refocus the session in more productive directions.

4. Discussion and Questions:

   The next steps in the session are the discussion of agenda items followed by Socratic questioning and other cognitive-based techniques. These elements are the foundation of the session, in which the most

teaching and learning take place. Ideally, the majority of the session is allocated to exploration, discussion, and teaching of cognitive interventions.

5. Recap

   The clinician and client should recap what has been discussed, processed, and learned in every counseling session via a capsule summary. Some clinicians aim for a minimum of three capsule summaries; however, three summaries may be too ambitious and probably not necessary. Too many summaries can seem forced and redundant, especially when sessions are moving along slowly and not much information has been shared. As a general guideline, however, clinicians should aim for two summaries: one at the middle of the session and one at the end. At the very least, a summary at the end of the session is recommended. The clinician usually does capsule summaries, at least initially. As time passes and rapport builds, summaries can be the responsibility of the client as well.

Many of the cognitive techniques used with clients in general can also be used with clients struggling with substance use. The techniques range from focusing on modifying dysfunctional thoughts to helping clients see the connections among their thinking, emotions, and behaviors. Some of the more common cognitive techniques used to address substance use are discussed below:[120]

1. Daily Thought Record:

   When clients who use substances become aware of their automatic schemas and thoughts, they are better able to see their dysfunctional patterns and how they contribute to substance use. This awareness

also sets the stage for intervention; if clients are more aware of their negative thinking styles, they can choose to substitute negative thoughts with more positive or adaptive ones. The daily thought record is one of the most common and fundamental techniques in cognitive therapy.

2. Pros–Cons Analysis:

   Many clients who use substances overestimate the advantages of using and underestimate the disadvantages. The pros–cons analysis is designed to help clients identify a more balanced picture of their substance use. If successful, clients begin to see the disadvantages about using that they had not considered or that the advantages are not as great as they once thought. Pros–cons analysis can simply be discussed in the therapy session or written out on a piece of paper or flip chart.

3. Downward Arrow Technique:

   The downward arrow technique can be a powerful avenue to get at one's core belief or schema that is causing the misery. As an analogy, it is like peeling an onion, layer after layer, until one arrives at the core. In cognitive therapy, the peeling is moving away surface thoughts that cover deeper, more central thoughts that are leading to distress and problematic behavior. The strategy is to identify an automatic thought, usually through simple discussion or from the daily thought record. The clinician encourages the client to repeat the thought and then ask the question, "If that negative thought were true, what would it mean to me? Why would it upset me?" A simpler question might simply be, "And then what?" The client then shares another, related thought (although a little closer to the core schema),

and the clinician will follow with, "If that were true, why would that be upsetting?" (or "and then what?") and so on, until a mutual stopping point is achieved. This stopping point should be at or near core belief or schema.

4. Examining and Challenging Cognitive Distortions:

   There are several techniques to address the many cognitive distortions people hold about themselves, others, and the world. Many of these techniques are in the form of Socratic questioning, where the clinician asks a series of 10–13 questions designed to help clients better examine the distortion they hold. For example, a client who engages in dichotomous thinking might be asked, among other questions, to rate the degree of belief and emotions about the belief, conduct a cost-benefit analysis, and examine the evidence for and against dichotomous thinking.

5. Imagery:

   Imagery can be a potent cognitive technique in helping a client prevent relapse. Making use of their imagination helps clients visualize working through difficult high-risk situations in which they might be tempted to use substances. Imagery is a type of cognitive rehearsal technique in which the client visualizes an upcoming situation (or any situation in which he or she would most likely be tempted to use) and concomitantly how he or she would handle this challenge. In essence, clients are taught to restructure their images in more positive directions. The client rehearses mentally several of the techniques having been taught in counseling, leading to a satisfactory resolution to the situation.

Strengths, Limitations, and Ethical Concerns of Cognitive Behavioral Therapy[124]

Strengths

Cognitive behavioral therapy is based on the interrelationship and reciprocal nature of thinking, feeling, and behaving and how these contribute to substance use. It is an integrative practice. Most variations of CBT allow for flexibility in their use of therapeutic strategy and technique, which is critical when working with clients struggling with addictions. Great value is afforded in confronting clients regarding core assumptions, beliefs, and values, which often maintains persistent substance use. CBT allows for placing newly acquired insights into action via homework assignments so clients can practice abstinence supporting skills.

Known strategies of CBT allow clients to become their own best therapists outside of the counseling office. CBT is not a mysterious or complicated approach; it is effective, focused, and practical, which can appeal to a wide range of clients presenting with substance use problems. Education is a strong component of CBT; clients struggling with addiction can benefit from a combined educational or therapeutic model such as CBT.

Limitations

Clinician's level of training, knowledge, and skill correlates to how well it is implemented. Many clinicians may simply not have this level of training and continuing education. It is commonly assumed, although questionable, that exploration of the past is ineffective in helping clients change behavior. More research is needed in the application of CBT with diverse populations as well as its application to substance use problems.

Ethical Issues

The nature of many CBT approaches create a power differential by clinician's imposing ideas as to what is rational or proper thinking. Would clients who use substances feel pressured to adopt the goals/values of the clinician? Many aspects of addiction, such as denial, rationalization, physical dependence, *etc*., would theoretically not be addressed by many CBT approaches.

There is some concern about undue influence or manipulation from directive approaches such as CBT. Ethical issues may arise when the wishes for the client are different than the client's own wishes.

Contingency Management

Contingency management consists of the contingent presentation and withdrawal of rewards and punishments. Counselors can use these procedures themselves, and it is equally effective to train others (spouses, friends, children) to function as natural contingency managers. In addition, clients must be trained in contingency management so that they can exercise increased self-control over their own problem behaviors. Many more skills are involved in this procedure than the simple dispensation of reinforcements. For example, counselors must discover a number of reinforcers that can be manipulated and that are effective for the client whose behavior is being changed. In addition, they must determine what behaviors will be changed, their frequency of occurrence (baseline), the situations in which they occur, and the reinforcers that appear to be responsible for the maintenance of these maladaptive behaviors.

This knowledge will be gained through functional analysis. Failure to establish a baseline rate of behavior frequency, institute procedures for

measuring behavioral change, and assess such things as the behaviors to be treated results in limited treatment effectiveness and a consequent waste of therapist and client time. Contingency management techniques are flexible and can be applied in the community, individually, in a group, and in both inpatient and outpatient settings. They require creative treatment planning and individualizing and are both cost- and time-effective.[125]

In contingency management, an active attempt is made to change those environmental contingencies that may influence substance use behavior. The goal is to decrease or stop alcohol or drug use and to increase behaviors that are incompatible with use. In particular, those contingencies that are found through a functional analysis to promote as well as reinforce substance use are weakened by associating evidence of alcohol or drug use (*i.e.*, positive blood alcohol concentration or drug-positive urine screen) with some form of negative consequence or punishment. Contingencies that promote and reinforce behaviors that are incompatible with substance use and that promote abstinence are strengthened through association with positive reinforcers. Contingency management approaches have been found to be among the most effective interventions for initiating and maintaining abstinence as well as increasing the attainment of other meaningful personal and treatment goals among individuals who are using and addicted to marijuana.

Often, but not necessarily always, written contracts can be used to help implement a contingency management program. The contract specifies clearly, often using the client's own words, the target behavior to be changed, the contingencies surrounding either making the desired behavior change or not, and the timeframe in which the desired behavior change is to occur. The act of composing and signing a contract is a small but potentially

important public ritual signifying the client's commitment to the proposed change. In the contract, the client may include contingencies, especially rewards or positive incentives that reinforce target behaviors (*i.e.*, attending treatment sessions, getting to 12-step meetings, avoiding stimuli associated with substance use). Goals should be clearly defined, divided into small steps that occur frequently, and revised as treatment progresses; contingencies should occur quickly after success or failure.[126]

An example of a behavioral contract is the "sobriety contract" that is frequently used as a component of CRA or BMT. The negotiated contract involves the substance user on a daily basis affirming his or her commitment to not use drugs; this intent is reinforced by the spouse/partner, who expresses support for this stated goal of abstinence. Most often, behavioral contracts and contingency management procedures are embedded in a more comprehensive treatment program. Contracts targeting goals supportive of recovery (*i.e.*, improving vocational behavior, saving money, being prompt and regular for counseling and medication) are generally more likely to be achieved and may lead to better outcomes than those more directly related to substance use (*i.e.*, clean urine samples).

Recent studies found that receiving vouchers contingent on completing objective, individually tailored goals related to one's overall treatment plan was more effective in reducing drug use than either a voucher system specifically targeting drug-free urine samples or the standard treatment without either of these contingency contracts added. In contingency management, the clinician uses the principles of operant conditioning to shape behavior, using the following key questions as a guide:[127]

(1) What behavior is maladaptive? What behaviors should be increased or decreased?

(2) What environmental contingencies currently maintain or support the behavior?
(3) What are the rewards of maintaining drug use? Are there punishers associated with avoiding drug use?
(4) What environmental changes can be manipulated to alter the behavior?

Based on these questions, the clinician and client co-construct a treatment plan that takes into account environmental contingencies that serve to maintain the addictive pattern. Contingency management has been the foundation of many substance abuse intervention programs and has demonstrated success in reducing substance use behaviors and increasing abstinence times.

Examples of Contingency Management programs include:[128]

- *Voucher-Based Reinforcement* (VBR):

  Voucher-based reinforcement augments other community-based treatments. In VBR, the patient receives a voucher for every drug-free urine sample provided. The voucher has monetary value that can be exchanged for food items, movie passes, or other goods or services that are consistent with a drug-free lifestyle. The voucher values are low at first, but increase as the number of consecutive drug-free urine samples increases; positive urine samples reset the value of the vouchers to the initial low value.

- *Prize Incentives CM*:

  Prize incentive CM applies similar principles as VBR but uses chances to win cash prizes instead of vouchers. Over the course of the program (at least 3 months, one or more times weekly), participants supplying

drug-negative urine or breath tests draw from a bowl for the chance to win a prize worth between $1 and $100. Participants may also receive draws for attending counseling sessions and completing weekly goal-related activities. The number of draws starts at one and increases with consecutive negative drug tests and/or counseling sessions attended but resets to one with any drug-positive sample or unexcused absence.

The practitioner community has raised concerns that this intervention could promote gambling — as it contains an element of chance — and that pathological gambling and substance use disorders can be comorbid. However, studies examining this concern found that Prize Incentives CM did not promote gambling behavior.

Behavioral Therapies

Behavioral principles serve as the foundation for CM interventions. Basic behavioral principles include positive reinforcement and negative reinforcement.

- Positive Reinforcement:

  One of the basic principles of behavioral therapy relates to positive reinforcement. Simply put, providing reinforcers, or rewards, will increase the frequency of a behavior. For example, if a parent provides a tangible reinforcer, such as a candy bar, a small toy, or a dollar bill, each time his/her eight-year-old child makes the bed, the child will increase the frequency with which the bed gets made. If a child receives a sticker each time for brushing teeth, and seven stickers can be exchanged for a toy, brushing the teeth will be

learned by the child for the reward of having a toy. All parents use some forms of CM to shape or alter their children's behavior.

Similarly, a variety of settings, including classrooms as well as work and employment situations, use CM techniques. Teachers provide smiley faces and stars on homework or tests on which a child has performed well. Passing grades and special privileges in the classroom (extra recess time, special helper status, *etc.*) are common examples of reinforcers that encourage studying and cooperative classroom behaviors. In some professions, such as sales, those who achieve high performance receive extra income in the form of bonuses or commissions. These are all examples of positive reinforcers used to increase the frequency of specific behaviors.[129]

- Negative Reinforcement:

  In contrast to positive reinforcers that increase the frequency of a behavior, negative reinforcers reduce the frequency of behaviors. In school settings, small children receive time-outs when they are exhibiting aggressive or inappropriate behaviors. As children get older, teachers withhold recess privileges or send children to detention or the principal's office if problem behaviors arise. In employment settings, employees who arrive late for work may lose their hourly pay, forgo promotions, or be subjected to demotions and reductions in salaries or even the loss of a job for continued poor performance.

  Both positive and negative reinforcers can effectively alter behaviors. However, everyone prefers to receive something positive

rather than have it taken away. In the context of clinical settings and CM treatments, the emphasis is on positively reinforcing appropriate patient behaviors.

Basic Principles of Contingency Management

Contingency management treatments refer to utilizing the principles and processes of reinforcement that are routinely applied in everyday settings, including 12-step interventions, and adapting them so that they more clearly align to behavioral principles. In this manner, the reinforcers have a greater likelihood of encouraging the desired behaviors. There are three basic premises of a CM intervention:[130]

(1) Frequently monitor the behavior that you are trying to change.
(2) Provide tangible, immediate positive reinforcers each time that the behavior occurs.
(3) When the behavior does not occur, withhold the positive reinforcers.

Each of these principles is more thoroughly described below and are critical to the design of a successful contingency management program:[125,131]

- *Frequently Monitor the Behavior That You Are Trying to Change* –

  In the case of substance use treatment, the behavior most often targeted for change is drug use. Objective and easy-to-use methods exist for assessing use of most substances, and clinicians are familiar with these procedures. They typically involve urine drug screening. Most urine drug tests can detect abstinence (or use) over a two- to three-day period. Hence, if a patient used marijuana on a Monday, the urine samples would test positive that day and until Wednesday or Thursday. Because of this window over which abstinence can be detected, most CM systems rely upon thrice-weekly urinalysis testing:

Mondays, Wednesdays, and Fridays. If samples are collected and tested according to this schedule, each instance of marijuana use, and each two- or three-day period of cocaine abstinence, can be detected. Abstinence is positively reinforced, which in turn results in the behaviors leading to abstinence increasing in frequency.

- *Provide Tangible, Immediate Positive Reinforcers Each Time That Behavior Occurs* –

  In terms of the second principle of CM, positive reinforcers need to be provided each time the targeted behavior occurs. The key is to make use of widely applicable and universally appealing reinforcers. In closed systems such as residential treatment programs, privileges can be appealing and highly desired, but in outpatient settings, different forms of reinforcers are needed to have a substantial impact on behavior. Thus, reinforcers could be money, vouchers exchangeable for retail goods and services, or chances to win prizes of monetary value. Each time the patient tests negative for the targeted substance, a reinforcer is earned.

  As noted earlier, one should is cautioned against the exclusive use of privileges as reinforcers in outpatient settings, as not all patients desire clinic privileges, and many types of privileges are things upon which patients will satiate or tire over time. For example, some (but certainly not all) patients will enjoy being a group leader or being allowed to use the clinic's phone for a call occasionally. However, if these are the only possible reinforcers, patients will grow less enthused with them over time. The key to a successful CM intervention is to select reinforcers that all patients will desire and work to achieve.

- *When the Behavior Does Not Occur, Withhold Positive Reinforcers* -

  In terms of the third key strategy of CM interventions, patients who do not exhibit the desired behavior (*i.e.*, fail to submit a negative urine sample) do not receive the reinforcer. There is no direct punishment involved, as patients who are punished for using (or exhibiting other negative behaviors) are unlikely to remain engaged in treatment in voluntary settings. Hence, punishment will serve to disengage patients from the treatment process, rather than encourage the behavior that one is attempting to increase.

  A good analogy relates to Narcotics Anonymous (NA). When an NA member relapses, they are not punished for the relapse, but rather congratulated for re-engaging in the meetings, even if the current duration of abstinence is short (*i.e.*, hours or days). A similar approach is necessary in CM treatments. When relapses occur, the patient forgoes the tangible reinforcers but is strongly encouraged to regain abstinence and again achieve the reinforcer. On the surface, CM is as simple as the three steps outlined above. Nevertheless, decades of research and clinical experience have gone into designing and evaluating the efficacy of CM for reducing substance use. Protocols for the most effective CM interventions involve nuances that integrate some additional, and sometimes rather subtle, behavioral principles.

Motivational Enhancement Therapy

Motivational Enhancement Therapy (MET) is an adaptation of motivational interviewing (MI) that includes one or more client feedback sessions in which normative feedback is presented and discussed in an explicitly non-confrontational manner. Motivational interviewing is a directive, client-

centered counseling style for eliciting behavior change by helping clients to explore and resolve their ambivalence and achieve lasting changes for a range of problematic behaviors. This intervention has been extensively tested in treatment evaluations of alcohol and other drug use/misuse.

Motivational Enhancement Therapy uses an empathic but directive approach in which the therapist provides feedback that is intended to strengthen and consolidate the client's commitment to change and promote a sense of self-efficacy. MET aims to elicit intrinsic motivation to change substance use by resolving client ambivalence, evoking self-motivational statements and commitment to change, and "rolling with resistance."[132] MET is a structured therapy adapted from the MI model for the purposes of treatment. The use of an extensive assessment makes the MET distinctive, but the feedback session is characterized by an affirmative climate that recognizes the client's power to use the assessment results as he or she sees fit. This approach aims to evoke rapid and internally motivated change, rather than guide the patient stepwise through the recovery process.

This therapy consists of an initial assessment battery session, followed by two to four individual treatment sessions with a therapist. In the first treatment session, the therapist provides feedback to the initial assessment, stimulating discussion about personal substance use and eliciting self-motivational statements. Motivational interviewing principles are used to strengthen motivation and build a plan for change. Coping strategies for high-risk situations are suggested and discussed with the patient. In subsequent sessions, the therapist monitors change, reviews cessation strategies being used, and continues to encourage commitment to change or sustained abstinence.[133]

Motivational Enhancement Therapy consists of four carefully planned and individualized treatment sessions. Whenever possible, the client's spouse or another "significant other" is included in the first two of these four sessions. The first treatment session (week 1) focuses on (1) providing structured feedback from the initial assessment regarding problems associated with use, level of consumption and related symptoms, decisional considerations, and future plans and (2) building client motivation to initiate or continue change. The second session (week 2) continues the motivation enhancement process, working toward consolidating commitment to change. In two follow through sessions, at week 6 and week 12, the therapist continues to monitor and encourage progress. All therapy is completed within 90 days.

Motivational Enhancement Therapy is not intended to be a minimal or control treatment condition. Motivational Enhancement Therapy is, in its own right, an effective outpatient treatment strategy, which, by virtue of its rationale and content, requires fewer therapist-directed sessions than some alternatives. It may, therefore, be particularly useful in situations where contact with problem users is limited to few or infrequent sessions (*i.e.*, in general medical practice or in employee assistance programs). Treatment outcome research strongly supports MET strategies as effective in producing change in substance users.[179]

From a stages-of-change perspective, the MET approach addresses where the client currently is in the cycle of change and assists the person to move through the stages toward successful sustained change. For the ME therapist, the contemplation and determination stages are most critical. The objective is to help clients seriously consider two basic issues. The first is how much of a problem their substance use behavior poses for them and how their use is affecting them (both positively and negatively). Tipping the

balance of these pros and cons of substance use toward change is essential for movement from contemplation to determination. Second, the client in contemplation assesses the possibility and the costs/benefits of changing the problem behavior. Clients consider whether they will be able to make a change and how that change will affect their lives.[134]

In the determination stage, clients develop a firm resolve to take action. That resolve is influenced by past experiences with change attempts. Individuals who have made unsuccessful attempts to change their substance use behavior in the past need encouragement to decide to go through the cycle again. Understanding the cycle of change can help the ME therapist to empathize with the client and can give direction to intervention strategies. Though individuals move through the cycle of change in their own ways, it is the same cycle. The speed and efficiency of movement through the cycle, however, will vary. The task is to assist the individual in moving from one stage to the next as swiftly and effectively as possible.

The MET approach begins with the assumption that the responsibility and capability for change lie within the client. The therapist's task is to create a set of conditions that will enhance the client's own motivation for and commitment to change. Rather than relying upon therapy sessions as the primary locus of change, the therapist seeks to mobilize the client's inner resources as well as those inherent in the client's natural helping relationships. MET seeks to support intrinsic motivation for change, which will lead the client to initiate, persist in, and comply with behavior change efforts.[127]

With MET, there are five basic motivational principles underlying such an approach:

- Express empathy:

  The ME therapist seeks to communicate great respect for the client. Communications that imply a superior/inferior relationship between therapist and client are avoided. The therapist's role is a blend of supportive companion and knowledgeable consultant. The client's freedom of choice and self-direction are respected. Indeed, in this view, only the clients can decide to make a change in their substance use and carry out that choice. The therapist seeks ways to compliment rather than denigrate, to build up rather than tear down. Much of Motivational Enhancement Therapy is listening rather than telling.

  Persuasion is gentle, subtle, always with the assumption that change is up to the client. The power of such gentle, nonaggressive persuasion has been widely recognized in clinical writings.

- Develop discrepancy:

  Motivation for change occurs when people perceive a discrepancy between where they are and where they want to be. The MET approach seeks to enhance and focus the client's attention on such discrepancies with regard to substance use behavior. In certain cases, it may be necessary first to develop such discrepancy by raising clients' awareness of the personal consequences of their use. Such information, properly presented, can precipitate a crisis (critical mass) of motivation for change. As a result, the individual may be more willing to enter into a frank discussion of change options in order to reduce the perceived discrepancy and regain emotional equilibrium. When the client enters treatment in the later contemplation stage, it takes less time and effort to move the client along to the point of determination for change.

- Avoid argumentation:

  If handled poorly, ambivalence and discrepancy can resolve into defensive coping strategies that reduce the client's discomfort but do not alter substance use and related risks. An unrealistic (from the clients' perspective) attack on their substance use behavior tends to evoke defensiveness and opposition and suggests that the therapist does not really understand. The MET style explicitly avoids direct argumentation, which tends to evoke resistance.

  No attempt is made to have the client accept or "admit" a diagnostic label. The therapist does not seek to prove or convince by force of argument. Instead, the therapist employs other strategies to assist the client to see accurately the consequences of substance use and to begin devaluing the perceived positive aspects of using. When MET is conducted properly, the client, and not the therapist, voices the arguments for change.

- Roll with resistance:

  How the therapist handles client "resistance" is a crucial and defining characteristic of the MET approach. MET strategies do not meet resistance head on, but rather "roll with" the momentum, with a goal of shifting client perceptions in the process. New ways of thinking about problems are invited but not imposed. Ambivalence is viewed as normal, not pathological, and is explored openly. Solutions are usually evoked from the client rather than provided by the therapist.

- Support self-efficacy:

  People who are persuaded that they have a serious problem may support self-efficacy yet not move toward change unless there is hope for success. Self-efficacy is, in essence, the belief that one *can perform* a particular behavior or accomplish a particular task. In this case, clients must be persuaded that it is possible to change their own substance use and thereby reduce related problems. In everyday language this might be called having hope or optimism, although an overall optimistic nature is not crucial here. Rather, it is the clients' specific belief that they can change the substance use problem. Unless this element is present, a discrepancy crisis is likely to resolve into defensive coping (*i.e.*, rationalization, denial) to reduce discomfort without changing behavior. This is a natural and understandable protective process. If one has little hope that things could change, there is little reason to face the problem.[132,134]

Phases of Counseling

Motivational counseling can be divided into two major phases: 1) building motivation for change and 2) strengthening commitment to change. The early phase of MET is designed to focus on developing the client's motivation to change their use of marijuana. Clients will vary widely in their readiness to change. Some may come to treatment largely decided and determined to change, but the following processes should nevertheless be pursued in order to explore the depth of such apparent motivation and to begin consolidating commitment. Others will be reluctant or even hostile at the outset.

At the extreme, family, employer, or legal authorities may coerce some true precontemplators into treatment. Most clients, however, are likely to enter the treatment process somewhere in the contemplation stage. They may

already be dabbling with taking action but still need consolidation of motivation for change.

This phase may be thought of as tipping the motivational balance. One side of the seesaw favors status quo or continued use as before, whereas the other favors change. The former side of the decisional balance is weighed down by perceived positive benefits from drinking and feared consequences of change. Weights on the other side consist of perceived benefits of changing one's drinking and feared consequences of continuing unchanged. The clinician's task is to shift the balance in favor of change.

A second major process in MET is to consolidate the client's commitment to change, once sufficient motivation is present. Timing is a key issue — knowing when to begin moving toward a commitment to action. This is the determination stage, when the balance of contemplation has tipped in favor of change, and the client is ready for action (but not necessarily for maintenance). Such a shift is not irreversible. If the transition to action is delayed too long, determination can be lost. Once the balance has tipped, then, it is time to begin consolidating the client's decision. There are no universal signs of crossing over into the determination stage. However, some of the following behaviors might be observed:[136]

- The client stops resisting and raising objections.
- The client asks fewer questions.
- The client appears more settled, resolved, unburdened, or peaceful.
- The client makes self-motivational statements indicating a decision (or openness) to change ("I guess I need to do something about my smoking " "If I wanted to change my use, what could I do?").
- The client begins imagining how life might be after a change.

For many clients, there may not be a clear point of decision or determination. Often, people begin considering and trying change strategies while they are in the later part of the contemplation stage. For some, their willingness to decide to change depends in part upon trying out various strategies until they find something that is satisfactory and effective. Then they commit to change. Thus, the shift from contemplation to action may be a gradual, tentative transition rather than a discrete decision. It is also important to remember that even when a client appears to have made a decision and is taking steps to change, ambivalence is still likely to be present.

Avoid assuming that once the client has decided to change, Phase 1 strategies are no longer needed. Likewise, clinicians should proceed carefully with clients who make a commitment to change too quickly or too emphatically. Even when a person seems to enter treatment already committed to change, it is useful to pursue some of the motivation-building and feedback strategies before moving into commitment consolidation.[137,138]

Phase I: Building Motivation for Change

- Listening with empathy
- Questioning
- Presenting personal feedback
- Affirming the client
- Handling resistance
- Reframing
- Summarizing

Phase II: Strengthening Commitment to Change

- Discussing a plan

- Communicating free choice
- Consequences of action and inaction
- Information and advice
- Emphasizing abstinence
- Dealing with resistance
- Asking for commitment

Once the clinician has established a strong base of motivation for change (Phase 1) and has obtained the client's commitment to change (Phase 2), MET focuses on follow through. This may occur as early as the second session, depending on the client's progress. Three processes are involved in follow through:[135,138]

(1) Reviewing progress:

It is imperative to begin a follow through session with a review of what has happened since the last session. Discuss with the client what commitment and plans were made, and explore what progress the client has made toward these. Respond with reflection, questioning, affirmation, and reframing, as before. Determine the extent to which previously established goals and plans have been implemented.

(2) Renewing motivation:

The Phase 1 processes can be used again to renew motivation for change. The extent of this renewal depends on the clinician's judgment of the client's current commitment to change. Asking clients what they remember as the most important reasons for changing their substance use behavior may help to assess this.

(3) Redoing commitment:

The Phase 2 processes can also be continued during follow through. This may simply be a reaffirmation of the commitment made earlier. If the client has encountered significant problems or doubts about the initial plan, however, this is a time for reevaluation, moving toward a new plan and commitment. Seek to reinforce the client's sense of autonomy and self-efficacy — an ability to carry out self-chosen goals and plans.

Self-Help Programs

The "12-step" programs help many people, including Alcoholics Anonymous and related groups such as Narcotics Anonymous (NA) and Cocaine Anonymous (CA). These self-help groups operate around the world and provide a social support system for recovery and a process for personal development that encourages looking inward and addressing issues obscured by alcohol and drug use. In general, these programs do not function as a form of treatment. Rather, the groups exist to support recovering alcoholics or drug abusers in their rehabilitation process. The description that is read at the beginning of most 12-step meetings is as follows:[139]

Alcoholics Anonymous [Narcotics Anonymous] is a fellowship of men and women who share their experience, strength, and hope with each other that they may solve their common problem. The only requirement for membership is a desire to stop drinking [drug abuse]. There are no dues or fees for AA membership; we are self- supporting through our own contributions. AA is not allied with any sect, denomination, political group, organization, or institution; does not wish to engage in any controversy, neither endorses nor opposes any

causes. Our primary purpose is to stay sober and help other alcoholics to achieve sobriety.

These organizations have minimal formal structure and they report that their only authority is shared experience. The Alcoholics Anonymous and Narcotics Anonymous programs are expressed in two sets of principles that have been developed since the inception of AA in 1935. The Twelve Steps came first as a program for personal recovery from drug or alcohol problems, and the Twelve Traditions, which are principles for relationships between groups, came second. NA, which was developed after AA, is a separate organization that uses most of the ideas and principles of AA.

The Twelve Steps of AA and NA are introduced with the following sentence:[140]

Here are the steps we took, which are suggested as a program for recovery.

Step 1: Admitted we were powerless over alcohol [drugs] that our lives had become unmanageable.

Step 2: Came to believe that a Power greater than ourselves could restore us to sanity.

Step 3: Made a decision to turn our will and our lives over to the care of God as we understood Him.

Step 4: Made a searching and fearless moral inventory of ourselves.

Step 5: Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.

Step 6: Were entirely ready to have God remove all these defects of character.

Step 7: Humbly asked Him to remove our shortcomings.

Step 8: Made a list of all persons we had harmed and became willing to make amends to them all.
Step 9: Made direct amends to such people wherever possible, except when to do so would injure them or others.
Step 10: Continued to take personal inventory and when we were wrong, promptly admitted it.
Step 11: Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
Step 12: Having had a spiritual awakening as the result of these Steps, we tried to carry this message to alcoholics [drug abusers] and practice these principles in all our affairs.

As the Twelve Steps became more broadly known, self-help programs grew. This growth necessitated guidelines for the interrelationships among groups, and hence the Twelve Traditions of AA were developed. These were consequently melded into the experiences of other Twelve Steps groups:[141]

1. Our common welfare should come first; personal recovery depends upon AA unity. Each member of AA is but a small part of a great whole. AA must continue to live or most of us will surely die. Hence our common welfare comes first. But individual welfare follows close afterward.

2. For our group purpose there is but one ultimate authority — a loving God as He may express Himself in our group conscience. Our leaders are but trusted servants; they do not govern.

3. The only requirement for AA membership is a desire to stop drinking. Our membership ought to include all who suffer from alcoholism. Hence we may refuse none who wish to recover. Nor ought AA membership ever depend on money or conformity. Any two or three alcoholics gathered together for sobriety may call themselves an AA group.

4. Each group should become autonomous except in matters affecting other groups or AA as a whole.

5. Each group has but one primary purpose — to carry its message to the alcoholic who still suffers.

6. An AA group ought never endorse, finance, or lend the AA name to any related facility or outside enterprise, lest problems of money, property, and prestige divert us from our primary purpose.

7. Every AA group ought to be fully self- supporting, declining outside contributions. No contributions or legacies from nonmembers are accepted at the General Service Office in New York City, and no more than $500,000 per year from any one member, and for only one year after death.

8. AA should remain forever nonprofessional, but our service centers may employ special workers.

9. AA, as such, ought never to be organized; but we may create service boards or committees directly responsible to those they serve. The small group may elect its secretary, the large group its rotating committee, and the groups of large metropolitan areas their central

committee, which often employs a full- time secretary. The AA General Service Board serves as the custodian of AA tradition and is the receiver of voluntary AA contributions. It is authorized by the groups to handle our overall relations, and it guarantees the integrity of all our publications.

10. AA has no opinion on outside issues; hence the AA name ought never be drawn into public controversy.

11. Our public relations policy is based on attraction rather than promotion; we need to always maintain personal anonymity at the level of press, radio, and film.

12. Anonymity is the spiritual foundation of all our traditions, ever reminding us to place principles before personalities.

The Narcotics Anonymous meetings are available almost everywhere. The recovering substance user can, if he or she looks around enough, usually find at least one meeting each day. There are two types of meetings, open and closed. Anyone is welcome at the open meetings, where one or two members typically tell their own stories of "how I used to be" and "how I am now." Only members are allowed to attend closed meetings, because these tend to be much more personal and intimate. During these meetings, personal problems or interpretations of the Twelve Steps or Twelve Traditions are usually discussed. AA and NA, then, are widely available, cost-effective support programs for those alcoholics or drug-using individuals who choose to use them.[142]

While a client is in the process of receiving professional services, participation in self-help can be seen as a support mechanism. Subsequently, twelve-step groups can serve as a source of support and inspiration throughout the recovery process. Therefore, some patients should be encouraged to try out twelve-step participation and to seek groups that are comfortable for them.[143]

Clinicians should also be aware of other self-help groups that might be of interest to some of their clients. For instance, Self Management and Recovery Training (SMART) is not "professional treatment," rather, it offers freely available peer support groups based on a different philosophy of recovery. SMART offers free face-to-face and online mutual help groups to help people recover from all types of addictive behaviors, including alcoholism and drug use.[144] SMART assumes that addictive behavior can arise from both substance use (*i.e.*, psychoactive substances of all kinds, including alcohol, nicotine, caffeine, food, illicit drugs, and prescribed medications), and involvement in activities (*i.e.*, gambling, sexual behavior, eating, spending, relationships, exercise, *etc.*), and that there are degrees of addictive behavior, and that all individuals to some degree experience it. For some individuals the negative consequences of addictive behavior (which can involve several substances or activities) become so great that change becomes highly desirable. Much of the SMART rationale is based on the field of cognitive behavioral therapy.

The SMART program has been designed to provide an alternative for people whose approach to substance use is incompatible with that of AA. Outlined below are common ideas behind SMART and Rationale Recovery (another rational–emotive approach which is an alternative to traditional AA or NA groups):[144]

1) People are largely responsible for their drug and alcohol use behaviors.
1) People do "get over," that is, completely recover from their addictions.
2) Lifetime membership is not a requirement. It is thought that some people re-cover quickly, others in one or two years.
3) Labeling oneself as an addict or alcoholic is discouraged to avoid the negative outcomes associated with labeling.
4) Alcohol or other drug use is not a disease in the common sense. They are, instead, life consuming, massive behavioral problems with broad ramifications and people with these problems need to learn to cope with them and take direct responsibility for their life course.
5) People with alcohol and other drug use problems are good people. Removing the alcohol or drug problem makes people happier and healthier, but it does not in and of itself make them "better people."
6) Denial is a self-preservation method and counselors should work to help their clients get to a process of change that is internally motivated, safe, and productive. Confrontation of denial often mobilizes defenses even more so counselors can be most effective using motivational techniques to help ease the transition from problem use to nonuse.

Narcotics Anonymous

Narcotics Anonymous emerged as a non-alcohol focused twelve-step program in the 1950's. The development of NA was directly related to the development of Alcoholics Anonymous a decade earlier. The program was very small in its early years, with growth and expansion occurring in the 1970's. Eventually, the program spread worldwide. Currently, "the organization is truly a worldwide multilingual, multicultural fellowship with more than 63,000 weekly meetings in 132 countries. NA books and

information pamphlets are currently available in 45 languages, with translations in process for 16 languages."[145]

Narcotics Anonymous is open to all substance abusers and does not differentiate between types of substances. The primary focus of the program is to "provide a recovery process and peer support network that are linked together. One of the keys to NA's success is the therapeutic value of addicts working with other addicts."[146] As part of the program, members share their successes and challenges through attendance at regular meetings. In addition, members mentor and sponsor each other through the recovery process. Unlike Alcoholics Anonymous, NA does not have roots in religion. Instead, "each member is encouraged to cultivate an individual understanding — religious or not — of the spiritual principles and apply these principles to everyday life."[147]

Membership in Narcotics Anonymous is open to everyone. There are no limitations based on social, religious, economic, racial, ethnic, national, gender, or class status. Members are not required to pay dues or membership fees. However, many members contribute to the group by helping to facilitate meetings and securing meeting space.[148] Most programs utilize public, religious, or civic organizations for their meeting space, and individual members are responsible for leading each session. In addition, members are responsible for performing all other activities associated with conducting a meeting. The program does not utilize professional counselors. All therapy is conducted through the support network of members. According to NA, the group has only one mission: to provide an environment in which addicts can help one another stop using drugs and find a new way to live.

In addition to meetings, many NA programs also offer the following services:[149]

- distribution of NA literature
- helpline information services
- presentations for treatment and healthcare staff, civic organizations, government agencies, and schools
- presentations to acquaint treatment or correctional facility clients with the NA program
- maintaining NA meeting directories for individual information and for any interested person

The following fact sheet, developed by NA, provides a thorough overview of the organizational structure and membership of NA:

Narcotics Anonymous Fact Sheet

Structure

Regional committees handle services within their larger geographical boundaries while the local/area committees operate local services.

An international delegate assembly known as the World Service Conference provides guidance on issues affecting the entire organization.

Primary among the priorities of NA's world services are activities that support emerging and developing NA communities and the translation of Narcotics Anonymous literature. In order to maintain its focus, Narcotics Anonymous has established a tradition of non-endorsement and does not take positions on anything outside its own specific sphere of activity. Narcotics Anonymous does not express opinions — either pro or con — on civil, social, medical, legal, or religious issues. Additionally, it does not take stands on addiction-related issues such as criminality, law enforcement, drug legalization or penalties, prostitution, HIV/HCV infection, or syringe programs.

Narcotics Anonymous strives to be entirely self-supporting through member contributions and does not accept financial contributions from non-members. Based on the same principle, groups and service committees are administered by NA members, for members.

Philosophy/Focus

Narcotics Anonymous neither endorses nor opposes any other organization's philosophy or methodology. NA's primary focus is in providing a recovery environment whereby drug addicts can share their recovery experiences with one another. By remaining free from the distraction of controversy, NA is able to focus all of its energy on its particular area of purpose.

Although certain traditions guide its relations with other organizations, Narcotics Anonymous welcomes the cooperation of those in government, the clergy, treatment and healthcare professions, criminal justice organizations and private voluntary organizations. NA's nonaddict friends have been instrumental in getting Narcotics Anonymous started in many countries and helping NA grow worldwide.

NA strives to cooperate with others interested in Narcotics Anonymous. Our more common cooperation approaches are: providing contact information, disseminating recovery literature, and sharing information about recovery. Additionally, NA members are often available to provide presentations for treatment centers and correctional facilities, offering information about the NA program to the professional staff and sharing with addicts otherwise unable to attend community-based meetings

Membership

To offer some general informal observations about the nature of the membership, and the effectiveness of the program, the following observations are believed to be reasonably accurate:

- The socioeconomic strata represented by the NA membership vary from country to country. Usually, members of one particular social or economic class start and sustain most developing NA communities worldwide, but as their fellowship development activities become more effective, the membership becomes more broadly representative of all socioeconomic backgrounds.

- All ethnic and religious backgrounds are represented among NA members. Once a developing NA community reaches a certain level of maturity, its membership generally reflects the diversity or homogeneity of the background culture.
- Membership in Narcotics Anonymous is voluntary; no attendance records are kept either for NA's own purposes or for others. Because of this, it is sometimes difficult to provide interested parties with comprehensive information about NA membership. There are, however, some objective measures that can be shared based on data obtained from members attending one of our world conventions; the diversity of our membership, especially ethnic background, seems to be representative of the geographic location of the survey.

The following demographic information was gathered from a survey completed by approximately 16,750 NA members. The survey was made available at the 2013 World Convention of NA in Philadelphia, Pennsylvania in our international journal, The NA Way Magazine, and on our website:

- Gender: 57% male, 43% female.
- Age: 1% 20 years old and under, 12% 21–30 years old, 18% 31–40 years old, 28% 41–50 years old, 31% 51-60 years old, and 10% over 60 years old.
- Ethnicity: 76% Caucasian, 13% African-American, 5% Hispanic, and 6% other.
- Employment status: 59% employed full-time, 12% employed part-time, 11% unemployed, 9% retired, 6% students, and 4% homemakers.

NA members have an average of 11.07 years clean. This can be compared to NA's last survey, which was the 2011 Membership Survey, showed members with an average of 10.87 years clean.

In 2013 the two areas that received overwhelming improvement with NA attendance were family relationship, where 92% of our members stated enrichment; and social connection, which was realized by 88% of the respondents. NA literature states that active addiction is marked by increased isolation and destruction with relationships. Recovery in NA has helped survey respondents to repair the damage in their lives from drug addiction.

Pharmacological Treatment

Currently, no medications are indicated for the treatment of marijuana use disorder, but research is active in this area. Because sleep problems feature prominently in marijuana withdrawal, some studies are examining the effectiveness of medications that aid in sleep.

Some medications that have shown promise in early studies or small clinical trials include the sleep aid zolpidem, an anti-anxiety/anti-stress medication called buspirone, and an anti-epileptic drug called gabapentin that may improve sleep and, possibly, executive function. Other agents being studied include the nutritional supplement N-acetylcysteine and chemicals called FAAH inhibitors, which may reduce withdrawal by inhibiting the breakdown of the body's own cannabinoids. Future directions include the study of substances called *allosteric modulators* that interact with cannabinoid receptors to inhibit THC's rewarding effects.[150,151]

Summary

Marijuana is the most widely used illicit drug in the Western world and the third most commonly used recreational drug after alcohol and tobacco. According to the World Health Organization, it also is the illicit substance most widely cultivated, trafficked, and used.

Although the long-term clinical outcome of marijuana use disorder may be less severe than other commonly used substances, it is by no means a "safe" drug. Sustained marijuana use can have negative impacts on the brain as well as the body so it is important to look at ways to detect the presence of substance use.

Screening procedures are designed to detect the possible presence of a substance use issue and the need for further care. Screening refers to methods and procedures, often of a brief nature, designed to rule out the possibility of substance use problems. Screening procedures are designed to detect the possible presence of a substance use issue and the need for further care. Once a clinician detects a substance use and addiction disorder due to marijuana, treatment plans are developed to stop the patient's marijuana use. The main concern for treating heavy marijuana users is that cessation of drug use may lead to depression and drug craving. Cognitive-behavioral therapy and motivational incentives (such as providing vouchers as rewards to patients who remain abstinent) have been successful in treating a marijuana use and addiction disorder.

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