

Substance Abuse: **Clinical Issues in Intensive** **Outpatient Treatment**

A Treatment **Improvement** **Protocol** **TIP** **47**



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment
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Acknowledgments

Numerous people contributed to the development of this Treatment Improvement Protocol (TIP) (see pp. xi–xiv as well as appendixes C, D, and E). This publication was produced by JBS International, Inc. (JBS), under the Knowledge Application Program (KAP) contract numbers 270-99-7072 and 270-04-7049 with the Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS). Christina Currier served as the Center for Substance Abuse Treatment (CSAT) Government Project Officer, and Andrea Kopstein, Ph.D., M.P.H., served as Deputy Government Project Officer. Lynne MacArthur, M.A., A.M.L.S., served as the JBS KAP Executive Project Co-Director. Barbara Fink, RN, M.P.H., served as the JBS KAP Managing Project Co-Director. Other KAP personnel included Dennis Burke, M.S., M.A., and Emily Schiffrin, M.S., Deputy Directors for Product Development; Patricia A. Kassebaum, M.A., Senior Writer; Elliott Vanskike, Ph.D., Senior Writer/Publication Manager; Candace Baker, M.S.W., Senior Writer; Wendy Caron, Editorial Quality Assurance Manager; Frances Nebesky, M.A., Quality Assurance Editor; Leah Bogdan, Junior Editor; and Pamela Frazier, Document Production Specialist. In addition, Sandra Clunies, M.S., ICADC, served as Content Advisor. Dixie M. Butler, M.S.W., and Paddy Shannon Cook were writers.

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Recommended Citation

Center for Substance Abuse Treatment. *Substance Abuse: Clinical Issues in Intensive Outpatient Treatment*. Treatment Improvement Protocol (TIP) Series 47. DHHS Publication No. (SMA) 06-4182. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006.

Originating Office

Practice Improvement Branch, Division of Services Improvement, Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, 1 Choke Cherry Road, Rockville, MD 20857.

DHHS Publication No. (SMA) 06-4182
NCADI Publication No. BKD551
Printed 2006

8 Intensive Outpatient Treatment Approaches

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Intensive outpatient treatment (IOT) programs use a variety of theoretical approaches to treatment. No definitive research has established a best approach to treatment, and many factors (such as client characteristics and duration of treatment) influence research outcomes. However, studies have found positive associations between several treatment approaches and client outcomes.

Providers should be aware of the most commonly used approaches and their effectiveness so that they can make informed choices. This chapter contains descriptions of six commonly used and studied treatment approaches that form the core of treatment for many IOT programs:

- 12-Step facilitation
- Cognitive-behavioral
- Motivational
- Therapeutic community
- Matrix model
- Community reinforcement and contingency management

The chapter highlights each approach's distinguishing characteristics, theoretical orientation, research support, and other critical elements such as staffing requirements or funding considerations. Exhibits summarize the strengths and challenges of each approach.

These descriptions give readers only a basic overview; they are not recipes for implementing the approaches in an IOT program. Clients often have complex psychosocial needs that demand creativity on the part of providers. These approaches are a means for shaping clinical interventions, but none should be considered complete treatment on its own. Excellent information, books, and treatment manuals are available from the Hazelden Foundation (www.hazelden.org), the National Institute on Drug Abuse (NIDA) (www.nida.nih.gov), the National Institute on Alcohol Abuse and Alcoholism (NIAAA) (www.niaaa.nih.gov), and the Substance Abuse and Mental Health Services

Administration's National Clearinghouse for Alcohol and Drug Information (www.ncadi.samhsa.gov) and Center for Substance Abuse Treatment (CSAT) (www.csat.samhsa.gov).

Although this chapter describes these six approaches as distinct, in reality IOT counselors increasingly use multiple approaches, modifying and blending them to address clients' specific needs. This type of tailoring is a hallmark of effective treatment, but combining approaches calls for the provider to recognize and adjust for conflicts that may undermine each approach's effectiveness.

12-Step Facilitation Approach

The Basics

The treatment approach of many IOT programs evolved from the Minnesota Model of treatment, so called because it was first conceptualized at Hazelden Foundation and Willmar State Hospital in Minnesota in the late 1940s (White 1998). The Minnesota Model (also known as 12-Step facilitation) is based on the concepts of 12-Step fellowships, such as Alcoholics Anonymous (AA). These programs' efforts were guided by the philosophical belief that alcoholism was a primary, progressive disease, with biological, psychological, and spiritual features.

The Minnesota Model used treatment teams of physicians, nurses, alcoholism counselors, family counselors, vocational rehabilitation counselors, and AA members in the treatment process. Basic to the process was a thorough introduction of clients to the principles of AA fellowship and the 12 Steps, education about the disease of alcoholism, and participation in AA groups inside and outside the hospital (M.M. Miller 1998).

Over time, the 12-Step approach evolved for use with people who use drugs and those with other compulsive disorders (such as eating disorders) (M.M. Miller 1998).

Counselors, originally all in recovery themselves and often with little training, became more professional as training and credentialing standards were implemented (M.M. Miller 1998). Programs also were adapted to a variety of settings, including IOT. However, the basic principles and methods of the 12-Step treatment approach programs remained intact.

IOT programs that use a 12-Step approach focus on helping clients understand AA principles, start working through the 12 Steps, achieve abstinence, and become involved in community-based 12-Step groups, such as AA, Narcotics Anonymous (NA), or Cocaine Anonymous (CA). In these programs, educational efforts present alcoholism as a disease characterized by denial and loss of control. Homework assignments entail reading 12-Step literature, keeping a journal, and undertaking recovery tasks that personalize the 12 Steps. Much of the group work focuses on accepting the disease, assuming responsibility for the recovery process and one's own actions, renewing hope, establishing trust, changing behavior, practicing self-disclosure, developing insights into one's behavior, and making amends. Problems often are addressed in the context of step work. Clients are encouraged strongly to accept their addiction, develop or adopt spiritual values, and develop a sense of fellowship with others in recovery. IOT programs using a 12-Step approach usually invite AA, NA, CA, or other 12-Step groups to hold onsite meetings. Clients are encouraged strongly to attend meetings in the community and to find a sponsor and home group for ongoing peer support following completion of the formal treatment program. Ideally, 12-Step-oriented IOT programs are in touch with a network of persons in recovery who can accompany ambivalent or reluctant clients to meetings in the community and help them find compatible groups.

Exhibit 8-1 summarizes the strengths and challenges of 12-Step facilitation.

Strengths and Challenges of 12-Step Approaches

Strengths	Challenges
<ul style="list-style-type: none"> • 12-Step meetings are a free, widely available, ongoing source of support. Metropolitan areas in particular offer many meetings with a specialized focus (e.g., meetings for young people, women, newcomers to treatment, lesbians, gay men, Spanish-language speakers). • The 12-Step approach emphasizes an array of recovery tasks in cognitive, spiritual, and health realms. • The 12-Step approach is effective with clients from diverse backgrounds (Tonigan 2003). 	<ul style="list-style-type: none"> • It can be difficult to monitor accurately clients' compliance with assigned step tasks, including meeting attendance. • 12-Step groups' emphasis on a higher power may be unacceptable to some clients. • Some communities may not be large enough to sustain 12-Step meetings or appropriate meetings for people with significant psychiatric disorders.

Other Important Aspects**Staff**

Staff members who are not in recovery themselves should read AA, NA, and CA literature and consider regularly attending open meetings to ensure that they understand the beliefs, values, and mores of 12-Step fellowships. Likewise, staff members should familiarize themselves with local meetings and with the level of acceptance of clients with special needs (e.g., those with mental disorders). Familiarity with 12-Step culture and with local meetings help staff members orient departing clients to 12-Step recovery and to the available options.

Clients

Research has attempted to identify the individual characteristics that seem most predictive of affiliation with 12-Step programs, particularly AA, but results often have been contradictory for some variables (McCrady 1998). The 12-Step approach may not be appropriate for every client, but 12-

Step groups clearly serve a widely diverse group of people.

Research Outcomes and Findings

The NIAAA-funded Project MATCH compared treatment outcomes for persons dependent on alcohol who were exposed to one of three different treatment approaches: 12-Step facilitation (a 12-Step approach that followed a manual), cognitive-behavioral coping skills therapy, and motivational enhancement therapy (MET). All three approaches resulted in positive outcomes regarding drinking behavior from baseline to 1 year following treatment. The study found little difference in outcomes by type of treatment, although 12-Step facilitation showed a slight advantage over the 3 years following treatment (Project MATCH 1998).

Brown and colleagues (2002) investigated matching client attributes to two types of aftercare: structured relapse prevention and 12-Step facilitation. Overall, the 12-Step

facilitation approach provided more favorable outcomes for most people who abuse substances. In particular, the study found that clients reporting high psychological distress, women, and clients reporting multiple substance use at baseline maintained abstinence for longer periods following treatment with 12-Step facilitation than with structured relapse prevention.

Cognitive–Behavioral Approach

The Basics

Cognitive–behavioral therapy (CBT) is based on the theory that most emotional and behavioral reactions are learned and that new ways of reacting and behaving can be learned.

The CBT approach focuses on teaching clients skills that help them recognize and reduce relapse risks, maintain abstinence, and enhance self-efficacy. Clients learn to identify personal “cues” or “triggers”—the people, situations, or feelings that may lead to drinking or drug use. Such triggers may be internal (such as physiological craving or stress reactions) or external (such as seeing friends with whom the client has used drugs). Clients then are taught new coping and problemsolving skills and strategies for effectively counteracting urges to drink or use drugs.

By analyzing their triggers, deciding on recovery-oriented responses and strategies, and role playing high-risk situations and responses, clients gain confidence that they can resist triggered urges to use substances. CBT approaches also are applied to other challenges in recovery, such as interpersonal relations, depression, anxiety, and anger management.

IOT programs are ideal for implementing cognitive–behavioral interventions. Clients usually continue to live and work in their

normal environments, which are filled with relapse triggers. These situations provide material for problemsolving exercises, homework, and role plays during group or individual counseling and offer clients opportunities to use new coping strategies, cognitive skills, and behaviors.

The number, duration, and focus of treatment sessions vary widely in CBT-oriented programs. The CBT and 12-Step approaches are compatible, and many CBT-oriented programs encourage participation in 12-Step meetings.

Exhibit 8-2 summarizes the strengths and challenges of CBT.

Other Important Aspects

Staff

Counselors must be familiar with the theory and practice of CBT and have basic counseling skills. It is sometimes helpful to have co-therapists lead cognitive–behavioral groups, particularly those involving role plays and other interactive exercises.

Clients

CBT has been effective with a broad range of clients. However, clients with low literacy or intellectual skills or those for whom English is a second language may struggle with homework or group exercises that require reading or writing. Also, people with significant psychiatric disorders that have not been stabilized may be unable to participate sufficiently.

Research Outcomes and Findings

CBT models have been evaluated extensively, and randomized clinical trials found CBT-based relapse prevention treatment to be superior to minimal or no treatment (Carroll 1996b). When CBT was compared with other active therapeutic interventions,

Strengths and Challenges of Cognitive–Behavioral Approaches

Strengths	Challenges
<ul style="list-style-type: none"> • CBT actively engages clients in therapy and experiential learning. • Numerous manuals on CBT are available. • CBT is suitable for clients from diverse backgrounds and with varying histories of alcohol and drug use. • CBT provides structured methods for understanding relapse triggers and preparing for relapse situations. 	<ul style="list-style-type: none"> • Clients with poor reading or cognitive skills may need alternatives to written assignments. • The approach requires counselor training in CBT principles and techniques. • Client motivation is critical because of the extent of homework assignments. • CBT was developed as an individual, not group, counseling approach.

results were mixed. Project MATCH found CBT to be comparable with MET and 12-Step facilitation for decreasing alcohol use and alcohol-related problems. All three therapies resulted in positive improvements in participants' outcomes that persisted for up to 3 years (Project MATCH 1998). Farabee and colleagues (2002) found that clients who received CBT reported more frequent engagement in substance-use avoidance activities 1 year after treatment than did clients who received treatment with contingency management.

Motivational Approaches

The Basics

In practice, motivational approaches include both motivational interviewing (MI) and MET. These motivational approaches can be incorporated into every stage of treatment (see TIP 35, *Enhancing Motivation for Change in Substance Abuse Treatment* [CSAT 1999c], pages 31–32, for specific suggestions).

MI techniques developed by Miller and Rollnick (2002) were derived from a variety of theoretical approaches to how people recover in progressive stages from addiction and other problem behaviors (Prochaska and DiClemente 1984, 1986). MI is a client-centered, empathic, but directive counseling strategy designed to explore and reduce a person's ambivalence toward treatment. This approach frequently includes other problemsolving or solution-focused strategies that build on clients' past successes. Motivational approaches acknowledge that drugs of abuse have rewarding properties that can disguise, at least temporarily, their hazards and negative long-term effects. Through empathic listening and skillful interviewing, the counselor encourages the client to

- Identify discrepancies between significant life goals and the consequences of substance abuse.
- Believe in his or her capabilities for change.
- Choose among available strategies and options.
- Take responsibility for initiating and sustaining healthy personal behavior.

MI requires the counselor to relate to clients in a nonjudgmental, collaborative manner. Counselors pose questions to clients in a way that solicits information while strengthening clients' motivation and commitment to positive change. The counselor acts as a coach or consultant rather than as an authority figure. Counselors using MI follow four basic principles (CSAT 1999c):

- **Express empathy.** The counselor communicates that the client always is responsible for change and respects the client's decision on this issue.
- **Identify discrepancies.** The counselor encourages the client to focus on how current behavior differs from his or her ideals and goals.
- **Roll with resistance and avoid arguing.** The counselor uses strategies to reduce resistance.
- **Support self-efficacy.** The counselor recognizes client strengths and encourages him or her to believe that change is possible.

MET uses structured instruments for assessing dimensions of substance use (e.g., consumption, biomedical and social consequences, family history, readiness for change, risk factors). (Several of these instruments are reproduced in appendix B of TIP 35, *Enhancing Motivation for Change in Substance Abuse Treatment* [CSAT 1999c].) Counselors provide feedback about assessment results in relation to societal norms and discuss clients' responses to this feedback.

Exhibit 8-3 summarizes the strengths and challenges of MI and MET.

Other Important Aspects

Staff

Staff members' educational levels are not critical to a motivational approach. Successful counselors may have graduate degrees and professional certification or be recovering peers. However, to become

effective practitioners, counselors need special training as well as ongoing supervision to become proficient. Counselors also need to be flexible and have a high level of therapeutic empathy. Counselors are seen as collaborators or consultants rather than as experts.

Clients

MET was developed for, and has been effective with, clients exhibiting varying severities of alcohol-related problems. Court-mandated clients appear to benefit as much from MET as do self-referred clients.

Research Outcomes and Findings

A four-session version of MET was one of three 12-week approaches tested in Project MATCH. MET was found to be as effective as the other, more intensive interventions (CBT and 12-Step facilitation). Clients who rated high in anger fared better with MET, having more abstinent days (Project MATCH 1998).

Miller and Sanchez (1994) report that studies conducted in at least 14 countries indicate that relatively brief motivational interventions can have lasting, positive effects on drinking behavior that are comparable with the effects obtained with longer term treatment interventions.

Therapeutic Community Approach

The Basics

Therapeutic communities (TCs) have provided residential substance abuse treatment since the 1960s. Some programs have developed a modified, community-based IOT component either to provide treatment on an outpatient basis or to help graduates successfully transition from residential treatment into the community. Some traditional,

Strengths and Challenges of Motivational Approaches

Strengths	Challenges
<ul style="list-style-type: none"> • MI and MET are client centered and relevant to clients' personal interests. • MI and MET focus on realistic, attainable goals. • MI and MET encourage client self-efficacy and self-sufficiency. • MI and MET emphasize positive, empathic support that does not undermine or elicit anger from clients. 	<ul style="list-style-type: none"> • MI and MET rely heavily on clients' capabilities and level of self-awareness. • Commonly used problem-oriented assessment instruments are incompatible with a motivational approach. • Although MET provides some guidance about effective interpersonal strategies for treating ambivalent clients, the approach does not specify session content. • Motivational approaches require significant staff training, reorientation, and ongoing supervision. • Motivational approaches may be difficult to combine with disease- or therapeutic community-oriented approaches that expect adherence to program-imposed goals. • MI and MET were developed as individual approaches; their effectiveness for use with groups is unproved.

community-based IOT programs serve clients who participated in TCs while the clients were incarcerated. IOT providers should understand the TC process to ensure continuity for clients.

TCs use an approach known as “community as method” (De Leon 2000). This approach sees the community as a whole—its social organization, its staff and clients, and its daily activities—as the therapeutic agent.

The TC model considers a substance use disorder as a disorder of the whole person. TC program staff members assess each participant's problems along dimensions of psychological dysfunction and social deficits (e.g., problems with authority, poor impulse control, dishonesty) as well as substance use

patterns. The TC approach assumes that recovery is a developmental process entailing mutual help and social learning. The beliefs and values that are essential to a client's recovery include (De Leon 2000)

- Demonstrating truth and honesty in all situations
- Remaining in the “here and now”
- Assuming personal responsibility for one's behavior and future
- Demonstrating concern for others
- Developing a work ethic and understanding that rewards must be earned
- Understanding the distinction between external behavior and inner self
- Accepting that change is the only certainty
- Valuing the learning process

- Developing economic self-reliance
- Becoming involved in one's community
- Developing good citizenship

Because many clients served by TCs have histories of severe substance use disorders and criminal behavior, TCs typically strive to habilitate, rather than rehabilitate, clients. TCs focus on all aspects of the client's life, and all activities in the TC promote recovery and habilitation. TCs follow highly structured schedules, centering daily activities on group sessions and hierarchical job functions that teach participants specific behaviors and skills. In general, participants move from job to job in the community for different learning experiences. Peers confront negative behaviors and erroneous thinking in one another within a supportive milieu.

TCs include the following components (De Leon 1995):

- **A sense of community.** Community is created partly by a separation from other agency or institutional programs and, more important, from the drug-using environment. A TC facility contains communal space for promoting a sense of commonality during collective activities. Treatment or educational services (except individual counseling) must be delivered within the peer community.
- **Peers and staff members as role models.** TC members and staff members serve as positive role models by demonstrating expected behaviors and reflecting the values and teachings of the community. The strength of the community for social learning rests on the number and quality of its positive role models.
- **Work as therapy and education.** Consistent with the TC's self-help approach, all clients are responsible for the daily management of the facility, and work roles are designed to bring about essential educational and therapeutic effects.
- **Peer encounter groups, awareness training, and emotional growth training.** The

encounter session is the main therapeutic group and heightens clients' awareness of specific attitudes or behavioral patterns that need to change. Other groups focus on helping clients identify feelings and express them appropriately and constructively.

TCs feature a structured day that includes ordered, routine activities to counter the characteristically disordered lives of clients and distract them from negative thinking and boredom. The treatment protocol is organized into phases and stages. When a client masters the objectives in one phase, he or she moves to the next phase. The length of treatment depends on the client's needs and progress in recovery. Continuing services are part of the TC approach. Clients benefit from a peer network that assists them with ongoing community-based services to sustain recovery.

De Leon (2000) describes the basic stages of a TC program as

- Admission evaluation (a preprogram stage)
- Induction (an orientation stage)
- Primary treatment
- Reentry (into the outside community)

Exhibit 8-4 summarizes the strengths and challenges of the TC approach.

Other Important Aspects

Staff

TC staff members are generally a mix of trained clinicians (certified counselors, nurses, physicians, and case managers) and TC graduates who have had at least some additional training (many become certified). All staff members are part of the community and serve as role models. Staff members typically receive considerable training in TC philosophy and methods. Management staff in particular must be well trained to work effectively in a TC.

Strengths and Challenges of the Therapeutic Community Approach

Strengths	Challenges
<ul style="list-style-type: none"> • The TC approach is effective for people with long histories of substance dependence and antisocial behavior. • The TC approach is particularly effective in teaching clients how to plan, set, and achieve goals and to be accountable. • The TC approach is effective in reducing recidivism among clients who have served time in prison. 	<ul style="list-style-type: none"> • The approach may be too confrontational for some clients. • Effective TC treatment requires extensive staff training. • Treating clients with mental disorders can pose difficulties. • Finding an effective mix of professional clinicians and recovering staff (who may not be trained in assessment, treatment planning, and counseling) can take time.

Clients

Clients appropriate for TC treatment typically have educational and employment deficits and histories of poverty, relationship problems, criminal behavior experiences or criminal associations, housing instability, psychiatric disorders, or antisocial or other dysfunctional behavior. Many have had previous treatment episodes.

TC approaches should be modified for women, adolescents, and those with co-occurring mental disorders because the confrontational nature and strict hierarchical structure of a standard TC may not be as effective with these groups.

Training Manuals

CSAT has developed the *Therapeutic Community Curriculum* (CSAT 2006g, CSAT 2006h) to help supervisors provide TC staff members with an understanding of the essential components and methods of the TC and an appreciation that they are part of a long tradition of community as a method of treatment. The curriculum provides detailed session-by-session instructions for trainers and exercises for participants.

Special considerations

For clients in an outpatient TC, it is important to arrange for drug-free housing.

Research Outcomes and Findings

NIDA has funded treatment outcome studies that have found that TC treatment is associated with positive outcomes. For example, the Drug Abuse Treatment Outcome Study, a long-term study of treatment outcomes, found that clients who completed TC treatment had lower levels of cocaine, heroin, and alcohol use; criminal behavior; unemployment; and depression than they had before treatment (National Institute on Drug Abuse 2002).

Clinical trials of TC day treatment have found that client outcomes for residential TC and for day TC treatment are not significantly different (Guydish et al. 1999).

A study of the effectiveness of extending the TC model from prisons to community-based settings showed that inmates who participated in an institutional TC followed by a TC-oriented outpatient work-release program

had lower rates of drug use and recidivism than offenders who participated only in the institutional program (Inciardi 1996).

The Matrix Model

The Basics

The Matrix model was developed during the 1980s as an effective way to treat the increasing number of people dependent on stimulant drugs, particularly cocaine. Developers designed the Matrix model as a more intensive intervention than the then-standard weekly outpatient counseling or 28-day inpatient treatment. The Matrix model is a good fit for clients who require comprehensive care.

The Matrix model, originally known as neurobehavioral treatment, integrated several research-based techniques (including cognitive-behavioral, 12 Step, and motivational enhancement) to target clients' behavioral, emotional, cognitive, and relationship issues. More research is needed to determine optimal combinations of treatment approaches; the Matrix model is one of many programs that combine various approaches. The Matrix model has been selected for discussion because its approach is comprehensive and manual based and assessment data are available.

The Matrix approach is predicated on

- Establishing a strong therapeutic relationship between the client and counselor
- Teaching clients how to structure time and initiate an orderly and healthy lifestyle
- Imparting accurate, comprehensible information about acute and subacute withdrawal effects and cravings for substances
- Providing opportunities to learn and practice relapse prevention and coping techniques
- Involving family and significant others in the therapeutic and educational processes to gain their support for—and prevent their sabotaging of—treatment
- Encouraging clients to participate in community-based mutual-help groups
- Conducting random urinalyses or breath tests to assess treatment effectiveness

Several variations of the Matrix model have been developed. The original 12-month version began with 6 months of intensive treatment that included 56 individual counseling sessions (including conjoint sessions with the client and family members); clients attended treatment sessions 3 or 4 times a week. The individual sessions were supplemented by several types of educational, relapse prevention, family, and social support groups (Obert et al. 2000). The original cocaine-specific treatment protocol was followed by versions for people who used alcohol or opioids primarily. Because of cost constraints, a 16-week version of the Matrix model was developed that cut the number of individual sessions to three and emphasized group work.

In all versions of Matrix model treatment, a primary therapist coordinates the client's treatment experience. The relationship between the primary therapist and the client (and his or her family) is critical to treatment progress (Obert et al. 2000).

Individual sessions focus on treatment planning and evaluating progress and may include members of the client's family for at least part of the session. In addition to the individual sessions, the treatment protocol for the 16-week program includes specific structured groups (Obert et al. 2000):

- **Early recovery groups.** These groups are for those in the first month of treatment and are small to maximize the attention each client receives. Early recovery groups focus on teaching clients cognitive tools for managing cravings and emphasize time management. Clients create a daily schedule and monitor their activities with group input and support. Early recovery groups assist clients in connecting with community support services.

- **Family education sessions.** Family education is presented as a 12-week series and includes both clients and family members. These sessions include slide presentations, videos, panel presentations, and group discussions on topics such as the biology of addiction, medical effects of substances, conditioning and addiction, and effects of addiction on the family.
- **Relapse prevention groups.** These groups are the primary component of treatment. Group sessions are highly structured and focus on cognitive and behavioral change and on connecting clients to mutual-help programs. The group protocol includes 32 specific topics.
- **Social support groups.** These groups begin in the last month of treatment and focus on helping clients pursue drug-free activities and develop friendships with people who do not use substances. They are less structured than the other groups, and the content is determined by the needs of the group members.

Matrix programs orient clients to 12-Step programs and often schedule onsite 12-Step

meetings. Clients are encouraged strongly to attend additional meetings in the community and to find a 12-Step sponsor.

Exhibit 8-5 summarizes the strengths and challenges of the Matrix model.

Other Important Aspects

Staff

Trained therapists are crucial to Matrix model treatment. They are expected to create nurturing, nonjudgmental relationships; maintain a supportive attitude in the face of a client's relapse; foster each client's self-esteem and dignity; and function as teachers or coaches without being either parental or confrontational. Clients with established long-term abstinence sometimes co-lead groups, serving as role models who put a human face on the recovery process.

Clients

The Matrix model has been used in many different settings (including prisons,

Exhibit 8-5

Strengths and Challenges of Matrix Model Treatment

Strengths	Challenges
<ul style="list-style-type: none"> • The model integrates a cognitive-behavioral approach with family involvement, psychosocial education, 12-Step support, and urine testing. • The model follows a manual, providing therapists with specific instructions and practical exercises. A version of the Matrix materials is available free from NCADI (CSAT 2006c, 2006d). • The model has been used extensively with people dependent on stimulants and has been shown to be effective. 	<ul style="list-style-type: none"> • Some materials may need to be modified for clients whose cognitive functioning is impaired. • The program requires special staff training and supervision. • The highly structured content may not appeal to all clients. • The tight structure and schedule may not leave time for identification and stabilization of other non-drug-specific problems.

substance abuse treatment centers, and hospitals) and with a varied client population across the United States and in Mexico, Thailand, and the Middle East (Rawson 2003).

Treatment manuals

The Matrix model treatment materials contain instructions for therapists on conducting individual, group, and family education sessions (visit www.matrixinstitute.org). Handouts for clients and family members cover therapeutic session topics. Some materials have been translated into Spanish, Arabic, Thai, and other languages. CSAT has adapted the Matrix treatment manuals and made them available as a package called *Matrix Intensive Outpatient Treatment for People With Stimulant Use Disorders* (CSAT 2006c, 2006d).

Research Outcomes and Findings

Studies support the utility of Matrix model treatment. In a 1985 pilot study, individuals who selected Matrix treatment over a 28-day inpatient hospital program or participation in 12-Step groups reported significantly lower rates of cocaine use 8 months after treatment than those in either of the other groups (Rawson et al. 1986).

A controlled trial of the model found that people from lower income groups who smoke crack are more difficult to retain in Matrix treatment than those who used cocaine intranasally and had more social stability and resources (Obert et al. 2000).

Researchers conducting a CSAT-supported outcome study of Matrix model treatment (Rawson et al. 2002) interviewed a nonrandomized sample of clients who had used methamphetamine and received Matrix model treatment. They found that 2 to 5 years after completing treatment these clients had reduced their methamphetamine and other drug use substantially compared

with their pretreatment levels. In addition, a substantial number of the former clients were employed and were not in the criminal justice system.

Shoptaw and colleagues (1998) developed a 48-session variation of Matrix treatment for gay and bisexual men who abuse methamphetamine. The model was found to be an important tool for preventing HIV infection because clients reduced their risky sexual behaviors concurrently with reductions in their stimulant use—without any specific focus on HIV/AIDS during treatment (Shoptaw et al. 1997, 1998).

Community Reinforcement and Contingency Management Approaches

The Basics

Community reinforcement (CR) and contingency management (CM) are treatment approaches based on operant conditioning theory. This theory maintains that future behavior is based on the positive or negative consequences of past behavior. For example, drug use is maintained by the positively reinforcing effects of the drug itself or by the negative reinforcement of relieving the pain of withdrawal. Abstinence, in and of itself, may not be sufficiently reinforcing to maintain a person's motivation to stop using drugs, particularly in early abstinence. Other rewards must be found that reinforce ongoing abstinence and lifestyle change.

CM is an approach in its own right, but its operant interventions are also the main treatment tool used in CR. In CR, the positive and negative reinforcers that characterize CM are understood to be socially mediated. CR uses aspects of the client's life—relationships with family and friends,

job, hobbies, social events—to provide the positive reinforcement that motivates the client to stop using substances. CR is successful when the client chooses the rewarding relationship and activities over substance use. (See Chapter 6 for a discussion of how CR can be used to motivate family members to support the client.) CR and CM approaches motivate clients' behavioral change and reinforce abstinence by systematically rewarding desirable behaviors and ignoring or punishing others. Reinforcers are typically positive, pleasurable, and rewarding events or objects, but some negative reinforcers also are effective. Removing a fine or restriction after a client has complied with a specified regimen is an example of negative reinforcement.

A challenge in this treatment model is to identify a reward for a desired behavior that is both practical and sufficiently powerful—over time—to replace or substitute for the potent, pleasurable, or pain-reducing effects of the drug. The reward must be available without too much cost or expenditure of staff energy. The rewards and punishments must be tailored carefully to clients' responses, as well as program capabilities. For example, vouchers worth \$5 may be motivators for some clients but not others or at a particular point in treatment but not later. Most of the financial or voucher-based CM interventions use an escalating series of rewards for achievement of the target behavior, such as drug-free urine specimens. The escalating rewards provide a greater incentive for sustaining the desired behavior. On the other hand, Kirby and colleagues (1998) found greater reductions in cocaine use when a larger reward was given at the beginning of treatment, coupled with increased requirements for earning vouchers as treatment progressed.

An example of this approach is described in a NIDA treatment manual, *A Community Reinforcement Plus Vouchers Approach: Treating Cocaine Addiction* (Budney and Higgins 1998). In this approach, abstinence is reinforced by awarding vouchers. Drug

avoidance skills and relapse prevention techniques are taught along with social and recreational counseling, relationship counseling, and social and other skills training. Clients earn points for each urine screen that is negative for cocaine. For each consecutive negative urine screen, the number of points is increased. If a client submits a urine specimen that is positive for cocaine, the point value returns to baseline. The client can earn back the points lost by submitting five consecutive negative urine specimens. The client can “redeem” points for a variety of retail items that are purchased by program staff (clients are never given cash). Staff members have veto power over clients' requests. In general, staff members approve only items that are consistent with a client's treatment goals and encourage drug-free activities.

Examples of items purchased for the program's clients include socks, toaster ovens, baby clothes, camera equipment, ski lift tickets, bicycle equipment, and continuing education materials.

Effective CR and CM programs select a targeted behavior that is attainable in a reasonable amount of time and has a direct effect on the desired outcome. For example, expecting clients who have never submitted a drug-free urine sample to achieve immediate abstinence may be optimistic. Abstinence from a specific substance might precede abstinence from all substances. Targeting small changes is an effective strategy. More frequent reinforcers, even if small, have a greater effect than larger, more remote rewards or punishments. It is also important that the desired behavior contribute to the treatment goals. A person's merely attending counseling sessions may not affect his or her drug use. Of course,

Abstinence...may
not be sufficiently
reinforcing to
maintain a person's
motivation to stop
using drugs...

all rewards must be delivered as promised for the treatment to remain credible (Crowley 1999; Morral et al. 1999).

Specialized assessment and treatment planning instruments are not required for successful implementation of a CM intervention. However, CM interventions depend on detailed and precise measurements of the targeted behavior. Because of the short half-life of alcohol, using CM procedures to monitor alcohol abuse can be difficult. Self-reported drug use status is not adequate for awarding vouchers. Rather, drug use status must be determined by frequent testing of observed urine specimens (Crowley 1999). Similarly, if work activity is the target behavior, it is not enough to ask clients about their attendance or productivity. Objective, verifiable measures that demonstrate accomplishments must be used.

Activity schedules used in CR and CM programs can vary dramatically. As an example, the activity schedule of an intensive reinforcement-based day hospital program provided abstinence-contingent partial support of housing and food and access to recreational activities, social skills training, and job-finding groups (Gruber et al. 2000). The program required clients recently detoxified from heroin and cocaine to attend treatment for 6 hours a day on weekdays and 3 to 4 hours a day on weekends for the first 2 weeks, then 1-hour individual counseling sessions three times per week for the next 6 weeks, and then two sessions per week for another 4 weeks. Abstinence-based contingencies were in effect for the first month of the program. By contrast, the schedule for a 6-month CR-plus-vouchers treatment entailed 60-minute individual counseling sessions two times a week and urine monitoring three times a week during the first 12 weeks. This was followed by weekly counseling and twice weekly urine testing in weeks 13 to 24 (Budney and Higgins 1998).

Exhibit 8-6 summarizes the strengths and challenges of CR and CM.

Other Important Aspects

Staff

Designing CR and CM treatment programs requires specialized training and knowledge of operant learning principles. In practical terms, however, operant learning principles can be applied by staff members who have proper training and supervision. Some counselors may feel that the theories of operant conditioning or behavioral learning are inconsistent with the disease concept of substance use disorders (Bigelow and Silverman 1999) and are incompatible with their training and practice because behaviorists view addiction as a learned behavior rather than an illness with biological, psychological, and spiritual roots.

Clients

Intensive CM interventions have been used with treatment-resistant clients and with clients who have severe problems related to employment or housing or who have psychological and medical conditions and have been unsuccessful in achieving abstinence through traditional counseling methods. Behavioral interventions have been effective with people who use cocaine (Higgins 1999), persons who are homeless (Milby et al. 1996), pregnant women (Higgins 1999), and individuals on methadone who need to discontinue other drug abuse (Higgins 1999).

Funding

The cost-effectiveness of CR and CM is affected by the expense of incentives, additional urine screens, and the additional time demands placed on staff members. In some research projects incentives cost \$1,200 or more per client. This expense has limited application of CM techniques to research studies or small-scale project demonstrations. However, alternative low-cost incentives can be used to bolster the effect of traditional treatment interventions; donated goods and services can reduce the costs of CR and CM (Amass and Kamien

Exhibit 8-6

Strengths and Challenges of Community Reinforcement and Contingency Management Approaches

Strengths	Challenges
<ul style="list-style-type: none"> • CR and CM have been shown to reduce drug use significantly when incentives are used. • CR and CM can be combined readily with other psychosocial interventions and pharmacotherapies. • CR and CM can be implemented with a variety of low-cost incentives such as donated goods or services. • CR and CM have proved effective for reducing drug use and increasing treatment compliance among clients with severe problems who are chronically substance dependent. • CR and CM have extensive and robust scientific support in both laboratory and clinical studies. 	<ul style="list-style-type: none"> • Clients may return to baseline drug use rates when incentives are terminated. • CM approaches can be labor intensive, require specialized staff or training for implementation, and entail frequent client attendance. • For maximal effectiveness, rewards must be sufficiently large—and increase in value—to have continuing appeal to clients. • Many research studies demonstrating CR and CM effectiveness have used small samples and incurred large costs for incentives. • Resources required for implementing CR and CM (e.g., onsite urine-testing capabilities or alternatives to costly incentives) may be unavailable. • Lack of emphasis on long-term supports is a potential drawback.

2004). Anniversary celebrations, special books, reductions in clinic fees, and letters of support to employers and protective service workers are among the incentives that can be used. Some programs have raised funds to support incentives or solicited local merchants for donations of goods or services (Kirby et al. 1999a).

Research Outcomes and Findings

Studies show that the CM approach to treating substance use disorders has proved effective in motivating clients to achieve and sustain abstinence as well as increase their compliance with other treatment objectives (Bigelow and Silverman 1999; Higgins 1999;

Morral et al. 1999). Generally, these studies have been conducted in outpatient settings in which delivery of incentives is coupled with traditional individual or group counseling and education services. More recently, the CM approach has been applied in intensive outpatient and day treatment settings.

The NIDA treatment manual on community reinforcement (Budney and Higgins 1998) has provided an impetus for using empirically established CM techniques for treating cocaine abuse. The manual presents findings from five controlled clinical trials that supported the superiority of CR plus vouchers over standard care. In one study, 75 percent of the clients participating in CR plus vouchers completed the program, compared with

only 11 percent of standard care clients. Two subsequent studies showed that adding redeemable vouchers was more effective than CR as a standalone treatment (Higgins et al. 1995). A literature review of similar CR approaches found positive effects on cocaine dependence in 11 of 13 studies (Higgins 1996). Higgins and colleagues (2000) found that incentives delivered contingent on cocaine-free urinalysis results significantly increased abstinence during treatment and at 1-year followup.

Another landmark CM study examined the effectiveness of housing incentives for reducing crack cocaine use among people who are homeless (Milby et al. 1996). Incentives for drug-free housing and vouchers for social and recreational activities were more effective than 12-Step-oriented treatment alone for reducing alcohol and cocaine use as well as homelessness. At the 12-month followup, however, cocaine use in both groups had returned to baseline levels, suggesting the need for more intensive aftercare in this difficult-to-treat population.