Treating Incarcerated Juvenile Methamphetamine Abusers^{*}

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Methamphetamine is a powerful central nervous system stimulant. The typical user begins in their late teens or early 20s. However, those who begin using at a much younger age present particularly difficult treatment challenges. Such youth often have troubled social and substance abuse histories and may not respond well to short-term outpatient treatment. This is a report on the novel application of an evidence-based treatment model to incarcerated methamphetamine abusing youth. The program provides six months of intensive individualized treatment in a secure juvenile facility followed by six months of monitoring and support services in the community.

Keywords: methamphetamine, juvenile drug abuse, drug treatment, substance abuse

Introduction

In response to a growing concern about methamphetamine abuse, in 2006, the state of Illinois provided funds to create a model intervention for youth based at the Franklin County Juvenile Detention Center in Benton, Illinois, a rural district in the south-central part of the state with farming as its major industry. The FCJMTP (Franklin County Juvenile Methamphetamine Treatment Program) provides treatment services to youth from 41 counties across central and southern Illinois. All of these counties are either rural or contain substantial rural areas. Eligible youth must be between the ages of 10 and 18, meet methamphetamine abuse or dependence criteria, and be subject to a court order to complete treatment. Compared with traditional short-term outpatient programs, the FCJMTP program is intensive and long-term. It provides six months of intense (daily) inpatient treatment in a secure setting within the Franklin County Juvenile Detention Center. This phase of the program is limited to eight clients at any one time with individualized treatment provided by four counselors. In-custody treatment is followed by six months of aftercare in the community, accompanied by support services and monitored by the same counselors who worked with the youth while in custody. Treatment focuses on teaching drug-using youth to identify drug cravings, recognize situations that trigger drug cravings, and then resist those cravings through socially appropriate actions. The treatment approach is an adaptation to the CIM (craving identification and management) model, an evidence-based treatment program, modified to fit

^{*} This project was supported by Grant #2008-RT-BX-0023, awarded by the Bureau of Justice Assistance, Office of Justice Programs, U.S. Department of Justice, through the Illinois Criminal Justice Information Authority. Points of view or opinions contained within this document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice, or the Illinois Criminal Justice Information Authority.

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an incarcerated criminal justice population.

It is hypothesized that training incarcerated youth in craving identification and management would significantly improve post-release outcomes, such as abstention from drug use, decreased criminal behavior, and engagement in positive activities, such as employment or school.

Client Characteristics

It is estimated that 80%–85% of prisoners could benefit from drug abuse treatment, however, most do not receive it (Karberg & James, 2005). Treatment during and after incarceration has been shown to significantly reduce drug use and drug-related crime. Individuals who participated in prison-based treatment followed by a community-based program alternative to post-incarceration were seven times more likely to be drug free and three times less likely to be arrested for criminal behaviors than those not receiving treatment (Butzin, O'Connell, Martin, & Inciardi, 2006).

Studies of drug offenders in the criminal justice system find they are at high risk for infectious diseases and often have psychiatric disorders in addition to substance abuse problems (Weinbaum, Sabin, & Santibanez, 2005; Abram & Teplin, 1991). Incarcerated drug offenders often resume their drug use upon release, even after lengthy periods of abstinence while incarcerated (Chandler, Fletcher, & Volkow, 2009). Incarcerated youth can present particularly challenging treatment problems (Brecht & von Mayrhauser, 2002). As expected, youthful clients often show histories of polydrug abuse, difficult social environments, and other behavioral problems. A failure to successfully treat such youth can mean years of drug-related problems for the youth, their families, and their community. At intake, clients are administered an instrument measuring past drug use and a range of factors in their social and criminal histories.

Drug-Use History of Clients

Youth in the FCJMTP self-reported having previously tried about nine different types of drugs prior to admission to the program. Nearly all had used marijuana, tobacco, and alcohol in the year before entering the program (even though they had spent an average of 35 of the previous 90 days in jail), and all had used marijuana and alcohol at some point. Next in frequency were amphetamine/methamphetamine (92% ever used), antianxiety drugs/tranquilizers (88% ever used), and painkillers (87% ever used). Over one third of the youth (38%) reported spending a lot of time thinking about drugs.

These youth began their using careers early. Alcohol, tobacco, and marijuana were typically the first drugs, with marijuana use beginning at an average age of 11 and alcohol and tobacco beginning around age 12. They began the use of other drugs around age 14. Although nearly every client had used alcohol, marijuana was most often listed as their favorite drug, chosen by 61% of the youth, followed by alcohol (12%) and by amphetamine/methamphetamine (11%). About three quarters (72%) had been in previous treatment programs.

At the time of admission to the program, only a third (33%) said they were 100% ready to remain abstinent, but 96% reported wanting help with substance abuse. Aside from their legal entanglements, drug use led to other problems for most of these youth: 84% had used when it interfered with meeting their responsibilities at work, school, or home, 87% had used in situations that were unsafe or dangerous, and 80% had continued to use even after they knew it could get them into fights or other legal trouble.

Social Histories

Youth entering the program came from difficult environments. Over three fourths (79%) had blood relatives with alcohol problems, 82% had blood relatives with drug problems, and over half (57%) had blood

relatives with psychological problems. Seventy percent of the youth admitted to having had their life disturbed by memories of things from the past that they had done, seen, or had happened to them. It is perhaps not surprising that over half (54%) reported feeling trapped, lonely, sad, blue, or hopeless in the previous 12 months, and in that same time, frame almost half (43%) reported having lost interest in things they cared about. One fifth (22%) reported having cut, burned, or hurt themselves on purpose; 16% reported having had thoughts of suicide, and 2% made a direct suicide attempt. In the year before they entered the program, 58% had run away from home overnight, 53% had run away for more than two days, and 80% had been truant from school. Almost a third (32%) had been living with others who were engaged in illegal activity and 83% regularly socialized with people who engaged in illegal activity.

Youth also reported past victimization. Just under half (47%) reported having been attacked by a gun, stick, or other weapon in the past, and 41% reported having been hurt in beatings. Over half of the females (56%) and just over a quarter of the males (27%) reported past emotional abuse. None of the males but half of the females (50%) reported having been pressured or forced into unwanted sex in the past.

Past Behavioral Issues

Self-control is an issue for these subjects. On average they reported that in about 40 of the past 90 days they had trouble paying attention, controlling their behaviors, or breaking the rules. Although they were on average only 16 at the time they entered the program, 89% had previously engaged in sex and 21% had either been pregnant or had gotten someone pregnant. Most subjects (74%) reported they felt easily annoyed, irritated, or had a bad temper in the previous 12 months, and about a quarter (24%) had thought about hurting or killing others in the previous 12 months. Almost a third (62%) admitted to having been a bully in the 12 months prior to entering the program and over half (53%) admitted to having started fights in that time.

The General Treatment Model

FCJMTP's curriculum expands on the CIM addiction treatment model created by Dr. S. Alex Stalcup, Medical Director of the New Leaf Treatment Center in Lafayette, California (S. Stalcup, Christian, J. Stalcup, Brown, & Galloway, 2006; Galloway et al., 2000). S. Stalcup et al.'s (2006) CIM curriculum, which includes a DVD, Student Manual, PowerPoints, Experiments, Motivational Enhancement Therapy Guide, and Webliography of addiction-related materials, provides an interactive set of exercises for treatment providers which illustrate major concepts and offer opportunities to learn assessment and intervention for people at risk for addiction. The CIM curriculum is the result of an ongoing collaboration between treatment staff and clients to provide a functional model of craving management for addicts. In the 12 years of developing CIM, clients were asked to analyze factors that led to drug use, identify strategies to avoid use, and report what strategies worked and what strategies did not work. This interactive process generated the concept that the final common step leading to drug use is loss of control over craving. In other words, in addicts trying to stay sober, use occurs when craving overwhelms the individual's relapse prevention skills and control-over behavior is lost. In a randomized clinical trial, CIM markedly reduced methamphetamine use in a sample of methamphetamine dependent adults (Rawson et al., 2004).

The CIM model identifies four causes of craving:

- (1) Environmental cues (triggers)—immediate, catastrophic, overwhelming craving stimulated by people, places, things, or events associated with prior drug-use experiences;
- (2) Drug withdrawal—inadequately treated or untreated;

(3) Mental illness symptoms—inadequately treated or untreated;

(4) Stress = craving.

CIM combines several treatment components, including control of exposure to environmental cues, establishment of a daily schedule, the use of behaviors that dissipate craving (tools), and treatment (with medication when appropriate) of mental health and withdrawal symptoms.

Applying the Model to an Incarcerated Youth Population

There are limitations to the degree that therapeutic services can be provided in a prison or detention setting. Safety and security are always the primary concern and all treatment-related activities, tools, and techniques, must be maintained within security parameters. At the same time, there are advantages to having 24-hour access to clients in a controlled environment. Applying the general model's emphasis on craving and the four sources of craving requires being sensitive to the limitations and advantages of treatment in a secure setting.

Treatment of Environmental Cues

A number of studies have documented the importance of environmental cues in triggering drug cravings (as cited in S. Stalcup et al., 2006). A primary obstacle to providing treatment in a detained environment is the lack of (or limited access to) environmental cues, one of the four causes of craving and a primary focus of treatment education and intervention. The lack of exposure to environmental triggers often leads to the client having a false sense of security in the ability to manage craving once back in the community. The result too often is that the addict quickly becomes overwhelmed by environmental cues once released, leading to loss of control over craving and use (Chandler et al., 2009).

To address this concern, craving induction workshops were developed and added to the program's curriculum in 2007. These workshops were developed in consultation with the developer of the CIM program, who conducted numerous training with staff and who was in frequent telephone contact as the program was developed. In these group sessions, addicts are exposed to a variety of environmental cues under a controlled setting, with close monitoring by a team of well-trained professionals.

Materials used to induce cravings include drug paraphernalia borrowed from a drug-task force, alcohol bottles and cans, and cigarettes. Feedback from program clients indicates these items successfully induced drug cravings. Counselors conducting these sessions are considerate of the addict's well-being and follow strict guidelines to ensure no harm is caused to the client. The guidelines include establishing an informed consent upon program admission, conducting risk assessment prior to each workshop and planning accordingly, educating the client of craving induction workshop procedures and objectives, ensuring that clients may opt out at any time without consequence, and educating security staff to maintain safety and security precautions. The goal of these sessions is to help addicts recognize both physical and emotional responses to craving caused by environmental cues, while guiding them through craving management exercises. Addicts gain a sense of empowerment through these realistic-type methods while in a secure and controlled setting, enabling them to be better prepared for similar and almost inevitable circumstances once they re-enter the community. Due to the sensitive nature of these sessions, individuals conducting craving induction workshops must be CIM certified, must be certified alcohol/drug counselors, and must adhere to craving induction guidelines. Since implementation, all clients have opted to participate in the craving induction workshop with only a few circumstances in which risk assessment determined a client was not stable and should not participate.

Treatment of Withdrawal

Addiction research has found that overstimulation of the pleasure system in the brain caused by repeated drug use causes neuroadaptation, a condition in which the brain adapts to protect itself from the damage caused by the overstimulation (Volkow & Li, 2005). The result is long term or even permanent desensitization to pleasure. An addict experiences boredom, loss of interest, anhedonia, or even dysphoria during sobriety making it difficult to find motivation or reward in any activities. This condition is known as withdrawal, and it is one of the four causes of craving identified in the CIM model. A variety of methods are used for treating withdrawal, including detox referral for acute symptoms, medication and psychiatric services, and treatment interventions. Certain interventions have proven highly successful in generating motivation. MET (motivational enhancement therapy) sessions are particularly important since all clients are court ordered into treatment. Due to the involuntary nature of each client's admittance, counselors are often met with significant resistance towards treatment. MET sessions implement various techniques in an attempt to support and elicit motivation for change. The goal of MET is to decrease resistance toward treatment while increasing interest and overall participation in treatment functions. MET has proven successful with other juvenile methamphetamine users compelled into treatment (Huang, Tang, Lin, & Yen, 2011).

An addict's brain is often considered to be reward deficient, meaning that gratification is hindered by the condition of withdrawal. Positive reinforcement is a major component of any successful treatment intervention when inspiring motivation toward change, especially when working with addicts who have become accustomed to the immediate and over-gratifying reward obtained from a drug high (Adinoff, 2004). FCJMTP provides an incentive/reward component designed to encourage productive effort by the client by rewarding behavior conducive to sobriety. Treatment response is monitored on a daily basis throughout the in-custody treatment process. When positive behavior and good effort are recognized, clients earn tokens that can be saved and used to purchase rewards. Reward items include "non-prison issued" personal hygiene products, handheld games, magazines, word puzzles, hacky sacks, art supplies, MP3 players, and other items that have been approved by the detention facility.

Treatment of Mental Illness

Mental illness is the third cause of craving according to the CIM model. Treating mental illness is not a difficult task in an incarcerated setting. In fact, it is a rare opportunity to evaluate, treat, and monitor a client's progress in a secure setting, over an extended period of time, and without obstruction of drug/alcohol use. This is an ideal opportunity to monitor mental health symptoms in relation to addiction withdrawal and craving. FCJMTP provides psychiatric services for those in need throughout the six months of in-custody treatment. Mental health symptoms are monitored daily and counselors use CIM concepts to educate the client on how to identify and manage cravings caused by these symptoms.

The greatest challenge comes with re-entry to the community. Under proper consent, counselors take careful steps to bridge the gap between services received during incarceration and services provided in the community. Efforts are made with families, caregivers, and community mental health providers to prevent the risk of prescription drug abuse. During family counseling sessions, counselors obtain information from the caregivers regarding prescription drug use within the home. Families/caregivers are informed about the risks involved and must sign an agreement to keep all prescription drugs in a safe or lockbox to minimize the risk of misuse by the client. They are provided instructions on how to track and administer these medications properly

and assume this responsibility as part of their role in the client's recovery plan. Counselors often assist caregivers in establishing proper community mental health services prior to a client's release in order to ensure continuity of care. Proper consent is obtained and medical records are released to the determined service providers. Once a plan is established and each person understands his/her role regarding mental health concerns, it is added into the client's relapse prevention plan, which is then monitored carefully throughout the aftercare process. The purpose is to help ease the transition back to the community by limiting the risk of relapse due to loss of control over mental illness.

Treatment of Stress

Stress is the fourth cause of craving identified by CIM. Addiction is one of the most stress sensitive conditions known to medicine. Addicts associate drug use with feelings of stress, such as hunger, anger, loneliness, tiredness. Once a drug user becomes sober, they experience strong cravings associated with stress and generally have a very limited capacity to cope productively with negative feelings. Because of this, it is necessary to provide proper education and treatment intervention on how to identify, prevent, and/or manage stress through socially appropriate behaviors.

The structure within most incarcerated settings is ideal for supporting the fundamentals needed for stress management, such as routine meal times, sleep times, and daily exercise, all of which support good health and balance while minimizing stress. FCJMTP builds on this foundation by adding additional "stress management" aspects to the curriculum, such as art and music therapies, horticulture, food preparation activities, relaxation and meditation, and recreational therapy. Craving worksheets are completed daily by treatment participants and serve as the primary tool used in symptom monitoring. They measure craving intensity associated with the four primary causes (environment, withdrawal, mental illness, stress), tools and techniques used to manage craving, and the effectiveness of such techniques. Self-reports by clients indicate a substantial decrease in stress-related craving after applying recreational therapy and other stress reduction techniques used during in-custody treatment.

Aftercare

The problem with most prison- and jail-based drug treatment programs is the lack of aftercare services upon release. Where such services are provided, they are generally short-term and/or inadequate, contributing to the high relapse rate. As Chandler et al. (2009) noted:

Returning to neighborhoods associated with preincarceration drug use places the addicted individual in an environment rich in drug cues...these cues automatically activate the reward/motivational neurocircuitry and can trigger an intense desire to consume drugs (craving). (p. 184)

The FCJMTP directly addresses this shortcoming of most programs. Aftercare services are provided for an additional six months post-release from in-custody treatment. In aftercare, clients continue to work with the same counselor assigned to his/her in-custody treatment while following a relapse prevention plan established prior to release. All clients who complete in-custody treatment are also required complete 180 days of aftercare services in order to receive a successful completion.

Preparation for aftercare begins during in-custody treatment. It involves relapse prevention planning, CIM education, and CIM application, though it also includes aspects designed specifically to ease the transition back to the community, such as craving induction outings, family sessions, placement planning, sober support networking, and home furloughs. Treatment efforts are coordinated with the client's probation or parole officer,

and/or any other entity involved in the client's care. This is to ensure all parties are informed and consenting of the services provided throughout aftercare. Prior to a client's release, sessions are held with the client's probation/parole officer to review treatment services, such as random drug testing, symptom monitoring, progress reporting, relapse protocol, and relapse prevention planning. Probation/parole officers provide information regarding the client's legal obligations as well as consequences for failure to uphold these obligations. Clients often have pending charges, which may be dropped if they are able to successfully complete all aspects of treatment. This acts as a major incentive to do well. Continued sessions are often held throughout the aftercare process to maintain consistency and accountability. In nearly all cases of relapse, probation/parole officers have supported treatment protocol and procedure without legal intervention. Although, in cases where a new charge is obtained, probation/parole officers are more inclined to file a violation and treatment services may be terminated. Following is a brief description of some of the aftercare components.

Craving induction outings. After clients reach their 90th day of in-custody treatment, counselors assess progress and determine whether or not they are ready to begin a progressive series of craving induction outings. Implemented in 2008, the goal of these outings is to prepare clients for re-entry into the community by practicing CIM techniques while taking them out of the facility to pre-determined areas that may induce cravings associated with environmental cues.

Example (eight outings):

- (1) Driving or walking around town (cravings often associated with freedom, seeing or smelling cigarettes/smoke, gas stations, liquor stores, etc.);
- (2) Going to the food court in a busy mall;
- (3) Driving by or walking by high schools at dismissal time;
- (4) Going to a sporting event, playing, or other extracurricular school-related event;
- (5) Driving to and around geographic specific targets (predetermined environmental cues);
- (6) Going to a movie or go out for a pizza (sober fun activity);
- (7) Visiting client specific targets, attempting to visit their actual hometown or successfully duplicate the target areas locally;
- (8) Initiating and planning first-supervised home visit upon successful completion of the previous eight steps, then following home visit protocol.

Cravings are processed throughout these outings, while craving management exercises are performed, ensuring that the client remains in control and has a plan to remain in control throughout the remainder of the day. Outings are individualized and adjusted according to each client's ability to effectively utilize CIM skills.

Family counseling. Family counseling sessions can begin as early as 90 days into in-custody treatment and may last as long as the client remains in treatment (in-custody and aftercare). These sessions focus primarily on restoring damaged relationships, educating families on CIM principles, and strengthening recovery and relapse prevention plans with the support from counselors, family members, and other approved members of the client's support network. Family counseling began in 2007 and is now a standard requirement for parents, grandparents, family members, or specified caregivers housing a treatment youth upon his/her release. Nearly all treatment participants have undergone at least one family session during his/her in-custody treatment and most have continued these sessions throughout in-custody treatment and aftercare. Both counselors and clients express that these sessions are helpful in resolving family issues, strengthening relationships with families/caregivers, establishing roles and boundaries, and gaining a better knowledge of addiction and recovery.

Relapse prevention planning. During in-custody treatment, counselors and clients learn to identify predominant causes of craving and predict the most likely causes of relapse post-incarceration. Using this knowledge, a relapse prevention plan is developed prior to a client's release from in-custody treatment. Copies of the relapse prevention plan are provided to the client and to any person approved to be part of the client's sober support network, provided that all proper consent forms are acquired. This helps to ensure better overall awareness and support for the client's recovery from drugs and alcohol.

The relapse prevention plan acts as a client's guide throughout his/her recovery. As a client progresses through aftercare, changes, or updates may be added to the original relapse prevention plan and shared with the sober support network with proper consent.

Sober support networking. Established in 2009, sober support networking was implemented into the relapse prevention plan as a method to enhance client support and accountability. The sober support network is a group of sober adults invested in the sobriety efforts of a client. Examples can include family members, teachers, church members, mentors, counselors, coaches, sponsors, and any sober adult willing to provide support and encouragement of a client's sobriety efforts.

With proper consent, counselors begin developing a sober support network while the client is still receiving in-custody treatment. Members of the sober support network are educated on the CIM applications and encouraged on how they can assist with the client's recovery. Contact information is exchanged, and qualified candidates are added to the sober support network section of the client's relapse prevention plan. Counselors make efforts to educate members of the sober support network on basic CIM principles, how to recognize signs/symptoms of lapsing behavior, and what they can do to help. During the aftercare phase of treatment, counselors (with proper consent) maintain contact with members of the sober support network to monitor the client's progress.

While it is the program's goal to establish a strong support network for all clients, only about half of the clients have maintained a solid sober support network throughout aftercare. Factors influencing the development and maintenance of a sober support network include educational and vocational involvement, leisure involvement, transportation, financial concerns, and family support.

Home furloughs. The purpose of the furlough or "home visit" is to begin the process of establishing a safe, sober, and healthy space for all of the household members. Each member of the household plays a vital role in establishing and maintaining a safe environment supportive to the client's sobriety. Prior to the client's discharge from in-custody treatment, preparations are made to educate families/sober support networks using CIM concepts. A home furlough schedule is reviewed prior to discharge from in-custody treatment and a home visit is conducted to ensure that the house is void of any substances and supportive to the client's recovery plan.

Home furloughs are designed in a progressive manner, meaning that the client's initial furloughs are shorter and they graduate into longer furloughs. This eases the client's transition back to the community, reduces the risk of relapse due to overexposure to environmental cueing, allows all members of the home and sober support network to adjust properly to the changes, and allows counselors to monitor the client's symptoms more closely and adjust treatment accordingly. Furloughs may be adjusted at any time to fit the needs of the client and are individualized for quality care.

At FCJMTP, clients returning from home furloughs stay in the non-secure wing (assessment center) of the detention center for a period of time (usually 24 h–48 h) to process the furlough with his/her counselor. Counselors complete a home furlough review form with the client, which is a tool used to assist in recognizing

and analyzing craving experienced during the furlough, while recording methods used by the client to avoid or manage such cravings. Clients meet individually with counselors during this time, though they may also attend craving workshops in order to discuss and process the furlough with clients still in in-custody treatment. This has proven beneficial for both the client in aftercare as well as the clients who are still in-custody. Aftercare clients have an opportunity to receive peer feedback, while teaching others about their experience. In-custody clients are given an example of what is to come while being able to ask questions and share thoughts and feelings.

Between furloughs, counselors often conduct family sessions or sessions involving members of the client's sober support network in order to maintain overall support and accountability. Once all information is obtained, counselor may adjust treatment as necessary and begin planning the next home furlough.

Home furloughs are designed and updated based on client progress and symptom severity. If a client experiences difficulty or has a use episode during a home furlough, standard relapse protocol is followed and the home furlough schedule is re-evaluated and adjusted accordingly.

Home furloughs were implemented in 2009 and became a standard treatment practice for all clients returning to the community. At the end of 2011, a total of 36 clients had undergone home furloughs, 26 of which completed the home furloughs without relapse or criminal offense. Of those 26, 21 went on to complete aftercare successfully.

Symptom monitoring. The goal for all youth is to “not” relapse, however, the reality is many people do relapse in some way. FCJMTP's first line of intervention is relapse prevention (to ward off potential using by intervening prior to it occurring). Since this does not and cannot happen in all cases, it is necessary to be proactive and identify problems as early as possible. Weekly symptom monitoring is provided and documented throughout the aftercare phase. This includes phone calls, home visits, family sessions, sessions with the client's sober support network, and random drug testing. If relapse occurs, or if there is evidence of lapsing behavior, standard protocol is followed to intervene and redirect the client back to his/her sober mindset.

Outcome Measures

From 2006 through 2011, a total of 174 youth were screened for eligibility. Nearly two-thirds met criteria for acceptance and just over half ($N = 89$; 52%) received court orders placing them into treatment. The majority (84%) of these clients completed in-custody treatment successfully. Criteria for discharge include client refusal of treatment or significant behavioral incidents, such as repeated acts of violence. From the beginning, the program has undergone modifications to improve client outcome. The data in Table 1 suggest that the program has shown improvements from 2007, its first full year of operation, through 2011.

Table 1

Clients Served by Year

Year	Number served	Number admitted	Transferred to aftercare	Unsuccessful cases
2007	24	16	10	13
2008	30	15	15	9
2009	27	16	12	7
2010	27	15	11	7
2011	29	17	12	6

The in-custody program's central emphasis is to teach drug-abusing youth to identify drug cravings, learn

techniques to reduce or eliminate those cravings, and then successfully apply those techniques. Utilizing craving worksheets, self-reports of craving, and responses to craving are completed each day by in-custody clients. The level of craving was reported on a scale from 0 to 10, with 0 representing “No Desire to Use” and 10 representing “It Is Inevitable That I Am Going to Use”. The most recent versions of the worksheet were put in place on December 12, 2010, and include data from January 1, 2011, through November 30, 2011. During this period, there were 1,996 reports completed by 20 juveniles, for an average of 100 reports per juvenile.

Of the reports ($N = 1,996$), most (65.0%) indicated experiencing at least some level of drug craving on the day of the report (see Table 2). On 92.6% of the days in which cravings were experienced, craving management techniques were applied and those craving management techniques worked to reduce cravings in 60.5% of the reports. For those reporting a craving, the level of craving dropped from an average level of 3.3 (on a 10-point scale) to an average of 1.0 following the application of craving management techniques.

Table 2

Descriptive Statistics on Key Craving Variables

Percent reporting cravings	65.0
Mean level of craving (0–10 scale)	3.3
Percent applying CM (craving management) techniques	92.6
Mean number of skills applied	4.2
Mean craving level after applying CM	1.0
Percentage of days that skills reduced cravings (%)	60.5
Number of reports	1996

While it is possible that some of the reduction in cravings is simply a product of the scores regressing to the mean, this does not account for all of the reduction. Those who applied craving management techniques reported a reduction in craving of 3.44 points (on a 1–10 scale), while those who did not apply craving management techniques reported a reduction in craving of only 1.1 points ($p < 0.000$; $t = 8.08$, $df = 1,316$).

In the absence of environmental cues, average reported craving scores were lower and often brought on by other causes, such as withdrawal, stress, or mental illness. Clients who participated in weekly craving induction workshops (where environmental cuing was introduced) reported substantially higher craving scores. Following each craving induction, clients processed cravings and applied craving management, resulting in significant craving reduction.

Clearly, the program is meeting its short-term goal of helping clients recognize and appropriately respond to drug cravings. A larger issue is whether there is longer-term success. Determining this is complicated by the fact that, in many ways, the youth in the program are exceptionally challenging, making it difficult to identify proper a comparison group for which long-term measures of drug use are available. The small number of clients (a program strength), continuous program improvements (also a program strength), and the absence of measures after they leave the in-community portion of the program also complicate assessing the long-term impact of the program. Despite this, it is possible to determine retention in the program and successful program completion.

Figure 1 shows client outcomes for the 89 clients in the program from its inception through 2011. As Figure 1 shows, 84% of those admitted to the in-custody portion of the program successfully completed that portion of the program. Further, 62% successfully completed the aftercare portion of the program, a high figure considering that most were returned to the communities in which they first developed their drug problem. A

successful completion of in-custody treatment is given to clients who meet treatment plan goals and objectives, demonstrate satisfactory progress in understanding and applying CIM, and maintain satisfactory behavior while receiving treatment. Success in aftercare is earned through adherence to his/her relapse prevention plan. This plan outlines all aspects of the individual's recovery, from craving avoidance strategies to educational and vocational goals. Unlike some substance abuse programs, a client is not automatically terminated from treatment if he/she relapses. Relapse protocol is followed and the treatment team works with the client to determine the underlying cause(s) of loss of control over craving. Once established, further planning follows, modifications are made to the relapse prevention plan, and the client must demonstrate active change and progress. If a client refuses services, fails to demonstrate effective progress, or violates his/her probation/parole obligations, he/she will receive an unsuccessful completion.

Franklin County Methamphetamine Program
April 18, 2006 – November 30, 2011
Status of Clients Served

Figure 1. Client outcomes.

In addition to these numerical indicators of success, there are several other positive indicators regarding the program. First, until 2010, there had been relatively little staff turnover. However, there was a turnover of counselors since mid-2010. Despite this, the overall success rate of the program is comparable to that in 2009. This suggests that the foundations of the program are solid and do not rely on characteristics unique to any single counselor. While there has been some turnover in counseling staff, the administrative staff is relatively unchanged since the program started, providing continuity in leadership. The staff continues to show a high level of commitment to the program and a personal interest in the program's success.

While the indicators of success listed here are encouraging, the ultimate measure of success will require comparing the outcomes of these clients with other similarly situated clients who have not gone through this program. Finding such a comparison group is a challenge in that it requires not only finding those with comparable backgrounds (i.e., physical and/or sexual abuse, delinquency, and early drug abuse who have come to the attention of the courts), but ideally would involve following those youth for a minimum of a year (with the first six months in a secure facility and another six months in the community with weekly contacts and routine drug testing). The purpose of this paper has been to describe the program. Locating a comparison group is the next step in the evolution of this program.

Conclusions

Despite the long-term cost to society, youth with serious substance abuse problems too often fail to receive the duration and intensity of treatment required for them to gain sobriety. This manuscript has described the application of an evidence-based treatment program to substance-abusing youth who have particularly troubled backgrounds. The program provides six months of in-custody intensive treatment followed by six months of careful monitoring and support in the community. Despite their troubled histories, the majority of youth in the program successfully complete the in-custody portion of the program, and a majority who proceed to the community-based aspect of the program also successfully complete their terms.

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