

INTRODUCTION

This chapter describes the primary drug treatment modalities and examines information on treatment programs in the United States. The goals and characteristics of the major treatment modalities are distinguished, and the client characteristics currently associated with each are described.

Given what is known about the extent of the drug abuse and human immunodeficiency virus (HIV) epidemics (ch. 2), the next logical question is whether the drug treatment system in the United States has the capacity and flexibility to meet the demand for treatment. Data limitations on the capacity, need for, and cost of treatment services are an impediment to answering this question and to more accurate planning to increase the availability and accessibility of treatment services to drug abusers.

TREATMENT MODALITIES

Introduction

Treatment for drug abusers has traditionally been categorized into three major modalities: outpatient methadone maintenance, residential therapeutic communities (TCs), and outpatient drug-free (ODF) treatment. A common distinction among programs has been whether they use medicines to treat drug abuse (pharmacotherapy) or are “drug-free.” Methadone maintenance treatment, which uses daily doses of the synthetic narcotic methadone, is the dominant pharmacotherapy for the treatment of opiate abusers. Within the drug-free category, residential TCs, which are distinguished by their highly demanding and confrontational approach, and ODF treatment, which includes a very heterogeneous group of programs, have been the most popular treatment modalities. Both TCs and ODF programs treat all types of drug abusers, not just narcotics abusers.

Although these three modalities are still the most prevalent forms of drug abuse treatment (45), changes are beginning to occur in the drug abuse

treatment system in response to a changing client population (e.g., the increased prevalence of cocaine abusers). The spread of HIV has also added pressure to the need for innovative psychological and pharmacological approaches for intravenous abuse of opiates and stimulants (178). Innovative approaches are being tried in an attempt to meet diverse client needs. For example, methadone maintenance programs and TCs have rarely collaborated in the past. In a research project in San Francisco from 1981 to 1984, however, an attempt was made to help clients on methadone detoxify to a drug-free life while residing in a TC (279). Two treatment approaches that have become popular are 28-day residential hospital programs and Narcotics Anonymous, self-help support groups patterned after Alcoholics Anonymous (AA). A variety of ODF treatments that provide intermediate levels of care (including day care, evening care, and halfway houses¹) have also become more common (203). New pharmacotherapies are being studied and tested for their effectiveness in treating cocaine and polydrug abusers in addition to heroin addicts. In a few areas of the country, a multi-modality treatment approach has been tried in which the area’s various treatment programs operate under a central referral center.

The need for a range of treatment options stems from the diversity that exists among drug abusers. Abusers differ, among other variables, in the drugs they use, the presence or absence of psychiatric disorders, educational and occupational achievements, and family and social support systems (319). Although many drug abusers require multiple treatment episodes to combat the chronic relapsing nature of drug abuse, other drug abusers may require a single treatment episode of relatively short duration (154). Different treatment approaches might also be appropriate at different points in the individual’s addiction career.

¹ Day care is treatment for drug abusers who spend the day in treatment and return home in the evening; evening care is for those who work during the day and spend a few hours in treatment at night; and halfway houses are for people who reside in the treatment house and go out to work during the day (203).

In general, drug treatment centers serve a predominantly young adult, poorly educated, male clientele; however, State drug agency directors and treatment program administrators report that today's clients are more likely to use multiple drugs and to be female than they were a decade before (149). Although each of the modalities treats a variety of patients, some client characteristics are disproportionately represented in specific modalities. Because of the pronounced differences in treatment approaches and client populations, this chapter and the following chapters on treatment effectiveness consider each modality separately.

Role of Detoxification

Detoxification is often the first stage in the treatment process. The primary goal of detoxification is to stabilize the drug abuser while a drug-free state is being reached. Detoxification programs use licit drugs (e.g., methadone or clonidine) on a short-term basis to help manage withdrawal symptoms while the abused drug is being eliminated and the body adjusts to its absence (13). Although some people view detoxification as a modality in and of itself, others see the value of detoxification as a "gateway" to more intensive treatment interventions (13). For example, detoxification must be completed before entry into TCs, ODF programs, and certain pharmacotherapies (170). To date, detoxification using substitute medications is only truly available for opiates, sedative-hypnotics, and alcohol. Although short-term residential programs frequently say they offer cocaine detoxification, technically they do not use pharmacologic agents to achieve detoxification (35).

The ideal detoxification agent would be completely effective in relieving symptoms of withdrawal, orally active, long-acting, safe, and of low addiction potential (178). Since no single agent meets all of these characteristics, a search continues for new pharmacologic agents to treat drug abuse.

Because methadone is a narcotic, it is a controlled substance in the United States. Any organization dispensing methadone, whether for

detoxification or maintenance treatment and regardless of whether the program accepts public funding, must abide by mandatory regulations concerning minimum standards for admission, urine testing frequency, patient evaluation guidelines, and provided services (counseling, vocational, rehabilitative, and other support services) (54 FR 8954). It should be noted that these Federal regulations cover the use of all narcotics; thus detoxification or maintenance with Levo-Alpha-Acetyl-Methadol (LAAM), buprenorphine, or any other narcotic would also be covered. The Narcotic Addict Treatment Act of 1974 (Public Law 93-281), which requires the registration of practitioners conducting methadone treatment programs, defined detoxification treatment as:

the dispensing for a period not in excess of 21 days, of a narcotic drug in decreasing doses to an individual in order to alleviate adverse physiological or psychological effects incident to withdrawal from the continuous or sustained use of a narcotic drug and as a method of bringing the individual to a narcotic drug-free state within such a period.

In March 1989, the Food and Drug Administration (FDA) and the National Institute on Drug Abuse (NIDA) issued a final rule on conditions of methadone use, in which the length of detoxification treatment was expanded to include short-term detoxification treatment (not in excess of 30 days) and long-term detoxification treatment (between 30-180 days) (54 FR 8960).

Although methadone is still widely used, clonidine has become a standard method of opiate detoxification in many places (179). Because clonidine is not a narcotic or a controlled substance, it can be used by a wider range of physicians and in treatment settings that are not licensed to dispense narcotics (171). One advantage that clonidine has over methadone is that it shortens the period of time necessary for withdrawal (from 20 to 30 days to 10 to 14 days) (171).

Clonidine is also being studied in combination with naltrexone as a nonopiate detoxification method. This approach has an advantage over other

detoxification methods in that complete detoxification can be achieved in just 3 to 4 days instead of 21 days with methadone or 14 days with clonidine alone (178).

Because opiate detoxification has been a short-term therapeutic approach, the provision of support services has not usually been stressed to the extent that it is in some of the longer-duration treatment modalities. It is hoped that recently available long-term detoxification will provide the flexibility for programs to aid those drug abusers who require more extensive treatment (35).

Detoxification may take place in outpatient settings or in hospital inpatient or other residential programs. The Office of National Drug Control Policy has stated that most patients can be detoxified in less expensive outpatient programs, but offered no supporting evidence (105).

A controversial issue associated with detoxification has been how the programs are used by clients. It has been reported that certain opiate addicts entering detoxification are unwilling to make a commitment to give up their addiction and merely seek a break in the stressful life of hustling for drugs or a reduction in their tolerance so that they can achieve euphoria with smaller quantities of narcotics (223). Detoxification treatment, however, offers the opportunity to counsel these clients about the risks of drug abuse (including HIV infection), orient them to long-term modalities, and facilitate referrals whenever they seem appropriate.

Pharmacotherapy Treatment Approaches

Medication to treat drug abuse was first used in the mid-1960s with heroin abusers. Methadone and naltrexone, both of which are used to treat narcotic abuse, are the only two drugs currently approved by FDA for drug abuse treatment. In response to the continuing drug crisis, NIDA's Drug Development Task Force has explored further research and development of pharmacotherapies that:

- block the effects of abused drugs,
- reduce the craving for abused drugs,
- moderate or eliminate withdrawal symptoms,
- block or reverse toxic effects, and
- prevent, under certain conditions, initial drug abuse (320).

Although more research is needed, some progress has been made in recent years in understanding how drugs act on the brain to create a "reward system," in which the experience of pleasure caused by the drug reinforces drug use (303). Understanding how drugs initiate chemical reactions in the brain that cause compulsive drug-seeking behavior is thought to hold the key for the development of treatments that can interfere with those processes and stop the addictive cycle (320). NIDA is currently overseeing the research and development of 28 pharmacotherapeutics (see table 3-1).

Pharmacotherapies are commonly viewed as an adjunct to more traditional psychosocial treatment methods. One way that pharmacotherapies may support other treatment methods is that, by reducing abusers' intense craving for drugs, they may make patients more receptive to psychological counseling and other rehabilitative services (303).

Pharmacotherapy for Narcotics Abuse

Through advances made in the mid-1970s, drug abuse researchers have observed that exogenously-administered opiates, such as heroin, may lead to addiction through actions on endogenous opiate peptide and receptor systems of the brain (333). These discoveries have guided the use of two general types of narcotic pharmacotherapies: narcotic agonists, which have narcotic effects, and narcotic antagonists, which block the effects of narcotics. By binding to the same receptors as illicit narcotics, narcotic agonists replace the addict's physiological requirement for narcotics (e.g., heroin), thereby preventing the onslaught of a painful withdrawal syndrome. They also reduce narcotic hunger or craving and, as tolerance increases, offer a blockade to injected heroin (35). Narcotic antagonists, on the other hand, block the euphoria caused by narcotics by preventing the access of these drugs to opiate receptor sites, but have no intrinsic effect of their own.

Methadone Maintenance--Methadone is a long-acting narcotic agonist that was first studied for its effectiveness in treating long-term opiate abuse in the mid-1960s (100). Of all the treatment modalities, methadone maintenance has been subjected to the most extensive research and evaluation.

Table 3-I-Drug Development Program of the National Institute on Drug Abuse (NIDA), 1988

Drug	Therapeutic indication	status of FDA process	Original owner of patent
Opiate treatment agents			
Methadone and naxolone	Opiate maintenance therapy Lower abuse potential	Approved but not marketed	Bristol
Depot Naltrexone	Long-term opiate blockade	Standard drug approved	DuPont
LAAM	Opiate maintenance therapy	Phase III completed	Public
Chlonidine	Opiate detoxification	Currently in use in open trials	Boehringer
Buprenorphine	Opiate detoxification	Phase II	Norwich
Metkephamid	Opiate maintenance & blockade	Phase I	Eaton
Acetorphan	Opiate maintenance therapy	Animal testing	Lilly
Cocaine treatment agents			
Desipramine	Treat withdrawal	Phase II	Merrell Dow
Imipramine	Treat withdrawal	Phase II	Geigy
Carbamazepine	Treat withdrawal	Phase I	Geigy
Mazindol	Treat withdrawal	Phase I	Sandoz
Flupenthixol	Treat withdrawal	Clinical evaluation	Merrell Dow
Fluoxetine	Treat cocaine & PCP withdrawal	Clinical evaluation	Dista/Lilly
Nifedipine	Block euphoria	Phase II	Pfizer
Buprenorphine	Block euphoria	Clinical evaluation	Norwich Eaton
Verapamil	Block euphoria	Animal Testing	Searle
Diltiazem	Block euphoria	Animal Testing	Marion
Sulpiride	Block euphoria	Animal Testing	Delegrange
SCH23390	Block euphoria	Animal Testing	Schering
L-tryptophan	Functional antagonism	Phase II	Public
Amantadine	Maintenance therapy	Phase I	Endo
Bromocriptine	Maintenance therapy	Phase I	Sandoz
Methyphenidate	Maintenance therapy	Phase I	CIBA
L-DOPA	Replacement therapy	Clinical evaluation	Roche

ABBREVIATION: FDA = Food and Drug Administration.

*Administration of Naltrexone in a depo form, i.e., skin implants that gradually release the drug into the bloodstream.

SOURCE: US DHHS, NIDA (320).

Methadone has proven to be a good maintenance agent. It can be administered regularly (usually once a day) by oral administration as a substitute for the illicit narcotics. Although the effect of a single heroin injection usually lasts 4 to 6 hours, methadone remains active for more than 24 hours. As an agonist, methadone produces a cross tolerance with narcotics to reduce withdrawal symptoms and block the effects of heroin. Because methadone produces minimal euphoria when taken orally, patients can continue to work or go to school (170).

As mentioned in the discussion of detoxification programs, because methadone is a narcotic, Federal regulations govern its administration. Conditions for the use of methadone in maintenance treatment (21 CFR Part 291) require that clients entering methadone maintenance programs prove that they are cur-

rently narcotic dependent (i.e., that they physiologically need heroin or a morphine-like drug to prevent the onset of signs of withdrawal) and that they became dependent at least 1 year before admission to maintenance treatment (54 FR 8960-8964).

Federal regulations include requirements for client treatment plans, mandatory counseling sessions, and routine urine testing. Federal regulations also require that methadone maintenance clinics provide "a comprehensive range of medical and rehabilitative services" to those in need of such services who receive methadone treatment (54 FR 8966). Despite these regulations, however, methadone maintenance clinics vary extensively in the selection and emphasis on the support services they provide (e.g., counseling, vocational and educational training) and in their program structure (e.g., dosage levels, frequency of urine tests, take-home policies).

Methadone maintenance programs also differ in the extent to which detoxification from methadone is the ultimate treatment goal. Although Federal regulations state that an eventual drug-free state is a realistic goal for many people, they also recognize that some patients may need to stay on methadone for long periods (45 FR 62717). There are two general types of methadone treatment programs. In long-term methadone maintenance, clients are expected to continue on methadone indefinitely. A different approach is taken by methadone-to-abstinence programs, where the goal is eventual drug-free living. Although long-term maintenance programs typically prescribe high doses of methadone to block the effects should a client attempt to use heroin, methadone-to-abstinence programs typically prescribe as low a level as the patient can take to prevent withdrawal (149). Average time in treatment varies among programs and patients even within these two approaches.

Individual State regulations also govern the use of methadone. A NIDA survey of State methadone treatment programs found that several States did not provide methadone treatment programs and that a large majority of those that did had some type of regulation of methadone programs, including allowable dosage levels and mandatory inspections (213). Of the authorities that responded from 39 States, the District of Columbia, Puerto Rico, and the Virgin Islands, 6 States (Arkansas, Maine, Montana, North Dakota, South Dakota, and Wyoming) had no methadone treatment programs. At least 2 of the 11 States that did not respond (Mississippi and New Hampshire) also do not provide methadone treatment programs. Three States (Oklahoma, Vermont, and West Virginia) had methadone detoxification programs but not maintenance programs.

Although the substitution of methadone, a licit opiate, for illicit opiates, such as heroin, is the most common technique for the treatment of narcotic addicts, it remains a controversial issue (see ch. 4). Methadone itself is a dependence-producing drug,

and patients experience withdrawal symptoms when they stop methadone treatment. There is a common ***misconception*** that methadone provides euphoria which in turn spurs an illicit market for the drug. Most experts agree, however, that the black market for methadone stems more from methadone's ability to relieve withdrawal than from its euphorogenic effects (87). Since some people regard any drug use pejoratively, methadone programs have often used low doses, which have resulted in insufficient treatment (10). As noted above and discussed in chapter 4, daily doses below 30 to 50 mg are considered inappropriate, and effective daily doses have been found to average about 80 mg (66,130).

All methadone maintenance clients are opiate abusers and an increasing number of them use other drugs, including cocaine (184). Compared with clients of other treatment modalities, outpatient methadone maintenance clients were more likely to be older, black or Hispanic, and married and to have had prior treatment admissions (149). It should be noted that generalizations about typical client characteristics may be confounded by such issues as the geographic location of programs (112).

Naltrexone--Naltrexone is a pure narcotic antagonist that was developed for the treatment of narcotics addiction in the early 1970s and approved by FDA in 1984. Naltrexone has the ability to block the euphorogenic and dependence-producing properties of opiates. Because antagonists are structurally similar to narcotics, they can occupy the same opiate receptor sites as narcotics. Even if heroin is used, as long as the dose does not exceed the amount blocked by the narcotic antagonist, the patient will not experience the pleasurable effect of the heroin.

One ***caveat about*** naltrexone's administration and potential benefit is that it must be given to persons who are no longer physically dependent on opiates. If naltrexone is administered to a heroin-dependent person, the familiar opiate withdrawal symptoms will develop. These symptoms can be reversed by a large dose of heroin (or other opiate) (247). In order for

²M_{ontana} stated that its hospitals use clonidine to detoxify patients. Although this survey was not able to determine why particular States did not provide methadone, some State statutes preclude the use of methadone, while other States responded that they do not have a narcotics problem (214).

³A pure or full antagonist is a drug that has only antagonist actions, whereas a partial antagonist has both agonist and antagonist actions.

naltrexone to block opiates' effects without producing unpleasant withdrawal symptoms, patients must be off all narcotics for a period of at least 5-10 days before naltrexone is administered. When taking naltrexone, the individual knows that the euphoric effect of heroin is no longer available and may stop taking heroin (35). The potential usefulness of narcotic antagonists lies in helping former opiate users remain abstinent after detoxification (247).

A single dose of naltrexone effectively blocks opiates for up to three days and produces few side effects (247). Narcotic antagonists, such as naltrexone, are not dependence producing. Although this is a positive facet of the drug, it has the drawback of lacking the built-in compliance mechanism associated with methadone (303). Thus, individuals can easily stop taking naltrexone without any ill effects if they want to use heroin. In fact, poor compliance with naltrexone treatment has been a significant issue and strategies to improve compliance with narcotic antagonists are being explored (180). Addicts who are very motivated to stay off drugs are most likely to benefit from naltrexone treatment.

Levo-Alpha-Acetyl 1. Methadone (LAAM)-- Developed in Germany around 1948 as a potential painkiller, LAAM, like methadone, is a narcotic agonist. Of the drugs under investigation by NIDA, LAAM is the agency's most immediate priority (320). Problems with policies allowing narcotic abusers to take methadone home, such as accidental poisoning and street diversion of methadone, prompted the search for a longer-acting methadone substitute (194). Because LAAM can suppress withdrawal symptoms for up to 3 days after oral administration, it needs to be administered only 3 times a week instead of 7 (320). Less frequent doses free staff to engage in more therapeutic activities, such as counseling and other support services. It also helps break the drug abuser's routine of ingesting a drug daily and decreases the degree of psychological dependence (194). LAAM's longer action seems to produce a smoother, flatter effect with slower onset than methadone (35).

LAAM's side-effects are generally those seen acutely with opiates, including nausea, vomiting, constipation, excessive sweating, and decreased sexual

interest (194). The possibility of acute overdose, especially with sedative-hypnotics during the beginning of LAAM's treatment, is one of LAAM's major problems. Patients should be especially warned against using additional opiates and central nervous system depressants, such as alcohol, for several hours after taking LAAM (194).

Biometrics Research Institute has recently been awarded a NIDA contract to sponsor LAAM through the remainder of its required FDA approval and to undertake the manufacturing and marketing of the drug (35). If approved by the FDA, LAAM would provide an additional agonist besides methadone to treat narcotic abuse.

Pharmacotherapy for Cocaine Abuse

Although FDA has approved no medications for the treatment of cocaine abuse, NIDA is investigating numerous possibilities (see table 3-1). Most of these drugs are only in the early stages of development, and more research is needed to understand exactly whether and how they work to combat cocaine abuse. Many researchers feel that the potential effectiveness of these medicines lies in their ability to reduce the intense craving for cocaine that abusers experience during and after withdrawal (303). Although not much is known about the specific physiological mechanisms that induce craving, neurotransmission (the body's means of translating experience into sensations) is thought to play an important role. Three neurotransmitters have been implicated in the psychoactivity and withdrawal from stimulants: dopamine, norepinephrine, and serotonin (178). Researchers hypothesize that in order to reduce the pleasurable effects of cocaine, and thus the craving for the drug medications will have to counter the effects of cocaine on neurotransmission, possibly by altering the production or reception of dopamine (303).

Many of the drugs under investigation for cocaine abuse treatment are FDA-approved for other illnesses. The most promising of these drugs have been antidepressants, such as desipramine and imipramine (303). Although research data are limited, initial clinical trials have suggested that desipramine offers promise as a way of initiating

abstinence and the process of recovery in cocaine-dependent outpatients by decreasing cocaine use and craving (115,117,176). Desipramine therapy represents a new class of substance abuse treatment that speeds the recovery of the central nervous system (117).

Pharmacotherapies for Polydrug Abuse

Although the efficacy of methadone treatment for controlling opiate abuse has been well documented (see ch. 4), many clinicians have observed that methadone alone is poorly suited to control concurrent cocaine, alcohol, or other drug abuse among opiate addicts (182,184). Although methadone blocks the euphoria produced by heroin through cross tolerance, cocaine euphoria is not dampened by methadone (184).

Buprenorphine has been the most promising drug under development for users of both heroin and cocaine. Buprenorphine is a partial agonist, meaning that it has less agonist effect as the dose of buprenorphine increases (35). Researchers have hypothesized that the effectiveness of buprenorphine lies in its ability to deprive cocaine users of the relief that heroin use can provide in alleviating post-cocaine depression, thus indirectly making cocaine use less enticing. Like methadone, one dose of buprenorphine blocks withdrawal symptoms for 24 hours. Buprenorphine also offers two improvements over methadone. Buprenorphine has less chance of stimulating an illicit market, because its agonist effect is weaker than methadone's, and it entails a smaller chance of overdose (211).

Because depression appears to be associated with escalating cocaine use among methadone patients, desipramine and other antidepressants may also be helpful in treating cocaine-abusing, methadone-treated patients (184).

Drug-Free Treatment Approaches

Unlike detoxification and other pharmacotherapies, which rely on medications to treat withdrawal, drug-free treatments have traditionally allowed the use of chemical agents for only medical or psychiatric reasons. Because detoxification should be completed before entry into drug-free programs

and clients should be considered manageable without the use of medications, the emphasis of these programs has been on developing a responsible drug-free lifestyle, not on managing the withdrawal process.

Therapeutic Communities (TCs)

The first well-known self-help TC was Synanon, which started in 1958. Daytop Village, Phoenix House, and many other residential TCs have patterned themselves after the general Synanon approach. The philosophy behind the TC is the belief that drug abuse is a disorder of the whole person, reflecting psychological dysfunction affecting some or all areas of function, including chronic deficits in social and occupational skills (76,155). Unlike pharmacotherapies, which consider drug abuse a medical condition, TCs view abuse as a symptom of underlying personality and behavioral problems that can and should be changed.

Cole and James identified three approaches to residential TCs that are distinguished by length of treatment and treatment goals (61).

- **Traditional TCs** generally entail at least 15 months in treatment. The primary goal of traditional TCs is a complete change in lifestyle, reflected in abstinence from drugs, elimination of antisocial (criminal) behavior, and development of employable skills, self-reliance, and personal honesty (83). The abuser's return to society as a productive and independent individual (habilitation and rehabilitation) is regarded as feasible and is encouraged.
- **Modified TCs** usually last 6 to 9 months. The modified TC approach has more limited goals that emphasize leading a drug-free life and acquiring practical skills to help the abuser function in society (149).
- **Short-term TCs** typically last 3 to 6 months. This type of TC does not emphasize resocialization, but instead concentrates on eliminating drug use, reestablishing family relations, and developing useful skills (149).

Residential TCs are distinguished from other treatment modalities by their highly structured approach. Members are assigned work duties, participate in group counseling, recreational, and other

activities, and attend educational and vocational training. The community itself functions as the primary therapeutic milieu. TCs have historically relied on program graduates who are ex-abusers to act as counselors, administrators and, most importantly, as role models for incoming clients. Increasingly, however, as the spectrum of individuals entering TCs has broadened, non-TC persons are constituting a larger portion of the staffing, both clinical and auxiliary (155). Confrontation and peer pressure are commonly used to socialize individuals into more productive behavior.

Within the general TC structure, individuals are expected to pass through basic phases of treatment. The Phoenix House Program in New York City, the nation's largest TC treatment system, leads residents through three phases of treatment (76). In the *Induction Phase* (lasting 1 to 30 days), members are oriented to the concepts, rules, and resources of the TC. Individuals are assessed according to the extent of psychological disturbance and social deficits rather than by patterns or types of drug use as is common in pharmacotherapy modalities (76). During the *Primary Treatment Phase* (2 to 12 months of residency), members work toward the achievement of social and psychological goals through participation in daily activities. The principles of self-help (the person's readiness and commitment to change), motivation (the use of positive and negative pressures to change), and social learning (the emphasis on lifestyle changes, increased social responsibility, and establishment of new social contacts) are all considered essential to the rehabilitative approach (76). Finally, the *Re-entry Phase* (13 to 24 months) emphasizes vocational, educational, and job development skills (emphasis varies depending on the program) in addition to work and group therapy. Ways to deal with the stresses and frustrations that will occur when patients leave the program are dealt with during this final phase of treatment (76).

Unlike methadone maintenance programs, which are only applicable to narcotic abusers, residential TCs serve a wider variety of patients (149,170). According to a study by Hubbard et al., residential clients were somewhat more likely to be male and to have been more criminally active (probably reflecting the courts preference for this modality as a

referral for individuals involved with the criminal justice system) and heavy alcohol users before entering treatment (149). Compared with outpatient methadone maintenance and ODF clients, residential clients were least likely to be married, perhaps indicating the difficulty married clients have leaving their families to live in a 24-hour residential facility.

Outpatient Drug-Free (ODF) Treatment

ODF programs represent a diverse collection of programs with little in common beyond their drug-free approach and outpatient setting. ODF programs were originally developed as a low cost alternative to residential care, to serve nontraditional, nonopiate abuser clients (13). The primary goal of ODF programs is abstinence from illicit drugs. These programs typically offer short-term treatment (less than 6 months), encourage involvement with self-help groups, such as AA, and make referrals to community agencies for health, educational, housing and other services rather than providing those services in house. Like TCs, ODF programs vary in their approaches and intensity.

As noted earlier, day care, evening care, and halfway houses are becoming more common. Other types of ODF programs include mental health treatment centers, vocational programs, and family therapy for adolescents (203).

ODF clients have been more likely to be white, better educated, and seeking treatment for the first time than clients of other treatment modalities (149). Again, some of these generalizations about client characteristics may be confounded by the geographic location of ODF programs.

Other Inpatient Programs

The two main types of inpatient programs are "12 step" and psychiatrically-oriented programs (170).

Developed in the 1950s for the treatment of alcoholism, the Minnesota Model or "12-step" approach is becoming more common, especially since the onset of the cocaine epidemic (105). These short-term residential facilities provide intensive structured treatment for chemically dependent individuals. The programs typically operate in hospitals

or free standing units and last from 25 to 35 days (357). The counseling and other activities of these programs are derived from AA's "12 steps to recovery," which include the admission of addiction, acknowledgement of one's impotence to stop it without the help of a higher power, and the need to confront the harm one has done (105).

In an analysis of inpatient treatment programs in Minnesota, the typical client was noted to be a white male, 18 to 29 years of age, who has never been married and who has obtained a high school diploma (357). Following completion, patients are usually referred to AA or Cocaine Anonymous groups. Inpatient residential programs are almost exclusively private and are not part of the publicly funded treatment system (105). They have been used primarily to treat alcoholics and more recently to treat cocaine abuse. An explanation for the scarcity of narcotics abusers in this modality is that some residential programs are not able or willing to use methadone and may not want to wait to detoxify heroin addicts (35).

Psychiatric inpatient programs appear to be geared towards older or middle class drug abusers, adolescents drug users, and drug abusers with significant psychiatric problems (170). These programs usually begin with detoxification, followed by a variety of approaches (e.g., individual, group, and family counseling; education; required attendance at AA, Narcotics Anonymous, or Cocaine Anonymous meetings), and typically last between 4 to 12 weeks (170).

Self-Help Groups

These mutual-support groups grew out of the 12-step philosophy of AA programs. Most AA, Narcotics Anonymous, and Cocaine Anonymous programs are based on volunteer activities run by recovering abusers and are rarely linked to established social service agencies (149). Although self-help programs can be the primary source of treatment for some abusers, they also can serve as adjuncts or aftercare to other, more intensive treatment programs. The philosophy that underlies these programs is that there is no cure for drug dependence and that even if a drug-dependent

person is no longer abusing drugs, she or he will always live with that dependence. One of the hallmarks of AA programs is that they do not believe in treating chemical dependencies with chemicals, but rather stress social and community support.

The Role of Multimodality Treatment

The forerunners of the relatively new and still infrequent multimodality programming were experimental treatment programs run by Jerome Jaffe in Chicago and Herbert Kleber in New Haven. These programs had a central admission unit where abusers received information about treatment options and were evaluated by staff to determine which program seemed best for the patient (170). The multimodality process offers the possibility of transferring patients between programs as their needs indicate (170). This approach has the added benefit of facilitating standard assessment procedures that can enhance evaluation and research (170). Such treatment systems, though in their infancy, move toward achieving what many experts find extremely desirable, a treatment system that is integrated, comprehensive, flexible, and based on a long-term case management approach (11).

TREATMENT PROGRAMS IN THE UNITED STATES

Introduction

The number of treatment facilities for drug abuse in the United States is not well documented, and information on private clinics and self-help programs is especially limited (13). Information on the cost of drug treatment is also scarce. Two national surveys provide the most useful information available on substance abuse treatment centers, namely the National Drug and Alcoholism Treatment Unit Survey (NDATUS) and the State Alcohol and Drug Abuse Profile (SADAP). Both NDATUS and SADAP analyze data voluntarily submitted from States and report current information on funding, services provided, client characteristics, and other important issues regarding treatment for abuse of alcohol and other drugs. NDATUS is a point-prevalence survey that reports on clients in public and private treatment at a point in time. SADAP surveys State alcohol and drug abuse directors about admissions to programs

that received public funds during the previous fiscal year. Because any one person could have multiple admissions during the year, SADAP does not reflect the number of people in treatment.

NDATUS: Description and Results

NDATUS is conducted with the cooperation of NIDA, the National Institute on Alcohol Abuse and Alcoholism (NIAAA), the Veterans Administration, the Federal Prison System, and the State Alcohol and Drug Agencies (332). NDATUS has been conducted periodically since 1973. The most recent NDATUS report is based on information collected from treatment programs as of October 30, 1987. Although the capability of the Federal Government for routine monitoring of treatment clients was eliminated in 1981 with the advent of the Federal block-grant program, that capability was restored with the Anti-Drug Abuse Act of 1988 (Public Law 100-670), which mandates States to collect client data as well as annual surveys (NDATUS) of services provided in drug treatment programs. Information on the location and type of the treatment units, sources of funding, client characteristics, client capacity, and utilization is collected from alcohol and other drug treatment programs in all 50 States, the District of Columbia, and Puerto Rico. NDATUS is the only survey that includes privately as well as publicly funded programs. One of the primary uses of NDATUS is to update NIDA's master file of all known alcoholism and other drug treatment and prevention facilities. This list is used to provide referrals to persons seeking help for drug dependency problems (332).

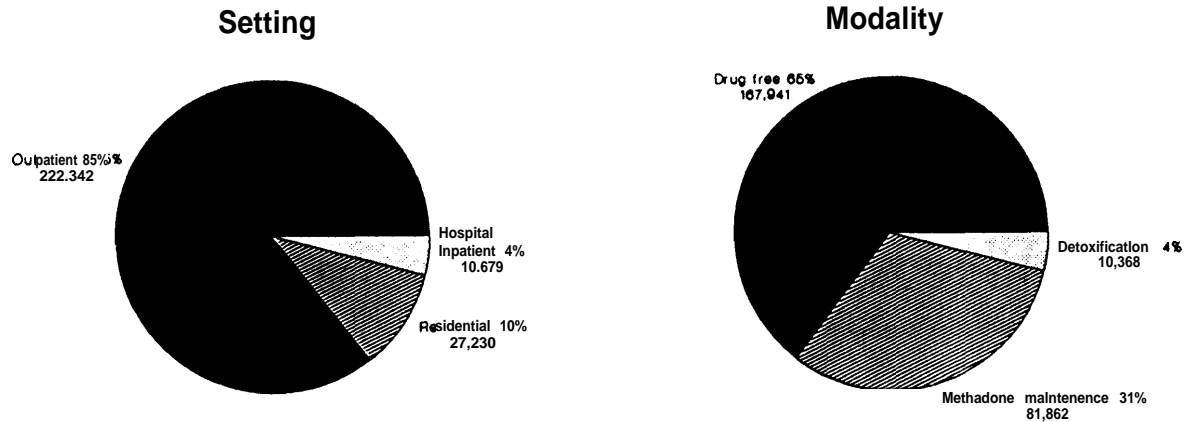
According to the latest NDATUS report, in October 1987, 1,075 units for the treatment of drugs of abuse other than alcohol and 4,083 combined alcohol and other drug units were serving 263,510 drug abuse clients (332). A total of 4,403 units reported funds for drug abuse treatment totaling \$1.31 billion. State funds (including Alcohol, Drug Abuse, and Mental Health Services (ADMS) block

grants⁴) accounted for the highest proportion (27.1 percent) of drug treatment funds that the centers received. Federal funds other than block grants accounted for 3.6 percent; local government and State/local government fees for services 10.6 percent; other public funds, including public welfare and public third-party payers 14.9 percent; private funds, including donations, private third-party payers, and client fees 40.6 percent; and other funds 3.1 percent (see app. G for 1989 NDATUS results).

A total of 5,015 units (1,067 drug abuse units and 3,948 combined alcohol and other drug abuse units) provided information on budgeted capacity, utilization rates, and treatment modality. These units reported 260,151 drug abuse clients in treatment in October 1987. A very high proportion of these clients (85.5 percent) were served in outpatient settings (figure 3-1). The treatment modality serving the largest number of drug abuse clients was drug-free treatment, which includes drug-free treatment in both outpatient and inpatient settings, (64.5 percent), followed by methadone maintenance (31.5 percent) and detoxification (4.0 percent) (figure 3-1). Utilization rates (percent of capacity filled) varied considerably by treatment modality, from 89.3 percent in methadone maintenance to 76.8 percent in drug-free treatment and 55.9 percent in detoxification programs. According to drug treatment center ownership, private, non-profit units accounted for the largest number of drug treatment units, treated the largest number of clients, and had the largest capacity (see table 3-2). The lowest total utilization rate among drug treatment only units was observed among private, for-profit units (73.2 percent), while the highest utilization rate was for private, non-profit units (94.0 percent), followed by public, State/local units (93.7 percent) (table 3-2).

4 The Omnibus Reconciliation Act of 1981 (Public Law 97-35) provided that ADMS block grants be administered by the individual States rather than using NIDA to administer funds (292).

Figure 3-1--Drug Abuse Clients in Treatment by Setting and Modality According to the National Drug and Alcoholism Treatment Unit Survey (NDATUS),^a Oct. 30, 1987



^aNDATUS reports information collected from both privately and publicly funded alcohol and other drug treatment programs. These data were reported by 5,015 units (1,067 drug treatment only units and 3,948 combined alcohol and other drug treatment units).

SOURCE : U.S. DHHS, NIDA and NIAAA (332)

Table 3-2--Information on Drug Abuse Treatment Units, from the National Drug and Alcoholism Treatment Unit Survey (NDATUS),^a Oct. 30, 1987

Unit orientation	Unit ownership				Total
	Private		Public		
	For-profit	Non-profit	State/local	Federal	
Drugs other than alcohol					
Number of units	83	705	266	13	1,067
Number of clients	14,372	87,843	39,202	1,846	143,263
Budgeted capacity	19,629	93,426	41,844	2,286	157,185
Percent of capacity used.....	73.2	94.0	93.7	80.8	91.1
Alcohol and Other Drugs Combined					
Number of units	645	2,595	604	104	3,948
Number of clients	14,498	71,235	24,875	6,280	116,888
Budgeted capacity	27,621	105,154	30,699	8,179	171,653
Percent of capacity used.....	52.5	67.7	81.0	76.8	68.1
Total					
Number of units	728	3,300	870	117	5,015
Number of clients	28,870	159,078	64,077	8,126	260,151
Budgeted capacity	47,250	198,580	72,543	10,465	328,838
Percent of capacity used.....	61.1	80.1	88.3	77.6	79.1

^aNDATUS is a point-prevalence survey that reports information collected from both privately and publicly funded alcohol and other drug treatment programs. Data in this table relate only to units that reported budgeted capacity.

SOURCE: US DHHS, NIDA and NIAAA (332).

NDATUS data support the findings that residential and inpatient clients tend to be younger than outpatient clients and that the proportion of females is lower in inpatient settings. Overall, two-thirds of the clients for whom sex was known were males. Blacks represented about one-fourth and Hispanics about one-sixth of the drug abuse clients for whom race or ethnicity was known, with the proportion of blacks and Hispanics especially high in methadone maintenance programs.

Overall, the estimated 110,816 intravenous (IV) drug users represented 42.1 percent of the total number of drug abuse clients (332). Although just 17.3 percent of clients in drug-free treatment were IV drug users, the percentages were much higher in detoxification and methadone maintenance programs, 43 percent and 90 percent, respectively.

SADAP: Description and Results

The other national survey on drug abuse centers in the United States is SADAP, which has been conducted annually since 1984. SADAP is based on a National Association of State Alcohol and Drug Abuse Directors (NASADAD) survey of State alcohol and drug abuse agencies regarding alcohol and other drug abuse treatment expenditures and admissions. Unlike NDATUS, which collects information on both private and public treatment facilities, SADAP looks only at those programs that received at least some funds administered by the State alcohol and drug agency (45). Although a substantial number of programs are not captured in the State reports, SADAP results represent the majority of programs using public funds (13). NASADAD receives support for SADAP activities from NIAAA and NIDA.

Forty-eight States, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands participated in the fiscal year 1988 SADAP. According to reports from the alcohol and drug abuse agencies in these States and territories, 1,614 drug treatment units other than alcohol units and 3,506 combined alcohol and other drug treatment units received State alcohol and drug abuse agency funds in fiscal year 1988 (see table 3-3 for the number of drug treatment units in 1988 according to State) (45).

In 1988, 518,851 drug client admissions were reported by agencies in 47 States, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands (45). Although drug use and client treatment admission patterns vary greatly across States, some general patterns emerge. In terms of treatment setting, nearly 70 percent of client admissions were to outpatient settings and 23 percent were to residential facilities (figure 3-2). Client admissions by treatment modality showed that 69 percent of clients were admitted to drug-free treatment programs, almost 20 percent to detoxification programs, and 10 percent to methadone maintenance programs (figure 3-2). Two-thirds of admissions to drug treatment were males, while 52.7 percent were white, 25.3 percent were black, and 11.8 percent were Hispanic.⁵

In 1988, cocaine surpassed heroin as the drug that clients entering drug treatment cited most often as the primary drug of abuse (139,663 v. 116,854) (45). Cocaine admissions as the primary drug of abuse were up 55 percent in fiscal year 1988, while heroin admissions increased 19 percent during the year. States varied in their drug abuse patterns. Cocaine was the primary drug of abuse other than alcohol related to treatment admissions in 18 States, the District of Columbia, and the Virgin Islands; heroin was the primary drug of abuse in 8 States, Guam and Puerto Rico; and marijuana and hashish was the primary drug of abuse in 15 States.

For fiscal year 1988, 43 respondents reported 162,929 IV drug abuser admissions to State-funded programs. According to estimates from 36 States, the District of Columbia, and Guam, the total number of IV drug abusers across the country was greater than 1.3 million (table 3-4) (45). The highest estimates of IV drug abusers were provided by New York (260,000), California (222,000), and Pennsylvania (115,000), while the lowest estimates were provided by West Virginia (200), Nebraska (870), and Maine (950).

⁵Asian or Pacific Islanders accounted for 0.4 percent of admissions, Native Americans 0.9 percent, and others 0.4 percent. The percentage of clients that did not specify race/ethnicity was 8.4 percent (45).

Table 3-3-Number of Alcohol or Drug Treatment Units by State Alcohol or Drug Agencies According to the State Alcohol and Drug Abuse Profile Data (SADAP), Fiscal Year 1988

State	Alcohol treatment units	Other drug treatment units	Combined alcohol/other drug treatment units	Total treatment units
Alabama	22	6	67	95
Alaska	0	2	39	41
Arkansas	26	18	112	156
California	635	282	0	917
Colorado	51	6	35	92
Connecticut	27	32	37	96
Delaware	4	4	7	15
District of Columbia		14	8	26
Florida	NA.	NA.	105	105
Georgia	0	4	41	45
Guam	0	0	1	1
Hawaii	1	1	16	18
Idaho	0	0	45	45
Illinois	166	70	34	270
Indiana	0	0	60	60
Iowa	0	0	30	30
Kansas	2	1	40	43
Kentucky	0	0	132	132
Louisiana	0	0	43	43
Maine	0	0	39	39
Maryland	93	154	85	332
Massachusetts	0	7	241	248
Michigan	0	0	283	283
Minnesota	0	0	232	232
Mississippi	26	0	53	79
Missouri	2	4	62	68
Montana	1	3	26	30
Nebraska	0	0	118	118
Nevada	5	1	20	26
New Hampshire	0	5	29	34
New Jersey	151	69	16	236
New Mexico	NA.	NA.	NA.	NA.
New York (A)	311	0	59	370
New York (D)	0	544		544
North Carolina	23	7	41	71
North Dakota	0	0	11	11
Ohio	103	151	67	321
Oklahoma	NA	NA.	48	48
Oregon	32	4	90	126
Pennsylvania	26	21	276	323
Puerto Rico	12	146	3	161
Rhode Island	15	9	22	46
South Carolina	2	0	38	40
South Dakota	0	0	25	25
Tennessee	0	0	48	48
Texas	2	0	101	103
Utah	8	1	53	62
Vermont	0	0	23	23
Virgin Islands	NA.	NA.	4	4
Virginia	17	12	58	87
Washington	35	29	72	136
West Virginia	0	0	70	70
Wisconsin	0	2	322	324
Wyoming	NA.	NA.		NA.
Totals	1,806	1,614	3,506	6,929
Percent of total	26.1%	23.3%	50.6%	100.0%

ABBREVIATION: NA. = Information not available.

SOURCE: Butynski, CanOva, and Jensen (45).

Table 3-4-Estimated Admissions of IV Drug Abusers and Total IV Drug Abusers, by State, Fiscal Year 1988^a

State	Estimated number of admissions of IV drug abusers		Total number of IV drug abusers
	State-funded programs	Other programs	
Alabama	NA	NA	10,250
Alaska	564	118	3,410
Arizona	2,336	NA	38,263
Arkansas	815	NA	8,150
California	38,058	29,071	222,000
Colorado	819	NA	12,000
Connecticut	4,833	241	35,000
Delaware	1,489	NA	13,368
District of Columbia	2,638	NA	16,000
Florida	8,511	3,059	65,614
Georgia	4,600	NA	27,600 ^c
Guam	8	0	75
Hawaii	446	NA	10,000
Idaho	630	NA	28,17
Illinois	5,994	695	92,000
Indiana	2,026	4,233	28,220
Iowa	1,294	1,200	20,783
Kansas	700	1,255	NA
Kentucky	330	NA	5,000
Louisiana	NA	NA	NA
Maine	NA	NA	950
Maryland	8,105	1,439	42,000
Massachusetts	10,044	2,000	40,000
Michigan	4,000	3,000	NA
Minnesota	1,500	1,500	4500
Mississippi	NA	NA	NA
Missour	2,500	4,900	22,000
Montana	600	NA	2,500
Nebraska	218	NA	870
Nevada	870	200	5,800
New Hampshire	220	352	9,843
New Jersey	7,125	250	40,000
New Mexico	NA	NA	NA
New York	14,970	2,208	260,000
North Carolina	NA	NA	NA
North Dakota	NA	NA	50,100
Ohio	1,047	NA	NA
Oklahoma	NA	NA	NA
Oregon	2,253 ^d	NA	25,000
Pennsylvania	12,500	200	115,000
Puerto Rico	4,942	NA	NA
Rhode Island	1,649	NA	8,245
South Carolina	1,000	NA	NA
South Dakota	112	41	1,530
Tennessee	1,729	NA	NA
Texas	4,807	4,800	60,000
Utah	840	NA	NA
Vermont	60	NA	NA
Virgin Islands	NA	NA	NA
Virginia	2,400	NA	NA
Washington	NA	NA	25,000
West Virginia	172	NA	200
Wisconsin	3,175	125	21,000
Wyoming	NA	NA	NA
T o t a l	162,929 ^e	60,887 ^f	1,344,788 ^g

^a Figures were compiled from estimates provided by State alcohol and drug agencies.

^b Methadone clients only.

^c Admissions only for metro Atlanta.

^d Excludes IV drug abusers in drug detoxification.

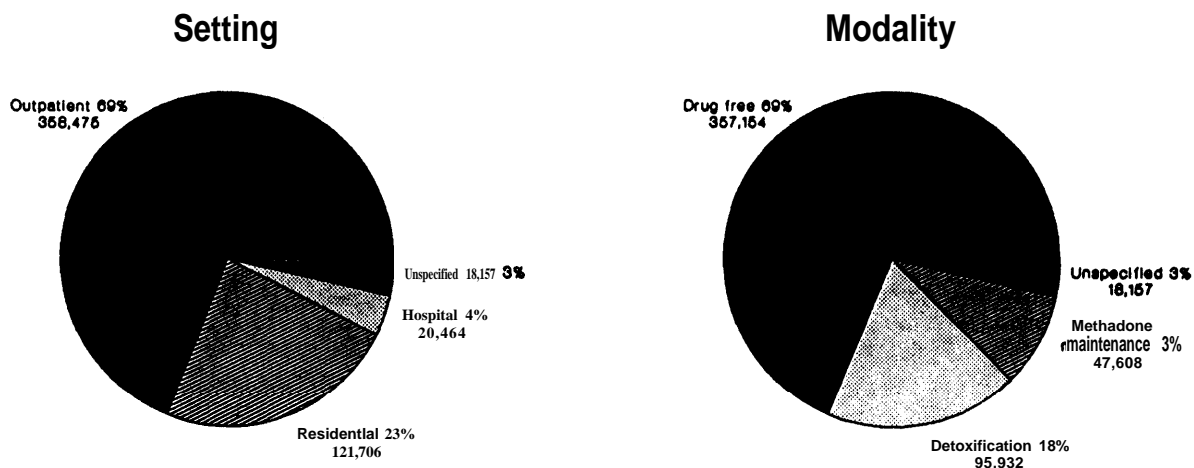
^e Based on responses from agencies in 40 States, the District of Columbia, Puerto Rico, and Guam.

^f Based on responses from 21 States and Guam.

^g Based on responses from 36 States, the District of Columbia, and Guam.

SOURCE: State Alcohol and Drug Abuse Profile, FY 1988 as cited in Butynski, Canova, and Jensen (45).

Figure 3-2--Admissions of Drug Abuse Clients by Setting and Modality According to the State Alcohol and Drug Abuse Profile (SADAP),^a Fiscal Year 1988



^aIncludes data only for programs that received funds from State alcohol and drug agencies. Based on data collected from 46 State agencies, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

SOURCE: U. Butynski, D. Canova, and S. Jensen (45).

Data submitted from 25 States, the District of Columbia, and Puerto Rico indicate that many States already have high rates of HIV infection among IV drug abusers (rates of infection were estimated to be as high as 60 percent in New York, New Jersey, and Puerto Rico) (45). Furthermore, these rates varied tremendously both across and within States. A total of 19 State agencies reported having at least one drug treatment program plan or model program on HIV and acquired immunodeficiency syndrome (AIDS) (ranging from State policies on AIDS and HIV/AIDS transmission prevention programs to surveys of AIDS-related knowledge).

Some of the most frequently mentioned policy issues identified by respondents to NASADAD'S

1988 SADAP data collection effort include needs in the following areas:

- o new or expanded **treatment services (48 states)**;
- o prevention and treatment services **for Special populations** (e.g., indigent, homeless, polydrug users, women, and criminal justice clients) (23 States);
- o funding and improved **resource allocation (19 States)**;
- o prevention and treatment services **for youth (16 States)**; and
- o expanded services related specifically to AIDS and N drug users (16 States) (45).

The Extent of ***HIV Testing and Counseling***

As of April 1990, the Centers for Disease Control (CDC) supported 63 HIV prevention programs

through the health departments in 50 States, 4 cities, the District of Columbia, 7 territories, and Puerto Rico (342).⁶ CDC funds States and cities for HIV prevention and HIV/AIDS surveillance activities through cooperative agreements. The total dollar amount earmarked for counseling, testing, and partner notification for all types of sites was \$89.24 million for fiscal year 1989. Of this total, drug treatment centers received 15 percent (\$13.5 million) for HIV counseling and testing and an additional \$5.0 million for health education and risk reduction (including street outreach) (350). In fiscal year 1990, \$98.87 was awarded to all sites for these activities, with 15 percent (\$15.056 million) going to drug treatment centers for HIV counseling and testing and \$4.3 million for health education and risk reduction.

From 1985 through 1989, the number of counseling and testing sites in the 63 programs increased from 1,577 to 5,013. Despite the fact that drug users are at high risk for HIV infection in 1989, only 173 (3.5 percent) of these sites were in drug treatment centers. The percentage of counseling and testing sites in other settings included:

- free-standing HIV counseling and testing sites (25.9 percent)
- sexually transmitted diseases clinics (17.5 percent),
- family planning clinics (12.6 percent),
- other health department sites (10.4 percent),
- prenatal/obstetric clinics (10.1 percent),
- tuberculosis clinics (8.8 percent),
- private physicians offices and clinics (3.7 percent),
- other nonhealth department testing sites (3.2 percent),
- prisons (2.2 percent),
- colleges (0.6 percent), and
- unclassified facilities (1.6 percent) (342).

⁶In addition to the HIV counseling and testing sites included in the CDC programs, a large but unknown number of persons are tested in hospitals, outpatient medical facilities, physicians' offices, blood donation centers, military facilities, and other settings (342).

As of July 1990, at least 253 drug treatment centers throughout the country were providing HIV counseling and testing (113). In New York City, approximately 2 percent (13 out of 713 drug treatment centers) provide HIV counseling and testing, while in the State of Connecticut, as many as 24 percent (9 out of 37 drug treatment centers) provide such services (350) (table 3-5). It is not uncommon, however, for programs to refuse to admit drug abuse clients if they test positive for HIV infection (87).

Shortages of Treatment Slots

In certain areas of the country with large numbers of drug abusers, especially in large metropolitan areas, publicly funded treatment programs are filled to capacity. Waiting lists for admission to treatment programs are one indication that the treatment system is not meeting the demand for treatment. During this waiting period, many intravenous drug abusers continue to put themselves at risk of contracting and spreading HIV by using drugs intravenously, and may also lose their resolve to enter treatment. There are several problems, however, with using waiting lists to measure unmet demand for treatment. Waiting lists may underestimate shortages of treatment slots to the extent that lengthy lists deter drug abusers from applying. Programs are also not required to keep waiting lists, and some programs that do keep them stop adding to the list after a certain point.

Table 3-5--Drug Treatment Centers Providing Human Immunodeficiency Virus (HIV) Counseling, Testing, and Partner Notification in Selected States and New York City, 1990

State/city	Number (percent) of drug treatment centers with HIV services	Total number of drug treatment centers
Connecticut	9 (24%)	37
Florida	23 (11%)	216
Houston	6 (8%)	79
New York City	13 (2%)	713
Texas	27 (7%)	365

SOURCE: US DHHS, CDC (350).

Despite these limitations, waiting lists do provide a measure of the unmet demand for treatment. The most recent national information available is from a NASADAD survey conducted in September 1989. Estimates from respondents of 44 States and the District of Columbia put the total number of people on treatment waiting lists at almost 67,000 (table 3-6) (252). Approximately 50 percent of those on waiting lists had been waiting for treatment for at least 30 days. New York, New Jersey, and the District of Columbia estimated that the average time between request and admission to outpatient programs was two months and Michigan estimate it to be three months. Several other States indicated that waiting lists for outpatient drug treatment was not a problem. Estimates of the time between request and admission to residential programs were generally longer than for outpatient treatment, with several States indicating average waiting times of three to four months.

Information on the Cost of Treatment

Treatment costs vary across cities and programs due to differences in staff salaries, cost-of-living, specific services provided, the age and type of building, and other related factors (217). Few estimates of program costs are available. In addition, existing cost estimates are often outdated, based on a limited number of programs, or only the best guesses of treatment experts (359). Besides cost per day and cost per year estimates, cost per treatment episode is also relevant, as the average length of treatment varies by modality. Suggestions for improving measures of drug treatment costs and a review of current cost estimate research efforts are presented in Wallack's testimony before the House Government Operations Committee in April 1990 (359). Past estimates have suggested that, per person, the cost of residential drug treatment is about three times the cost of outpatient methadone or ODF treatment (149,359).

From a meeting of experts sponsored by NASADAD in September 1987, the estimated annual cost of drug treatment per treatment slot for needle users was \$2,300 for ODF treatment, \$3,000 for outpatient methadone maintenance, \$14,600 for adult non-hospital residential drug-free treatment, and \$18,000 for adolescent non-hospital residential drug-free treatment (252). Average length of stay was not taken into account in these estimates.

Table 3-6-Estimates of Waiting Lists for Alcohol and Other Drug Treatment, Sept. 29, 1989^a

	Total number on waiting list	Estimated average days between request for and admission to treatment	
		Outpatient	Inpatient
Alaska	386	14	66
Arizona	4,418	36	79
Arkansas	246	0	22
California	6,000	NA	NA
Connecticut	1,100	10	15
Delaware	575	49	120
District of Columbia . . .	773	60	90-120
Florida	2,040	30	60-90
Georgia	1,000	0	21
Hawaii	200	7	14
Idaho	240	15	25
Indiana	1,285	21	24
Iowa	1,892		30
Kansas	250	5-10	30-45
Kentucky	659	30	16
Louisiana	1,500	7	38
Maine	1,200	14-21	0-90
Maryland	3,350	40	30
Massachusetts	1,200	14	45
Michigan	7,500	90	120
Minnesota	198	3	25
Mississippi	556	37	18
Missouri	898	14	45
Montana	300	10	60-90
Nebraska	100	3	m
Nevada	750	10	40
New Hampshire	200	14	40
New Jersey	1,593	59 ^c	
New Mexico	485	6	13 ^d
New York - drug	4,891		
New York - alcohol	2,166	NA	NA:
North Carolina	2,096	10	22
North Dakota	135	7	50-60
Ohio	1,208	26	35
Oregon	2,887	3-5	14-30
Pennsylvania	1,500	51	56
Rhode Island	500	NA	45-60
South Carolina	300-500	NA	
Texas	1,277	NA	NA
Utah	330	21	NA
Vermont	108	14	20
Virginia	2,829	NA	NA
Washington	115	2	30
West Virginia	110	34	65
Wisconsin	5,070	15-25	20-40
Wyoming	300	15-30	
Total	66,766	(ave.) 22	(ave.) 45

ABBREVIATIONS: ave. = average; NA = not available.

^a Voluntary reports from public and private treatment Programs in 44 States and the District of Columbia. Waiting lists most likely underestimate the number who cannot obtain treatment because of a shortage of treatment positions (see text).

Percent waiting at least 30 days is for public residential pro-

^c Average for outpatient and residential.

Waiting list number reflects survey of 89 percent of publicly funded programs.

SOURCE: Rua (252).

SUMMARY OF THE FINDINGS

The diverse treatment needs of drug abusers have led to the development of a variety of treatment modalities and programs in the United States. The primary treatment modalities have been methadone maintenance for opiate abusers (primarily heroin abusers) and residential TCs and ODFs for both opiate and nonopiate abusers.

The treatment system has evolved somewhat during the past decade, partly in response to the spread of HIV, the increasing number of cocaine abusers, and innovative treatment approaches are being tried. Research is currently underway to develop medications for treatment of cocaine for which no effective medications currently exists and to develop alternative medications for treatment of heroin addiction. In addition to methadone maintenance, several other pharmacological treatments have been developed based on an understanding of the basic neurology of opiate dependence, including clonidine for detoxification, rapid detoxification using naltrexone with clonidine, and reduction in opiate dependence using the partial agonist buprenorphine (178). One of the pharmacotherapies that has shown promise in reducing cocaine craving and use is the antidepressant desipramine. A diverse group of ODF programs and short-term inpatient programs are also becoming more popular.

Needs for services concerned with AIDS are more likely to appear in methadone treatment than in ODF programs (240). Methadone maintenance programs serve drug users at highest risk of HIV infection, including intravenous heroin users and an increasing number of intravenous cocaine users. Since methadone maintenance programs operate as outpatient facilities, the annual cost per treatment slot for needle users is much lower than that of residential programs, by one estimate, \$3,000 compared with \$14,600 (252).

Several States do not have methadone programs. In 1988, at least 8 States had no methadone programs and 3 States had methadone detoxification but

no maintenance (213). Federal, State, and individual program policies regulate allowable methadone dosage; a thorough evaluation of State regulations of methadone programs would greatly enhance understanding in this area (214). It appears that only a small number of drug treatment programs (about 250) provide HIV counseling and testing despite the high risk that drug users have of contracting HIV infection.

Total clients in treatment programs according to NDATUS in October 1987 was about 260,000, while the number of drug abuse admissions according to SADAP for fiscal year 1988 was about 519,000. Because SADAP is a voluntary survey and includes only programs that receive at least some funding from State alcohol and drug agencies, 519,000 should be considered an underestimate of the actual number of drug admissions during 1988. Both NDATUS and SADAP report that the vast majority of clients were enrolled in outpatient programs (85 and 69 percent, respectively) and that greater proportions were in drug-free treatment than methadone maintenance (65 v. 31 percent and 69 v. 9 percent, respectively).

In October 1987, IV drug users were 42 percent of all drug abuse clients reported through NDATUS. The percentage of IV drug-using clients was highest in the detoxification and methadone maintenance modalities (332). Estimates from 36 States, the District of Columbia, and Guam responding to the 1988 SADAP put the total number of IV drug abusers at 1.3 million, with estimates varying extensively by State. Rates of HIV infection among IV drug abusers varied as well, with estimates as high as 60 percent in New York, New Jersey, and Puerto Rico. The need for services related specifically to AIDS and IV drug users was listed as a top priority by 16 States (45). Although waiting lists have limitations as a measurement of unmet demand, they do provide an indication of the extent of the problem. One study showed that almost 67,000 drug abusers were on waiting lists to enter treatment programs, with some States having average time between interview and admission of 2 months or more (252).