WHITE PAPER

EFFECTIVENESS of SUBSTANCE ABUSE TREATMENT

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FOREWORD

We are seeing encouraging changes in society's way of thinking about substance abuse. Americans increasingly recognize that addiction is a disease with consequences that affect both physical and behavioral health.

Diagnostic and treatment services, too, have changed. Modern treatment, when adequately provided, enables a great many people to recover and rebuild productive lives.

It is important that the public be aware of evidence generated by scientific inquiry, clinical evaluation and clinical experience. The evidence demonstrates that treatment for alcohol and other drug abuse-works. Treatment not only saves lives; it also saves dollars that would otherwise be spent in other areas of medical care and social services.

The Department of Health and Human Services is dedicated to improving access and reducing barriers to high quality treatment programs for addictive disorders. Providing evidence of the efficacy of treatment, which this document does, helps to advance this mission. I hope this information ultimately will help individuals and their families—who know firsthand the benefits of substance abuse treatment.

Donna E. Shalala
Secretary of Health and
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INTRODUCTION

Despite considerable public discussion of the devastating consequences of alcohol and other drug addiction, misconceptions persist about addiction and its treatment. This report summarizes the fundamental facts that have emerged over decades of research and practice.

The impact of addiction cannot be fully understood without some context. This report turns to the dynamic and evolving science concerning addiction and its treatment. It provides necessary insight and illustrates the practical use of that knowledge with encapsulated overviews of promising alcohol and other drug treatment programs. It also focuses on real people with real problems. The short profiles found throughout this document were collected specifically for this report, and describe how people can overcome their problems with alcohol and other drugs.

DENNIS

"Residential drug treatment has changed my life. [Before entering treatment], I served seven years in various California prisons, forfeited a 4-year scholarship at a prestigious university, received a less than honorable discharge from the Navy, lived homeless for over ten years, became an alcoholic and a crackhead . . . Today, my relationship with my parents is remarkable . . . I have acquired a level of dignity and success that I never could have attained on my own. Today, I work at San Quentin Prison instead of live there . . ."

Substance abuse is a problem affecting all sectors of American society. It crosses all societal boundaries, in both urban and rural areas. It affects both genders, every ethnic group, and people in every tax bracket.

Today, we know that:

- Addiction is a chronic, relapsing disease that, like hypertension or diabetes, has roots in both genetic susceptibility and personal behavior;
- Although addiction has no known "cure", it can be controlled through treatment;
- Treatment for addiction is effective and becoming more so; and
- The costs of untreated addiction–violence and other crime, poor health, family breakup and other social ills–far exceed the costs of addiction treatment.

ADDICTION IS A DISEASE

MYTH:

Addiction is a bad habit, the result of moral weakness and over indulgence.

FACT:

Addiction is a chronic, life-threatening condition that has roots in genetic susceptibility, social circumstance and personal behavior.

Addiction is a common, potentially life threatening, chronic disease that affects approximately 10 percent of American adults and 3 percent of adolescents.[1] Biological predispositions, psychological and social factors lead to alcohol and other drug problems, despite serious consequences and individuals' desire to abstain.

It seems certain that no one experiments with alcohol and other drugs with the intention of becoming addicted. Although addictive drugs can produce intense and immediate pleasure, or reduce extreme anxiety, the price of pain the addict eventually pays is exacted more gradually.

The roots of addiction are both organic and environmental. Like hypertension, atherosclerosis, adult diabetes and other medical conditions, addiction is caused by genetic predisposition, social circumstances and such personal behaviors as sedentary lifestyle, poor eating habits, and uncontrolled stress. Interpersonal relationships also have an impact on substance use and abuse.

Certain drugs are highly addictive, rapidly causing biochemical and structural changes in the brain. Others can be used for longer periods of time before they begin to cause inescapable cravings and compulsive use. Some individuals have a greater tendency toward addiction than others. People with addictive disorders seek out alcohol and other drugs and use them compulsively, often in spite of their own best interests and intentions.

Addictive drugs wreak havoc on the body, attacking the liver, the lungs, the heart and the brain. As a result, although many addicts are able to hold jobs and maintain some semblance of normal lives, in the long term, all drugs of addiction have toxic effects—on the addicted individuals, their families, their communities, and on society as a

THOMAS

"I had bought a brand new house, owned my own structural steel business for several years, had everything in the world that a man would want . . .

I was a full blown addict by 1987 and started to get into trouble with my family. I kept spending all our money on my drugs. By 1989 I had depleted all of our funds and started to sell my material possessions. I had also started stealing to support my habit . . .

I was sent to a drug and alcohol treatment program [in prison] almost 2 years ago. It has saved my life. I am not the same man that came into this program. I never wanted to, or thought that I could, make it without drugs. Today, I realize that I can't make it with them. I am happier now than I have ever been in my whole life."

whole. Addictive use also opens the door to infectious diseases including tuberculosis, hepatitis and HIV/AIDS.

Like a malignancy, the effects of addiction spread to the entire social body, contributing to violence and crime, child abuse and neglect, homelessness and other social ills. The economic costs associated with alcohol and other drug problems are truly staggering; $165.5 billion in 1990.[2]

For example, without treatment, alcoholics spend twice as much on health care as people without alcohol problems.[3] Approximately half the cost of alcohol and other drug abuse treatment is offset within one year of subsequent reductions in the use of medical services by the affected family, not just the primary patient.[4] Two years after substance abuse treatment, one study documents a 40% reduction in health care costs to participants.[5]

Addiction has no known "cure," but many well-documented treatments can reverse or contain its devastating effects.

ADDICTION CAN BE TREATED

MYTH:

If an addict has enough willpower, he or she can stop using drugs.

FACT:

Few people addicted to alcohol and other drugs can simply stop using, no matter how strong their inner resolve. Most need one or more courses of structured substance abuse treatment to reduce or end their dependence on alcohol and other drugs.

Addiction is a debilitating condition with physical and mental causes and consequences. Diagnostic criteria for addiction, agreed upon by the American Psychiatric Association and the World Health Organization, include physical effects, such as marked tolerance and symptoms of withdrawal, and psychological consequences, including craving and a mental focus on obtaining and using drugs. Addiction fuels destructive behavior patterns that are exceedingly difficult to break.

Many Americans are in a "middle ground," not technically "addicted" but clearly having a problem. Anyone who regularly uses a mind-altering drug and finds it difficult to stop, even those who may not be "addicted," can benefit from substance abuse treatment.

Some individuals are able to stop using alcohol and other drugs on their own, with the assistance of family, friends, or other members of their community. Many more, however, need the help of specialized counseling, support and/or medical therapies. People with alcohol and other drug problems may also have underlying psychiatric conditions, such as depression or schizophrenia, which also must be diagnosed and treated.

Substance abuse treatment programs differ in philosophy, setting, duration, and approach. Most involve some combination of detoxification, rehabilitation, continuing care (often called "aftercare") and relapse prevention(See chart, p.8). Individuals may move through each of these phases more than once, revisiting certain activities as part of their recovery. The idea of a continuum of services is very important, where treatment is seen as an ongoing process involving several different but essential components. As in other areas of medical treatment, there are several different "levels of care" which allow individuals to be treated at the most appropriate level of intensity.

For example, the effectiveness of methadone treatment of opiate addicts has been established in many studies conducted over three decades. Methadone-maintained patients show improvement in a number of outcomes, after an adequate dose is established. Consumption of all illicit drugs, especially heroin, declines. Crime is reduced, fewer individuals become HIV positive, and individual functioning is improved. These outcomes reflect the three objectives of methadone treatment: assisting the individual addict, enhancing public safety, and safeguarding public health. Outcomes serving these

JOY

"In 1978 (I was 23) I was at a maintenance stage of my addiction. I was on methadone maintenance, working full time, and involved in very few illicit acts. That level of manageability ended when a state law was passed, resulting in major funding cutbacks for social services. The county cut its methadone program. Within 90 days I was readdicted to heroin and arrested for driving the getaway car in a bank robbery, and several armed robberies of stores and restaurants."

objectives are realized most often by the combined effects of the medication and the counseling provided by good treatment programs.[6]

Also important is the population in treatment. Individual characteristics including cultural background, primary language, and gender are all factors that influence entry into treatment and the design of treatment programs. Culturally- or gender-specific treatment services are crucial to meet the needs of cultural minorities and women, to provide services in a way most appropriate for these groups.

Taking cultural considerations into account is critical in improving services and opportunities for success for minority clients. Many drug treatment programs have difficulty recruiting, retaining, and successfully treating minority clients. Since cultural diversity among clients is likely to increase in the future, this consideration makes it very important that counselors systematically consider the client's ethnic and racial backgrounds during treatment.[7]

GENERAL PHASES OF TREATMENT INCLUDE:

Detoxification is the therapeutic, medically supervised withdrawal from the addictive effects of alcohol or other drugs. Physiologically, detoxification is usually complete within a few days. Craving and other physical and psychological symptoms of addiction, however, may persist for weeks or longer. Medications can reduce some of the discomforts of withdrawal or minimize medical complications. Detoxification stabilizes clients and allows them to move on to the next step of their recovery, but has little lasting impact in and of itself.

Rehabilitation is the phase of treatment during which clients learn how to change their behavior to sustain sobriety. Individual and group counseling, family counseling, education, anti-craving medications, tutoring and vocational training, values clarification, social skills education and training, and other relevant services are all part of the process of preparing clients for life without drugs.

For people who are otherwise healthy, who are employed, and who have stable families rehabilitation may consist of a short, intense burst of combined detoxification and intensive treatment, followed by a longer period of less intensive outpatient counseling, psychotherapy, and family counseling.

People with fewer resources, including those whose addiction has stripped them of their families, jobs, and inner resolve, generally require more intense and extended addiction treatment. Lacking strong supports in the community, they often achieve the best results in residential treatment that continues for several months or even years. Long term intensive outpatient programs, employing medications such as methadone, provide an additional approach. These treatments must not only erase old and enduring habits, but also instill new habits and values, and provide skills that make a productive life possible.

Continuing care, usually regular outpatient, is the ongoing phase of the treatment process. Many people with addictions stay involved in continuing care throughout their lives. Twelve-step programs, such as Alcoholics Anonymous, are among the best known support systems to maintain treatment benefits. They offer encouragement and moral support among people who are true peers. Also called maintenance or aftercare, these support systems have proven very effective in preventing relapse.

Relapse prevention strategies can be applied after, or in conjunction with, primary treatment. In general, these strategies focus on training clients to anticipate and cope with the possibility of relapse, and helping clients modify their lives to reduce their exposure to high risk situations and strengthen their overall coping abilities.

ADDICTION TREATMENT IS EFFECTIVE

MYTH:

Many people relapse, so treatment obviously does not work.

FACT:

Like virually any other medical treatment, addiction treatment cannot guarantee lifelong health. Relapse, often a part of the recovery process, is always possible—and treatable. Even if a person never achieves perfect abstinence, addiction treatment can reduce the number and duration of relapses, minimize related problems such as crime and poor overall health, improve the individual's ability to function in daily life, and strengthen the individual to better cope with the next temptation or craving. These improvements reduce the social and economic costs of addiction.

Addiction treatment is not so much a discrete event as it is a discernible point in a lifelong process. Some people never relapse, others do so repeatedly. Achieving and maintaining sobriety is a struggle for every addicted person.

Research projects conducted by respected researchers and preeminent organizations such as the National Academy of Sciences have concluded that substance abuse treatment is generally effective.[8] This message has not been lost on the public. 1994 polling data shows that Americans strongly support treatment as an appropriate response to the problems caused by addiction.[9]

The collected body of research makes it clear that we must not underestimate the complexity of the issue. The causes and correlates of addiction are often difficult to pinpoint and explain. Complex social, psychological and biological factors and interactions must be carefully considered. As McLellan and his colleagues recently wrote,

..the seemingly simple question of whether substance abuse treatment is effective is actually one of the most complex health, social, and financial issues currently facing this nation. The question cannot be answered simply and must be reframed into a series of comparisons, that will show the benefits and liabilities of substance abuse treatment evaluated against our expectations and against other, plausible alternatives to treatment.[10]

In that context, and crucial to a complete understanding of the benefits of treatment, studies show that some treatment is clearly better than no treatment, and **treatment costs are more than offset by savings in other areas.** Treatment leads to substantial improvements in alcohol and drug problems and in virtually all other areas of client functioning, including physical health, psychological and social functioning, employment, and criminal behavior. Many studies also consistently show that other health care costs are reduced following treatment, along

The CALDATA study is just the latest report to demonstrate the benefits of treatment on criminal activity. The study shows that the level of criminal activity declined by two-thirds from before treatment to after treatment. The greater the length of time spent in treatment, the greater the percent reduction in criminal activity.

with reduced criminality and increased employee productivity.

It is also important to remember that while treatment is generally effective, no single treatment approach is effective for all persons with alcohol and other drug problems. In other words, "one size does not fit all." Treatment and related services must be tailored to meet the individual needs of clients, and should be culturally relevant to the population being served. An integrated system of treatment programs, containing a full range of treatment types, intensities, and cultural competencies is also a necessary goal.

One of the strongest conclusions from the research in this field relates time in treatment to more positive outcomes. The message is clear: the longer treatment programs can retain contact with clients, the better the results. Outcomes are also determined in part by the characteristics of individuals seeking treatment, the severity of their problems, treatment process factors and the services provided, posttreatment adjustment factors, and the interactions among all of these elements.[11,12]

Related to the "time in treatment" conclusion is the issue of patient compliance. Patients' noncompliance with prescribed treat-

JEROME

Eight months after treatment, Jerome has been accepted back into his community, and even got a job through a former participant of his program. He works with the young men in his neighborhood, warning them of the dangers of gang-banging and drugs. "I got a couple of 15-year-olds back in school," he says. "I talk to them. I've got to share it—that's how I got help. I've got to bring it back to the streets."

ment regimens is a problem that frustrates every medical and therapeutic specialty. In some studies, 50 to 60 percent of patients under a physician's care for hypertension stop their treatment in the first year;[13] studies of people with epilepsy show that between 24 and 61 percent fail to take their medications as prescribed, depending on the complexity of the regimen.[14] As with these other health disorders, better compliance with individual substance abuse treatment plans yields more positive results.

Alcohol and other drugs are potent substances that exert strong control over the people addicted to them. It should come as no surprise that one week, one month or even one year of addiction treatment may not result in total abstinence for every client.

With appropriate treatment, many people successfully beat addiction's one-two punch: deeply ingrained, pleasurable behaviors combined with powerful chemical cravings. With concerted and continuing effort, people with addiction can become sober and learn to live without alcohol and other drugs.

SOME MAJOR NATIONAL STUDIES ILLUSTRATING EFFECTIVENESS*

Broadening the Base of Treatment for Alcohol Problems, National Academy of Sciences

Controlling cocaine—supply versus demand programs, RAND Drug Policy Research Center

Drug Abuse Reporting Programs, Texas Christian University

The Effectiveness of Drug Abuse Treatment: Implications for Controlling HIV/AIDS Infection, Office of Technology Assessment

Evaluating Recovery Services: The California Drug and Alcohol Treatment Assessment (CALDATA), National Opinion Research Center

Treating Drug Problems, National Academy of Sciences, Institute of Medicine

Treatment Outcome Prospectives Study, Research Triangle Institute

*See footnotes for complete references.

RESEARCH AND PRACTICE ARE MAKING ADDICTION TREATMENT MORE EFFECTIVE

MYTH:

We have reached the limits of what we can do to treat addiction.

FACT:

The more we learn about addiction, the more effective treatment becomes. Matching clients to the services they most need, while supporting continuous and focused engagement in treatment, is imperative. Today's treatment providers are better able to do this than ever before.

Addiction treatment addresses the complicated array of social, psychological and biological factors that comprise addiction. *Any* treatment has long been known to be better for the addicted individual than no treatment. Treatment programs, until recently, were often more alike than different in scope of services, structure and duration.

Twenty years ago, treatment came primarily in one of two sizes: long-term residential or self-help (such as Alcoholics Anonymous). Today, long-term residential treatment is reserved for people with the most severe problems. In addition, a broad and growing variety of treatment options is establishing a track record in helping people with less severe problems, but who need more than self-help.

Years of research and program evaluation have fostered the development of increasingly sophisticated treatment approaches. People with addiction are being matched with specialized programs targeted to address the severity of their addiction, their other health problems, their social supports and the many other factors that influence recovery.

Flexibility is key; addiction treatment is a dynamic, evolving field where important discoveries in the laboratory and the clinic can be tested in real-world demonstrations and put into general practice.

In this atmosphere, treatment programs offer a wide and changing array of services. Some specialize in particular populations, such as racial/ethnic minorities, women with young children, adolescents, or people convicted of crimes.

People enter treatment on their own, through physician or other professional referral, by court order, as a condition of continued employment, or by the persuasion of family and friends. Family-related interventions often get left out of this discussion; their importance, and the importance of addicts' connection to family, is documented by research.[15]

We have learned that some basic characteristics of treatment programs help to improve client outcomes. In general, effective programs:

- Provide a continuum of care, offering the full range of services that clients might need. For example, intensive individual

Exciting advances in our knowledge of brain chemistry will help us develop additional pharmacotherapies for addiction. LAAM is becoming available for treating opiate addiction. Buprenorphine and clonidine are showing promise against opiates. The antidepressant desipramine may be effective in reducing cocaine abuse. Further, several cocaine analogs have been synthesized in an attempt to find anti-cocaine drugs.

counseling is available around the clock for the client in crisis, support groups meet regularly to sustain clients in more stable situations, physicians and allied medical professionals address medical complications, and vocational training helps prepare clients for life following treatment;

- Involve families and the larger community in the treatment and recovery process;
- Teach clients how to make sensible decisions, resist peer pressure, cope with stress, and other skills that are necessary to live in society, but often lacking in a person who has spent years affected by dysfunction and addicted to alcohol or other drugs. Clients also learn more about the addiction and treatment process, and what community resources are available to them once their formal treatment has ended;
- Design their services to be sensitive to and appropriate for the age, cultural background and abilities of clients, whether they are cultural or ethnic minorities, women, people with HIV/AIDS, adolescents, homeless persons or individuals involved in the criminal justice system;
- Deal with the practical, everyday concerns of clients and their families, including life stresses related to poverty, racial/ethnic bigotry and discrimination, and neighborhood influences;
- Carefully assess all new clients—their strengths and weaknesses—and develop individualized treatment plans that match them with the services they most need;
- Provide structure to programs and services to compensate for and contrast with the chaotic nature of addiction;
- Emphasize early identification and intervention;
- Work with the communities in which they operate to establish an environment that supports the addict in recovery and discourages the abuse of alcohol and other drugs;

- Continuously train staff to keep them current in the rapidly developing field of addiction treatment, focusing on practices that are clinically sound and culturally proficient; and
- Link with other social, medical, educational, legal, vocational and housing services that many addicts in recovery need. They also use case management to help recovering addicts gain access to these services.

While these are hallmarks of effective addiction treatment programs, it is not necessary that each program "do it all." Linking treatment for alcohol and drug problems with other health and social services to create a blanket of care can be equally effective.

MEASURES OF EFFECTIVENESS

Drug Use

- Sobriety or reduced use
- Fewer days or periods intoxicated

Health

- Improved health
- Less use of health care services
- Less use by spouse, family of health services
- Improved psychological functioning

Employment

- Improved job performance
- Increased job retention
- Reduced accidents, absenteeism

Criminal Justice

- Reduced involvement with criminal justice system
- Reduced DUI or DWI arrests
- Reduced involvement in illegal activities

Social Functioning

- Reduced family dysfunction, abuse/neglect
- Improved parenting
- School success/performance and connection to prosocial peers, for adolescents

WHAT DOES TREATMENT LOOK LIKE?

MYTH:

People with alcohol and other drug problems get sent to "28 day" treatment programs, where they "dry out" and emerge new individuals, "cured" of their problems.

FACT:

Treatment is provided in many different settings, in many different ways, for different lengths of time. It is important to provide the most appropriate mix of services and settings for each client based on an assessment of individual needs and cultural relevance.

Treatment Settings

Treatment services are provided in both outpatient and inpatient settings, with different levels of intensity. Patients who are more debilitated and in need of significant support generally require some measure of inpatient or residential treatment. Those with less severe problems, and who have a stronger social support structure (family, etc.), can often start treatment on an outpatient basis.

Patients may also progress through different treatment settings as they exhibit positive health, behavioral, and psychological changes. While the overall length of stay and involvement in treatment is crucial, progressively less intensive services can be effective for many people.

Residential treatment is provided in several forms:

Short term treatment often occurs in acute-care hospitals and residential settings and lasts between two and four weeks. Outpatient follow-up continues for a year or more. Programs emphasize patient education about alcohol and other drugs, life skill development and stress management. Family, group and individual therapy is provided and everyone involved is encouraged to support the addicted person in changing her or his lifestyle.[16]

Therapeutic communities (TCs) are most often non-medical, community-based facilities that provide a variety of services in a highly structured environment. Initially developed to treat men with long-term addiction to heroin, therapeutic communities offer their clients a broad range of services, but no medications to ease withdrawal or block cravings.

Most people treated in therapeutic communities have serious social adjustment problems, such as juvenile delinquency, which are made worse by years of severe addiction. TCs impose on their clients a stratified, regimented social order where rights must be earned by responsible behavior. TCs can be confrontational and it is often difficult for clients to remain in the program for the recommended six to 18 months.

A TC stay of three to 12 months has been documented to be effective in eliminating or reducing drug use, reducing involvement in crime, and increasing employment and school attendance.[17]

Residential programs that are not TCs (community residences, for example) provide similar services, but without the level of confrontation and stratification that permeates TCs. Depending on the progress shown by clients, these programs typically continue for one to six months.

Outpatient treatment is available in three general formats:

Intensive day treatment requires clients to attend counseling, individual therapy, skills development and academic or vocational training for four to eight or more hours every day. Depending on the progress shown by clients, a typical program can last for one to six months.

Intensive outpatient treatment (a relatively new level of care) often consists of two to three hours of group therapy three times per week, in conjunction with other services. It is growing in popularity, in part because it helps patients gradually transition from more intensive treatment to traditional outpatient treatment, and also because clients can work during the day and attend sessions in the evening.

Traditional outpatient treatment offers similar services, also continues for one to six months, but requires clients to attend sessions only once or twice each week.

Staying in the program for the prescribed length of time is critical to the success of outpatient treatment. Although no mathematical formula dictates precisely the amount of time necessary for a given individual, research suggests that six months may be a baseline minimum.[18]

Using these service models as foundations, treatment programs are refining their strategies and offering a wide and changing array of services. The most successful among them do their best to match the services they provide with the individual needs of their clients.[19]

Although the most effective substance abuse treatment programs are unique and tailored to meet the needs of the individuals and communities they serve, they have in common some distinguishing characteristics.

Treatment Techniques

Because appropriate patient matching can be an important part of treatment success, a number of promising therapeutic techniques are being evaluated in the real world laboratory of clinical practice. Most of these techniques used in combination are proving especially effective with people addicted to more than one drug, which is an increasingly common problem.

COMMON PHARMACOLOGICAL TREATMENTS[20]

This is an area with great potential. Some common approaches are listed here.

Opioid substitution therapy
is often sucessfully used to treat heroin addiction. Under medical supervision, qualified professionals administer a legal drug that blocks the craving for heroin and keeps addicts healthy during heroin withdrawal. Currently, three medications are approved for such use—methadone, naltrexone, and LAAM (levo-alpha-acetyl methadol).

Methadone maintenance, which has been shown to be an extremely effective component of many treatment regimens, frees addicts of the negative effects of heroin (including compulsive "drug seeking" behavior) and helps them begin to participate more fully in the various other aspects of treatment. Opioid substitution therapy usually occurs in the outpatient setting and must not be considered a treatment by itself. To optimize benefits, opioid substitution therapy must be offered in conjunction with medical, counseling, and rehabilitation services. While an ultimate goal of many addicts is to wean themselves from substitution therapy, methadone maintenance has enabled many to live productively for several years. LAAM is a longer-acting opioid substitution, and needs to be taken three times a week as part of the overall treatment regimen.

Disulfuram
is often used to deter patients from alcohol consumption during treatment. The efficacy of this approach continues to undergo study; side effects and potential toxicity are a concern. Disulfuram used properly triggers a very negative physical reaction when alcohol is ingested (flushing, nausea, vomiting, cardiovascular changes), and thus presents an incentive to avoid alcohol.

Naltrexone
has been approved by the Food and Drug Administration for use in treating alcoholism. The anti-craving effects of this medication are not limited to alcohol; it has also shown success in treating opiate addiction.

Adjunctive medication
is also important. To address the overall health of clients, medications for other physical or mental health problems are often provided to clients. For example, clients might receive antidepressant, antianxiety, or anti-HIV/AIDS medications to help stabilize those aspects of their health. Substance abuse treatment has a greater chance of success with clients who are generally stable and can concentrate on their treatment.

Other
promising pharmacological treatments include: sedative-hypnotic withdrawal tapers, non-narcotic symptomatic detoxification, non-addicting medications such as clonidine, stimulant agonist/antagonist medications, and anti-craving medications.

Note: To date, no medication has been found to be as effective against cocaine as the opioid therapies are against heroin. Several medications are currently being investigated in clinical trials to test their safety and efficacy in the treatment of cocaine addiction.

COMMON COGNITIVE AND BEHAVIORAL THERAPEUTIC TECHNIQUES

Individual therapy
is designed to help addicts gain insight into their problems and begin to effectively focus on positive and constructive behaviors and activities that will lead to a productive life absent of drugs. One-on-one sessions between a therapist and the patient are conducted at regular intervals, depending on the intensity of the particular treatment regimen.

Group therapy
targets the same goals as individual therapy. Groups of varying sizes comprise therapy sessions, where individuals not only gain insight into their problems, but can share the experience others in similar circumstances.

Marital and family therapy
involves spouses and other family members in joint counseling and therapy sessions to enable them to effectively support and encourage a decrease in problem substance use. Family therapy for adolescents includes not only parental involvement, but inidivual counseling for the adolescent as well.

Contingency contracting
uses alternative reinforcements (different rewards and penalties) in an outpatient setting to positively reinforce abstinence and pro-social behavior. For example, a patient can sign a "contract" with a therapist to accomplish a certain goal, such as avoiding cocaine. If the patient tests positive for cocaine use, a sanction would be applied.

Social skills training
is often used to help substance abusers learn how to deal with and relate to society as a whole. Assertiveness, communications, and human relations are regular aspects of this technique, in an effort to help patients become, or return to being, fully productive members of the community.

Stress management
is an attempt to ease the pressure and concerns brought to bear on patients by life circumstances. Substance abuse is often blamed on the anxiety brought on by large, difficult problems. Through techniques such as relaxation training, stress management helps patients cope with their environment and their particular problems without resorting to substance use as an escape from these difficulties.

Aversion therapies
seek to end an individual's attraction to alcohol or other drugs through counter-conditioning—that is teaching people to associate the abused substance with any of a variety of unpleasant experiences. When conditioning is successful, the substance alone provokes an automatic negative response.

Behavioral self-control training
teaches participants to moderate problem drinking. Although many advocate abstinence as the only appropriate goal of treatment, this controversial approach has been documented to result in a decrease in consumption and a reduction in the negative consequences of problem drinking.

Education
is used to fully inform clients about the overall dangers and health risks of their substance abuse. This approach includes HIV/AIDS, TB, and other STD-related information, and how these and other serious health problems are closely linked with substance abuse. Education in concert with other techniques is designed to fully inform addicts of the consequences of their actions, with the goal of reducing those negative behaviors.

Note: Other techniques are spreading in use and are gaining acceptance. For example, *acupuncture* is a time-honored tradition in Asian medicine. Small thin needles are inserted at certain points in a patient's ears (and elsewhere) which correspond to different zones of the body. Although little scientific evidence currently exists regarding the efficacy of the technique, anecdotal reports abound concerning the positive role acupuncture can play as part of a treatment program.

Relapse Prevention[21]

Research and experience has shown that relapse prevention is an important addition to individuals' treatment plans. Relapse prevention is comprised of many of the elements included in the previous discussion of treatment techniques. Strategies focus on the various skills clients need to maintain their recovery. Three major strategies are used in current relapse prevention programs.

- *Social Support Approaches.* These focus on the client's need for emotional support from family members and friends, as well as the specific help these individuals can provide in reducing interpersonal conflict and stress.
- *Lifestyle Change Approaches.* These focus on helping clients develop and sustain new social identities as drug-free individuals, including breaking ties with drug users, developing new interests and social contacts, and learning new methods of coping with negative emotions.
- *Cognitive/Behavioral Approaches.* These emphasize identifying internal and external cues associated with craving and relapse and then learning how to avoid them or, if they do occur, to prevent them from turning into a full-blown relapse.

Relapse prevention is a relatively new field, and there are few evaluated programs. However, four approaches for preventing relapse appear most effective. Two of them— Recovery Training and Self-Help (RTSH) and Cue Extinction— have been rigorously evaluated, while the other two—12-step programs and pharmacological treatments— have some empirical support as well as long histories and many committed advocates.

NOTES/REFERENCES

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PROMISING PROGRAMS

We know that treatment can work, provided, of course, that individuals comply with their prescribed therapies. Just as the patient with hypertension must be vigilant about diet, exercise and medication, so must the person with addiction complete a full course of appropriate treatment and participate fully in continuing care.

When they do so, people with addictive disorders can become and remain largely drug-free and improve many other facets of their lives.

Following are descriptions of just a few programs that are examples of the potential success and benefits of various treatment approaches for different populations. The populations mentioned here have received significant attention in policy discussions, and are thus the focus of this review.

Programs were chosen based on community reputation for their work, and evaluations of outcome that have been conducted by the programs themselves, by external reviewers or through more elaborate scientific study. A variety of programs are chosen illustrating the multiplicity of treatment approaches and the specific needs of particular populations. Their choice for inclusion in this report is not an endorsement. Similar programs could as well have been chosen in this report. For more information from any of the programs noted, please see the footnoted citations.

TREATMENT FOR PEOPLE WITH SEVERE ADDICTIONS

THE MARATHON MAN

I ran from everything in life. When things were getting too rough with my addiction and criminal behavior, I would run but it would always catch up to me. Now I'm running for my life in recovery.

—Charles

Although treatment and related services must be tailored to individual clients, and "one size does not fit all," reviews of the literature and discussions with treatment providers yield some general, often-mentioned notions about treating this population.

- Substance abusers with severe addiction problems are difficult to reach and difficult to retain in treatment.
- Successful programs generally are guided by a well-articulated philosophy; have a highly trained staff; conduct continuous, detailed client assessments; develop individualized treatment plans; and offer continuing care.
- Effective programs also offer or directly link clients to a full spectrum of health, education and social services to equip them to function productively after treatment.
- Time spent in treatment is crucial. Treatment helps to facilitate major life and health changes, especially among the severely addicted. Research shows that longer participation in treatment results in more successful outcomes.
- Addressing the specific, individual needs of these clients, and matching clients to the most appropriate services, can be key to their success in treatment.
- Despite the debilitated state of many of these individuals, real engagement in the treatment process is definitely possible.

Center Point, Inc. Alcohol and Drug Abuse Services[1]

Center Point, Inc. Alcohol and Drug Abuse Services (San Rafael, California) provides a series of service modules that comprise a comprehensive continuum of services for people with serious addictive problems. The program's treatment approach has been developed to combine psychosocial, behavioral, peer support, and clinical interventions to help patients develop pro-social community integration skills while developing an understanding of coping mechanisms and learning alternative strategies founded on dignity and pride.

The program provides detoxification, residential and outpatient services for men and women, and separate adolescent and post-natal women and children's programs. Most have problems with multiple substance abuse including cocaine, heroin, and alcohol. Residential treatment is divided into a three to four month intensive phase, and a three to four month reentry/transitional phase. This latter phase concentrates on transition back to the "real world." In addition to counseling, education, and other "typical" treatment services, Center Point includes extensive vocational training, job development assistance (supported by a job bank), GED enrollment, transitional counseling, family therapy and group support. Continuing care services are provided, as is satellite housing, to further smooth clients' transition back into the community from residential treatment.

Some of Center Point's specific goals include: 1) enhancing access to treatment for ethnic minorities and women and admitting them into treatment earlier in their addiction cycles; 2) reducing staff-to-client ratios in order to intensify service delivery without unnecessarily extending clients' time in treatment; 3) improving Center Point's comprehensive delivery system as perceived by the target population, and as

measured by retention in treatment and monthly client satisfaction surveys; and 4) improving post-treatment outcomes, including abstinence from drugs and criminal justice involvement, and improved pro-social functioning, e.g. stable employment, earnings, taxes paid, and community integration.

Monthly follow-up surveys and a recent independent evaluation shows that Center Point clients consistently decrease their use of alcohol and other drugs, reduce their involvement in criminal justice and reliance on public assistance, and maintain their involvement in therapeutic activities to prevent relapse. Follow-up data on program graduates between 1985-1993 reveal: 87 percent of clients are drug-free and leading "productive lifestyles;" 83 percent are employed; 68 percent remain involved in 12-step/self-help group continuing care; and 94 percent have remained arrest-free. In addition, more than 56 percent of all clients stay in treatment for more than 180 days, significantly better than the expected retention rate for this population. Since we know that overall time in treatment (including continuing care contact) is strongly predictive of positive outcomes, this is an extremely important statistic. Clients in treatment also exhibit substantial improvement in psycho-social functioning, as measured by post treatment employment statistics.

Matrix Institute on Addictions[2]

Matrix Institute on Addictions (Los Angeles, California) was established to develop a viable model of out-patient treatment for substance abusers, the Matrix Model. Matrix uses intensive, structured, sequenced treatment techniques and materials that have evolved from applying some of the concepts described in theoretical and applied research to help substance abusers end their drug and alcohol use. Services focus on family and group therapies, drug education, relapse prevention, 12-step activities, and drug use monitoring. Over 4000 substance abusers have received treatment with this model.

Matrix maintains an intense focus on helping individuals understand both the biological and psychological stages of their recovery, and to create a daily structure to their lives to prevent relapse. Intensive outpatient services are provided for approximately six months, with an emphasis placed on individual counseling sessions. Therapists attempt to foster positive, healthy relationships with patients to reinforce behavior change. This phase is followed by six months of less intensive (weekly) counseling and supportive services. The key here, as noted in much drug abuse research, is contact; the longer patients maintain contact with treatment, the better their chances of successful recovery. The Matrix materials have been adapted for use with alcohol and opiate abusers. The development of all of the work has been supported by the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism.

Evaluation results of the Matrix approach are encouraging. A pilot study documents eight-month follow-up data showing only 13 percent of clients relapsing to cocaine use (N=83, 1985). This pilot also showed that alcohol use by clients precipitated relapse in many cases. These findings enabled Matrix staff to alter their program somewhat, to no longer remain "neutral" regarding alcohol use. An "open trial" conducted between 1986 and 1989 (N=486) also yielded a variety of evidence supporting the neuro-behavioral approach. A subsequent controlled trial (including random assignment to treatment conditions; N=100) yielded 12-month follow-up data, showing 80 percent of urinalyses clean for cocaine. Reported engagement in high risk behaviors for HIV transmission also shows large decreases, from approximately 70 percent to 40 percent after treatment.

Arapahoe House[3]

Arapahoe House (Thornton, Colorado), the largest provider of prevention and treatment services in Colorado, provides a full continuum of services, including detoxification, residential, day treatment, outpatient and DUI education and therapy, and intensive case management services to individuals and families. One particularly interesting program, the Project to Reduce Over-Utilization of Detoxification services—-PROUD—targets homeless and chronically debilitated substance abusers.

This target population is characterized by multiple admissions to detox facilities, often reflecting inappropriate dependence on this service to provide a form of temporary shelter. Utilizing an intensive case management model that deploys case managers in pairs or dyads, the aim of PROUD is to disrupt and alter this cycle of repeated visits to detox centers. This goal is accomplished by linking each client to an optimal mix of services and benefits that match his or her individual needs. These clients typically exhibit multiple problems in addition to their chronic substance abuse, and thus case management is essential to ensure that the requisite constellation of services is made available to each client. The most common first priority for these individuals is not treatment, but stable housing, with health care, mental health and substance abuse treatment, and vocational services as second-order priorities.

Preliminary evaluation results from PROUD are very encouraging. Examining data from clients entering detoxification between July 1, 1992 and December 31, 1993 (N=102), average episodes of readmission to detox per month were reduced from .29 to .02 These represent reductions of 81.5 percent and

93.1 percent respectively from the baseline through the first two phases of the PROUD program. In addition to these reductions in episodes, when a client was re-admitted, the length-of stay per monthly episode also was reduced from 3.25 to 1.89 days, on average.

Most states have serious problems with chronic public inebriates and drug abusers who cycle through detoxification programs, utilizing scarce resources at substantial cost to the system. PROUD is an intensive case management program developed specifically to address the multiple and chronic needs of this population; the preliminary results of the ongoing evaluation of this program indicate that it represents a highly cost-effective means for intervening in the lives of these individuals.

Phoenix House[4]

Phoenix House (New York City, New York) is a national agency, with facilities in New York, New Jersey, and California, offering a broad array of substance abuse treatment and prevention services. Treatment at Phoenix House adheres to therapeutic community principles and employs self-help and group process to alter self-perceptions, attitudes, and behavior. The goal is the return of former drug abusers to society with life skills, job skills, and commitment sufficient to sustain productive new lives. Phoenix House, therefore, provides a wide range of educational, vocational, medical, and social services to program participants.

Phoenix House offers both residential and outpatient treatment for adults and adolescents. It operates programs in prisons and homeless shelters, runs a day school for adolescent outpatients and six Phoenix Academies (boarding schools) for youngsters in long-term residential treatment.

The seminal follow-up outcome study of former therapeutic community residents was conducted at Phoenix House, and demonstrated the success of residents who completed the program - and of many who did not. Heroin use among program graduates fell from a pre-treatment level of 66 percent to zero. For non-graduates it went from 67 percent to 18 percent. Criminality among graduates dropped from a pre-treatment 55 percent to just 3 percent, while non-graduate criminality declined from 37 percent to 18 percent. A major finding of this study was the correlation between treatment length and subsequent success. Between 120 and 180 days of treatment were found generally necessary to affect positive changes in drug use and criminality.

Based on time in treatment, program administrators predict a higher rate of success for today's residents than for those in treatment at the time of the study. Since that time, retention at Phoenix House has improved, and close to half (49 percent) of long-term residents in 1992-93 remained for more than 180 days, compared to about 40 percent among study subjects.

Promising results are also being realized from other Phoenix House programs. Although adolescent treatment populations are often more volatile than adult populations, an exceptional retention rate has been achieved by the program of accelerated diversion to treatment for adolescents facing felony charges in the New York City courts of Queens and Bronx. Nearly two-thirds make it beyond the critical first three months.

There is also a dramatic indicator of program effectiveness at the PORTAL intervention program that Phoenix House operates in New York City's largest shelter for homeless families. Since the program began, there have been 73 live births to PORTAL participants, with 70 being born drug free.

TREATMENT FOR CRIMINAL JUSTICE POPULATIONS

Although treatment and related services must be tailored to individual clients, and "one size does not fit all," reviews of the literature and discussions with treatment providers yield some general, widely mentioned ideas about treating this population.

- Prison-based treatment is usually based on the therapeutic community model, which emphasizes confrontation and personal responsibility. Counseling, vocational and life-skill training, alcohol and other drug education, and psychosocial rehabilitation services are provided in most programs. These programs are most successful when they occupy isolated units within facilities, and also employ a number of former offenders and addicts to act as credible role models.
- Less intensive treatment in prisons and jails has also yielded positive results, including significant criminal justice cost savings.
- Treatment is most effective if provided immediately prior to release from incarceration. As part of this approach, continuing care services and self-help/peer support contact in the community is vital.
- TASC (Treatment Alternatives to Street Crime) and other offender management programs have proven important and effective in providing treatment and continuing care linkages between the criminal justice and substance abuse treatment systems.

RICHARD

"I am a prime example that treatment works . . . After 25 years of costing the State of California who knows how much in court costs and for housing me in prison, I successfully completed my parole, have been drug free for over three years and am proud to say I am a taxpayer."

Powder River Alcohol and Drug Program[5]

Powder River Alcohol and Drug Program (Baker City, Oregon) is a 50-bed modified therapeutic community for men within the Powder River Correctional Facility. Inmates are referred near the end of their prison sentence; the program is designed to run six to fifteen months, depending on the needs of the individual. Most inmates experience a thirty to sixty day orientation phase, a two to fifteen month treatment phase, and a structured continuing care program while on parole or post-prison supervision.

During the orientation phase, inmates are thoroughly assessed and begin the preparatory work of treatment. During treatment, inmates receive a variety of services; Powder River stresses services that focus on alcohol and drug education and treatment; changing criminal thinking and lifestyle; and resolving family-related issues. The program also includes thorough discharge planning and referral to a treatment provider in the inmate's home community for continuing care.

Treatment consists of group and individual therapy and a series of mandatory classes designed to help inmates understand themselves better. Codependency, anger management, sexuality and criminal thinking are all topics of exploration. GED preparation sessions are also offered, to help with the transition to the "real world" of work and responsibility.

Work is also an important component of this program. Inmates are assigned to work teams, which are designed to build individuals' abilities to perform tasks, comply with rules, handle responsibility and authority, and participate in program activities. As inmates prove themselves, they achieve more responsibility and better work assignments and privileges. Commitment to treatment is the key; both individually and as a group or community, those in treatment progress to a point that they are deemed eligible for release. As with any therapeutic community, the common denominator of all of these activities is personal responsibility.

Successful completion of the treatment phase leads to release, but individuals must be part of several months of a community-based continuing care program they are referred to by Powder River staff.

Program evaluation results from Powder River are encouraging. They show that recidivism rates for program graduates are lower than those of inmates who were not enrolled (12-month followup 1991-1992, N=76). Inmates who spent more than five months in treatment have the lowest rates of re-arrest, conviction and incarceration. After treatment of at least three months duration, inmates' arrest and conviction rates are 2.5 times lower than they showed before treatment. After treatment of at least five months duration, inmates' arrest and conviction rates were four times lower. Pre- and post-tests also demonstrate modest improvement on social abilities and self esteem among program participants.

Forever Free Substance Abuse Program[b]

Forever Free Substance Abuse Program (California Institution for Women, Frontera, California) provides in-prison substance abuse treatment services for female inmates. The intensive four to six month program has three broad goals: 1) provide in-prison treatment with individualized case planning and linkages to community-based aftercare; 2) provide an in-prison program that includes a range of services to meet the psychosocial needs of participants including counseling, group interaction, 12-step programs, educational workshops, relapse prevention training, and transition plans to funnel clients to appropriate community aftercare; and 3) reduce substance abuse among participants. Program participants are housed in a 120-bed residential unit and maintain full time institution work and educational assignments.

In addition to the in-prison part of this program, approximately one-third of the program graduates from target counties (Los Angeles, Orange, Riverside, San Bernardino) continue treatment services at a community residential substance abuse program. The primary objectives of this part of the program are increased time in treatment, reduced number of parole violations and the successful completion of parole.

Program evaluation relates time in treatment directly with later success on parole, and yields positive results. A six to fourteen month follow-up study (N=196; clients paroled January-September 1992) shows that the longer the duration of treatment, the more successful the client is in completing parole. The most successful group of releasees were those who completed the program plus five months of community-based treatment. Of this group, 90 percent were successful on parole.

Illinois TASC[7]

Illinois TASC (Chicago, Illinois), under a contract with the Sheriff of Cook County, is the lead agency at the Day Reporting Center for a population of 250 adult male felony arrestees (most of whom are drug and gang involved). The program is part of an overall attempt to reduce jail crowding and failure-to-appear (FTA) rates for pretrial releasees, and is a collaboration among TASC, several community-based service providers and the Cook County Sheriff's Department.

Services provided include a comprehensive psychological and social diagnosis and other intensive services including drug treatment, violence intervention, education and literacy training, job readiness and seeking skills, cultural advocacy, parenting skills, stress reduction (tai chi) and acupuncture. These services are provided by TASC and several other community providers at the Day Reporting Center.

These services are organized into a service track system which allows clients to move from less intensive to more intensive interventions depending upon the quality and success of their participation, as well as findings from daily drug testing and initial and ongoing assessments of participants' needs. The program permits the movement of individuals between service tracks as well as through graduated justice sanctions from electronic monitoring to jail.

Preliminary results so far are extremely positive. A 1988 study conducted by the Illinois Criminal Justice Authority reported that the FTA average among defendants in Cook County was 44 percent. According to the Cook County Sheriff's Department, after one year of program operations (1993; approximately 650 clients), results show a virtual 100 percent appearance rate (only 6 FTA's).

Maricopa County TASC[8]

Maricopa County TASC (Phoenix, Arizona) administers the Adult Deferred Prosecution Program (ADPP), a treatment program that focuses on first time felony drug offenders who can avoid a conviction by successfully completing an intensive outpatient counseling program. ADPP participation is voluntary, and allows defendants an opportunity to avoid prosecution and possible felony convictions by

- providing a statement of facts admitting the offense and agreeing that this statement will be admissable in court should the defendant fail to satisfactorily complete the program;
- cooperatively participating in a wide variety of required seminars, lectures, and group or individual counseling sessions; and
- submitting to on-going monitored urinalysis testing, hopefully ensuring a drug-free status is maintained throughout the program.

ADPP is designed to meet several objectives. These include

- removing from the adversary trial system first time felony offenders who do not contest their guilt and who are likely to benefit from a community-based treatment program;
- elimination of the high costs of prosecution of said defendants, and the freeing up of court calendars for the prosecution of defendants who pose a serious threat to the community;
- holding the defendant accountable for their behavior through ADPP program participation; and
- offering first time drug felons the opportunity to develop insight into the psychological, social and environmental conditions that may have contributed to their drug use, as well as assisting them in the development of lifestyles that can more effectively bring them back into the mainstream of society.

ADPP incorporates several program components, focusing on marijuana, narcotics, cocaine, and other drugs. Required program participation can be as long as two years, and particular counseling and other activities are designed to suit the particular needs of the individuals in the program.

Since this is a criminal justice system based program, a major concern is recidivism. Outcome evaluation shows a recidivism rate of only 8 percent for program completers, compared with 25 percent for defendants who chose not to participate.

TREATMENT FOR WOMEN

Although treatment and related services must be tailored to individual clients, and "one size does not fit all," reviews of the literature and discussions with treatment providers yield some general, widely mentioned ideas about providing treatment for women.

- Some women may not be well served in traditional treatment programs, which were developed primarily for men addicted to heroin and may be confrontational and threatening to addicted women, who are often victims of physical and sexual abuse.
- Women face a host of complicating factors and barriers to treatment. The three greatest gender-specific barriers to care include stigma, fear of losing custody of children, and the lack of care for children and other dependents while in treatment. Other factors include poor health, violence (domestic and community), prenatal drug exposure, and poverty. Outreach is often needed to identify those in need of treatment, and to help them access the particular services they need.
- Typically, women-specific programs offer residential or intensive outpatient services; some also serve their dependent children. Staff are most often also female. Treatment lasts three months to one year or longer.
- Services include primary medical, obstetrical/gynecological and pediatric care; parenting education; vocational training; work assistance; and child care.

PAT

At age 30, Pat began using cocaine. Her second drug of choice was alcohol. Drugs became a problem for both her and her husband. The marriage started to decline, and she lost custody of her two children.

When Pat entered an in-prison treatment program, she recognized that she had made mistakes in her life and that she had an addiction. She experienced difficulty thinking clearly and remembering things. Managing feelings and emotions was also difficult, but from the very beginning of treatment a major concern was regaining custody of her children.

Pat progressed well in treatment and was able to identify her relapse warning signs. Her attitude improved and she looked forward to counseling sessions. Near the end of in-prison treatment, she was informed by a child custody worker that she could not have custody of her children following her release from prison. The custody worker said that Pat had to attend a residential treatment center for any hope of regaining custody of her children. Fearing an unwanted adoption of her children by in-laws, Pat dedicated herself to the objective of entering and completing a residential treatment program.

Pat graduated from treatment, got a stable job, and regained custody of her children by demonstrating a pattern of recovery and stability. She has returned to prison as a role model for inmates. The value of participating in residential treatment, the world of work, and the role of a working mother are topics that Pat presents to women currently in treatment.

Family Center[9]

Family Center (Philadelphia, Pennsylvania) is designed to offer specialized care for chemically dependent pregnant/parenting women and their infants. The Center includes an outpatient treatment program, a residential treatment facility, parent-child centers, and a research division. Intensive, multi-modality treatment programs are designed to facilitate the best possible physical, psychological, and sociological outcomes for mothers and children.

In addition to providing methadone maintenance for opiate-dependent women, the *outpatient program* provides comprehensive medical, psychotherapeutic, and case management services to substance abusing women and their children. Treatment is directed towards achieving and maintaining a drug-free lifestyle, increasing coping skills, improving interpersonal relationships and strengthening the parent/child relationship. In addition to weekly individual and group psychotherapy, an in-house 12-step addiction group, parenting groups, prenatal and health education and AIDS prevention counseling are also provided. Traditional addiction treatment approaches have been modified in order to accommodate gender, race, language, and culture-specific issues.

The *residential program*, known as My Sister's Place, provides housing, intensive substance abuse counseling and medical treatment, as well as case management services for addicted women and their young children. The program's long term objective is to provide effective treatment/rehabilitation methods so that drug dependent women with children can become drug free, economically independent, and empowered to create an environment for themselves and their children that will break the intergenerational cycle of addiction and dysfunction. Immediate objectives are to provide effective treatment for

maternal addiction; to promote a safe and health pregnancy and perinatal outcome; to provide intervention to facilitate optimal development of the children; and to provide maternal education and job training in order for mothers to reenter society as productive members of the community.

The *parent-child centers* provide an early education intervention program for both mothers and children. The primary focus of the Centers is to develop and to enhance positive responsive parenting skills in order to promote optimal development of the children.

Research at the Center has been fruitful. One study of pregnant, drug dependent women (n=278) demonstrated that both maternal and infant morbidity associated with pregnancies complicated by opiate addiction can be significantly reduced by a comprehensive prenatal and methadone maintenance approach. Development of the Neonatal Abstinence scoring system, which is widely recognized and used for the assessment and treatment of neonatal abstinence is another result of Center-based research. Research has also resulted in many studies examining infants' short- and long-term physical, behavioral and cognitive outcomes. Psychosocial characteristics of drug dependent women have been delineated in terms of the incidence of sexual and/or physical violence, intergenerational transmission of chemical dependence, maternal psychological status, and the influence of prenatal drug exposure and neonatal abstinence on mother-infant interaction.

Operation PAR[10]

Operation PAR (Pinellas, Florida) is involved in a variety of efforts aimed at decreasing drug use and improving the health of pregnant and parenting women and their preschool aged children. These programs include:

- **Day Treatment for Women,** which involves clients in a 12-month, multi-phase program. Services include individual, group and family counseling, life management skill development, educational and vocational training, parenting skills training, support groups, case management, referral for additional services, continuing care, follow-up and transportation services.
- **The Child Development and Family Guidance Center** is comprised of programs specifically designed for families with children which include a substance abusing parent and offer four levels of treatment services for women. Services include early intervention/prevention, outpatient services, day treatment and continuing care. The Center also includes an on-site therapeutic development center for infants and preschool children.
- **PAR Village** is comprised of 14 houses and is a component of PAR's long term adult residential treatment program. While in treatment, women participate in individual and group counseling, parenting skills classes and vocational and educational training. Medical services and other therapeutic interventions and services are also provided. The children, who live here with their mothers, are enrolled in an on-site child care center which provides developmental day care.
- **The Comprehensive Child Abandonment Intervention Project: Families and Children Together (FACT Team)** provides services designed to prevent or intervene in the abandonment of children of substance abusers to child protection services. The FACT

Team seeks to provide comprehensive services including outreach, case management, and outpatient services to maternal substance abusers and other women whose children have either been judicially removed from their custody or whose children are at risk of being removed from the home.

Some evaluation has been conducted of Operation PAR's activities, and has found that, by providing on-site child care, the retention rate of cocaine-dependent women has been increased from 113 days to 300 days. Six months after completing Operation PAR's comprehensive residential program, 80 percent of clients are drug free, 98 percent are attending school or employed and 75 percent have no delinquent activity.

The Center for Addiction and Pregnancy (CAP)[11]

The Center for Addiction and Pregnancy (CAP) (Baltimore, Maryland) at the Johns Hopkins Bayview Medical Center is an interdisciplinary treatment program that provides residential and intensive day treatment services to pregnant drug abusing women and their children. Using a "one stop shopping" model of care, CAP offers comprehensive drug abuse, OB/Gyn, family planning and pediatric services to this high risk population.

Created specifically to address barriers to care for pregnant drug-abusing women, CAP provides transportation services and child care to all women admitted to the program. The mission of CAP is to reduce the

number and severity of obstetric complications (including HIV infection); deliver healthier infants to mothers who no longer use alcohol/drugs; provide effective family planning services; and insure initial and long-term pediatric assessment and care to the neonates of program patients.

Services offered on-site include individual therapy, group counseling, full scope obstetric and gynecologic care including family planning, parenting skills training, primary pediatric care and child case management, and HIV treatment services (7 days per week for 28 days) to moderate intensity services (3-5 days/week for 12 weeks) to low intensity services (1-2 days/week for 12+ weeks). Random urinalysis drug toxicologies are assayed weekly for illicit drug use. When appropriate, methadone maintenance is provided as a therapeutic adjunct.

Clinical studies have found that untreated pregnant drug abusing women have increased rates of premature (less than 36 weeks) and low birthweight (less than 2500 gms) infants. Preliminary evaluation of CAP maternal and infant outcomes revealed that the majority of infants are full term (average greater than 38 weeks) with adequate infant birthweights (average greater than 2900 gms). In addition, over three-fourths of CAP patients present with a negative urine drug toxicology at labor/delivery. The CAP program also appears to be cost effective. While studies have shown that nearly one-third of untreated drug abusing pregnant women give birth to infants requiring hospitalization in a Neonatal Intensive Care Unit (NICU) with an average length of stay of 20-35 days, only 10% of CAP infants required NICU hospitalization with a much shorter length of stay (average 6.7 days). When costs for drug abuse treatment are factored in, the improvement in NICU statistics alone produced a net savings of nearly $5,000 per mother-infant pair.

Project Together[12]

Project Together (Des Moines, Iowa), housed at the Clark Street House of Mercy, is an example of residential and continuing care services that recognizes the rights of women and their children to continue to live together while the women work to reduce and eliminate their drug dependencies. Another goal of this program is freedom for clients from the welfare system. The bond between mother and child is a key point in the program's philosophy.

Services provided include full time residential care, individual and group counseling, a free health clinic, therapeutic day-care program, employment and training counseling, and substance abuse counseling staff. Counseling, education and training activities are reviewed weekly, to help women address their individual needs. Focus is generally placed on such diverse areas as child care and nurturing behavior, educational and employment training, and personal care, which includes self-esteem building experiences, money management, and sobriety. Each woman works with internal substance abuse counselors as well as external programs, self-help groups, etc., to make continued progress toward sobriety.

An evaluation of the first two years of program operations (April 1990-July 1992; n=79 program exits) reported that women completing this program improve their mental health, sobriety and parenting skills and are also more likely to attain stable housing and employment than are women who initiate but do not complete the program. The percentage of women with adequate independent living skills doubled from intake to exit (from 32 percent to 65 percent); job skills increased from 39 percent at intake to 62 percent at exit; the percentage of women with parenting skills increased from 48 percent to 58 percent; interpersonal skills increased from 70 percent to 81 percent; and emotional well-being increased from 31 percent to 67 percent. Children whose mothers received treatment at Project Together show gains in interpersonal skills, physical well-being, cognition, language, and school performance.

TREATMENT FOR ADOLESCENTS

Although treatment and related services must be tailored to individual clients, and "one size does not fit all," reviews of the literature and discussions with treatment providers yield some general, widely mentioned ideas about providing treatment to adolescents.

- Substance abuse among the adolescent population is of continuing concern, and more information will be necessary in order that their drug use and closely related problems are adequately addressed.
- Family relationships and negative parenting behaviors continue to be very important. During early adolescent experimentation with illicit drugs, familial factors appear most influential. Peer influence appears more closely associated with continued, more frequent episodes of drug abuse during the late adolescent period.
- Through a comprehensive personal and family history in combination with assessment of current functioning, the needs of troubled youth can be determined so that plans for appropriate intervention can be individualized to maximize the potential for success.
- Treatment for adolescents with drug abuse problems can be effective. Programs demonstrating a significant degree of efficacy may be short-term and time-limited or be long-term and flexible in prescribed length-of-stay. Either can be situated in a residential setting, a hospital-based or in community-based offices. Some are comprised of a single strategy such as family-based therapy. Other programs are comprehensive by design, coordinating drug abuse treatment with mental health care, a variety of social services, life skills training, educational and vocational opportunities, and recreational activities.
- Most adolescent drug abuse treatment programs have multiple goals. These include cessation of drug use, a reduction in psychological distress, increased attendance in school and/or at work, improved academic performance, a reduction in delinquent activities and medically risky behaviors, and improvement in relationships with family and friends.

MANUEL, aged 16

". . . when I started to go to the group I started going out a lot with you guys and I stopped a lot of things . . . like hanging . . . and being with the boys . . . Yeah, I stopped a lot of things . . . some of these things was like stealing, skipping school . . . I mean I didn't completely stop when I was with you guys but I started to think more about it before I did things like steal. I had less time on my hands. Some things I still did just for fun but the program kept me off the streets.

I liked a lot of things about the program. I liked when we went over to the park and performed our rap music for the kids and talked about not doing drugs . . . I liked the field trips because they took me out of here and I also liked the rap sessions we had because we use to learn a lot from you guys. You can learn a lot like that because somebody is talking to you, like a big brother or something . . . but even if I stopped coming to the program I am changing . . . I feel like I am growing up and I just want things different for me . . . I want to go and finish high school, go to the army and get a babe and just live normal . . .

Hogares, Inc.[13]

Hogares, Inc. (Albuquerque, New Mexico) is a private non-profit agency whose purpose is to work with troubled adolescents, ages 12 to 18, and their families. The youngsters in need of services are those in trouble with the law, either as status offenders or as delinquents; are emotionally disturbed; are victims of abuse and neglect; are experiencing a family crisis; or are abusers or addicts of drugs and/or alcohol.

Hogares provides several levels of care designed to handle many diverse problems and to meet the changing needs of youth and their families as they move through the treatment process, including: treatment foster care, drug treatment and other programs such as outpatient services, independent living and residential treatment services.

The total therapeutic approach to care begins when the teenager is first interviewed by Hogares' intake coordinator. With the family involved, they develop a detailed, personalized program of treatment that takes into consideration every aspect of the adolescent's life, from nutrition and physical activity to social skills. At this time it is decided the level of treatment needed by the teenager and an appropriate placement is made. The attempt is made to place the youngster in the least restrictive program available if it is an appropriate plan for the adolescent. A primary goal is to keep the family together or to reunite them as soon as possible.

Three of the facilities operated by Hogares serve adolescents who are severe abusers and/or addicts of drugs and or alcohol. Recognizing that addiction is a family illness that

is treatable, the agency strives to work with the individual and his/her system of significant others to develop a program of ongoing recovery. The program utilizes a holistic approach in addition to using a twelve-step program for youngsters and family members. The levels of treatment are: primary residential treatment (5-6 months); relapse prevention residential program (3-9 months); family education treatment program; outpatient services including aftercare; and case management and outreach.

Evaluations of Hogares' programs have shown that 90% of the adolescents who have been through the program are living successfully in the community. 70% have had no formal contact with the juvenile justice system and are reunited with their families or living on their own and are working or are in school. 20% have had minimal contact with the law or are at home or on their own or working or in school.

The Drug Treatment Enrichment Project (DTEP)[14]

The Drug Treatment Enrichment Project (DTEP) is a 4-year drug intervention services project sponsored by the Center for Substance Abuse Treatment. The program is being implemented at four Job Corps centers, in conjunction with the Department of Labor. The unique characteristics of Job Corps—high risk young people attend a residential employment and training program for an average of seven months—makes this an excellent "laboratory" in which to test an intervention for a very difficult population.

DTEP encompasses the Alcohol and Other Drug Abuse (AODA) services currently available at all Job Corps centers with added enhancements designed not only to provide services to more students, but also to address other issues that are commonly associated with substance abuse.

Data available thus far indicate that drug use and criminal activity decrease as a result of this program, and students in DTEP were more positive about the program than AODA students were about the AODA program.

Multidimensional Family Therapy (MDFT)

Multidimensional Family Therapy (MDFT), offered at Temple University's **Center for Research on Adolescent Drug Abuse**[15] (Philadelphia, Pennsylvania), is a 16-session outpatient integrated family approach to treatment. A study on the differential effectiveness of MDFT as compared to more traditional approaches such as family education provided in a group setting and peer group therapy that focused mainly on problem solving techniques has been conducted. Preliminary findings on 29 families indicate that drug and alcohol abusing adolescents enrolled in MDFT remained in treatment for a longer period of time, reduced their drug use to a greater extent, and achieved significantly higher grade point averages than those adolescents enrolled in either of the other two traditional approaches.

The Positive Adolescent Life Skills (PALS)

The Positive Adolescent Life Skills (PALS), an outpatient program focused on Social Skills/Social Network Training for drug abusing pregnant and parenting teenage girls, is offered at the **University of California, San Diego, Medical School Teen Obstetrics Clinic.**[16] The PALS program is a combination of training in behavioral and cognitive skills to improve social skills (including saying no to drugs, alcohol and unsafe sex) and in restructuring the adolescent's social network, including skills to improve the quantity and quality of a non-drug using social network. In

addition, all receive the "Facts of Life" educational course that covers the consequences of drug use, child and adolescent development, and sexual responsibility. Preliminary results from a NIDA-supported study evaluating the effectiveness of the PALS program on 200 teenage mothers found significant reduction in level of emotional distress and a small reduction in drug use and number of subsequent unintended pregnancies.

The Addiction Research and Treatment Service of the Colorado School of Medicine[17]

The Addiction Research and Treatment Service of the Colorado School of Medicine (Denver, Colorado) offers treatment for severely troubled adolescent boys and girls with comorbid Psychoactive Substance Use Disorder and Aggressive Conduct Disorder. This residential program includes psychotherapy, pharmacotherapy when medically indicated, family therapy, peer group counseling, vocational and job-seekers training, and life-skills training. A one-year outpatient aftercare program is also available that offers a continuation of family and group psychotherapy, social skills training, and supportive case management. Initial findings from a study of 70 boys one year after treatment indicate a significant reduction in drug abuse relative to pretreatment levels and an increase in the number of youths who obtained a GED or graduated from high school.

The University of Miami Spanish Family Guidance Center[18]

The University of Miami Spanish Family Guidance Center (Miami, Florida) has been conducting adolescent drug abuse treatment with poor, inner city, Hispanic families in the Miami area since 1972.

The Center provides brief (usually 3-4 months) outpatient family therapy interventions for minority drug abusers.

The family therapy clinical model of the Center, known as Brief Strategic Structural Family Therapy, is based on the concept that Hispanic families have considerable influence over their members, and can be mobilized to help their family members. The theoretical model assumes that family interactions are linked to the behavior of each family member, and that by changing the interaction among family members, as well as the interactions of the family with their social environment, the problematic behavior can be modified. Interactions are observable behaviors of the family, that can be readily recognized by the trained therapist, and are more amenable to change than intrapersonal characteristics. Both of these properties of interactions contribute to the expediency and effectiveness of the intervention. Conditions that maintained the undesirable behavior are changed, and new social environmental conditions are created to promote pro-social behavior. These contribute to the permanence of positive change.

Emphasis is placed on changing those family interactions that are unsuccessful in managing the adolescent's undesirable behaviors (such as authoritarianism; unrestrained expression of frustration, anger and hostility; inconsistency); and replacing them with more effective interactional patterns (such as communication of concern, love, hope; establishing clear rules and consequences that are supported jointly by all parent figures; consistency; developing effective communication skills, particularly in negotiation and conflict resolution). In addition, interactions are fostered in which each family member takes a role that is developmentally appropriate, and

in which organizational relations are adequate to the family's composition.

The work of the Center has been singled out by scientists as the only major scientifically based program of its kind among minority populations, and the pioneer program to provide scientific evidence of the effectiveness of family therapy with drug abusing adolescents. The Center has achieved excellent results in bringing drug abusers and their families into treatment. This is a recalcitrant population, yet 82-93 percent of all families calling for help were successfully brought into treatment. In the same study, 75 percent of drug abusers were drug free in 3-4 months of outpatient family treatment. Over 100 scientific and professional publications detail the Center's family therapy interventions that have been scientifically designed to be brief and effective.

The Center has served over 10,000 families and is currently expanding its programs to develop home based, family intervention services for multiproblem families, and non-clinical, parent-involved, and neighborhood-based interventions.

There is a growing number of examples of the use of a flexible, managed service delivery approach in private industry. Although the specific features vary from company to company, these managed care approaches typically include an employee assistance program (EAP) to help workers and their families to get early help for alcohol and other drug problems and to coordinate work site follow-up after treatment, and a managed care system that provides access to an array of treatment services. The results EAPs and managed care systems have achieved for corporate clients include reductions in the use of inpatient care, increased use of a variety of alternative service options, reduced job problems, improved employee morale, and reduced health services use for employees and their families.[19]

- EAPs help employees and their families identify and resolve problems that may interfere with job performance. Frequently, EAPs help workers with substance abuse or mental health problems to resolve their difficulties through brief treatment (generally limited to 3 to 6 sessions). When more intensive treatment is needed, EAPs make referrals to treatment services and provide on-the-job follow-up.
- EAPs are also involved in promoting healthy lifestyles among workers. They seek to contain health costs, accidents, and work-related disabilities by intervening early, before substance abuse problems reach crisis levels.
- EAPs enhance the effectiveness of treatment. By managing the care received by employees, EAPs can match clients to appropriate services, and effectively place employees in treatment programs.
- With increasing frequency, businesses have turned to managed care firms that specialize in containing costs of mental health and substance abuse treatment for their employees and their families. Managed care firms control costs by encouraging appropriate use of treatment, matching patients to cost-effective treatments. Often, managed care firms negotiate reduced fee schedules with providers because the firm represents large numbers of potential patients.

McDonnell-Douglas Corporation[20]

McDonnell-Douglas Corporation employs over 125,000 people throughout the U.S., Canada, and overseas. In 1985, McDonnell-Douglas reorganized its Employee Assistance Program. For the last decade, the EAP has been centrally managed, with brief assessment and treatment provided by contract professionals who are supervised by internal EAP staff. Internal staff are also responsible for program quality, system management, provider development and communications.

A comprehensive study of the EAP's financial effectiveness was begun in 1986. Three groups were compared — all EAP clients between 1985 and 1989, all other employees who had been treated for addiction but who had not used the EAP, and a carefully matched group of "control" employees who were not treated at any time between 1985 and 1989 for substance abuse or mental illness. Eventually the study included more than 25,000 employees.

The EAP was a good investment, returning approximately $3 for every $1 invested. EAP program operating costs were $2,283,559 (including the costs of compliance with the Drug Free Workplace Law). The EAP saved $2,100,000 in reduced employee medical claims, $3,000,000 in reduced employee dependents' medical claims, and $900,000 in reduced absenteeism (compared to individuals who received treatment elsewhere).

Absenteeism was 29 percent less among persons whose treatment for substance abuse was coordinated by the EAP than for those receiving treatment without the EAP. Termination (fired or quit) was 42 percent less among persons receiving substance abuse treatment through the EAP than those who received treatment that was not coordinated by the EAP. Over 4 years, average excess medical claims for EAP clients treated for substance abuse was $7,150 less than non-EAP clients, a 31 percent difference. Average excess medical claims for dependents of EAP clients treated for substance abuse was $14,728 less than dependent claims of Non-EAP clients (39 percent less).

A managed behavioral health plan (ASSIST)[21] was introduced in

the McDonnell-Douglas Helicopter Company in 1989 which combined case management provided through an employee assistance program and a selected provider network. The company's health insurance coverage was also modified to eliminate constraints on any type of treatment, with all services and settings (outpatient, inpatient, and a variety of intermediate types of services) covered based upon individual need.

During the first year of implementation, per capita costs declined by 34 percent, while 17 percent of the covered population used some behavioral health benefits. Inpatient costs declined dramatically, with a 50 percent decrease in psychiatric inpatient costs, a 29 percent decrease in inpatient costs for chemical dependency, and a 47 percent reduction in average length of inpatient stays. As a result of negotiated rates, provider payments were also reduced. Provisions have been incorporated to monitor the quality of care provided through the new system, and no complaints have been received regarding the accessibility, quantity, or quality of care from consumers.

Honeywell[22]

Through a carve-out arrangement, Honeywell currently covers more than 12,000 employees in managed systems of care for behavioral health care. In creating this program, caps for behavioral health services were eliminated and cost sharing requirements substantially lowered. A multi-disciplinary group practice was selected in each community included in the program, and this group was charged with creating a system which offers a full continuum of behavioral health services along with a quality assurance process and outcome evaluation based on standards of care. The system determines the most appropriate care for each individual, develops a treatment plan, and provides case management. Honeywell also added a prevention focus to the program by integrating work site programs (such as health promotion activities and an EAP) to ensure early and easy access to services. These changes resulted in a 40 percent reduction in costs for the first year of implementation, and increases have been held to an average of 4

percent in subsequent years. The response from employees and dependents has been extremely positive.

U.S. Behavioral Health (USBH)[23]

U.S. Behavioral Health (USBH) is one of an increasing number of specialized managed behavioral health care companies from which corporations may purchase substance abuse and mental health care. USBH utilizes participating provider networks and case managers with professional expertise to develop individualized treatment plans for beneficiaries. A wide array of services are included in the provider networks including partial hospitalization/day treatment, intensive in-home services and support services as well as outpatient, acute inpatient, and residential care. An approach involving the liberal substitution of benefits is used along with frequent treatment plan review which allows for diversion from inappropriate levels of care. The experience of seven companies implementing managed behavioral health programs through this mechanism reveals both increased utilization and cost savings when comparing the year immediately preceding implementation of the managed care system with the year following implementation. All seven companies experienced reduced per member per month behavioral health expenses (average 23% reduction) and reduced behavioral health inpatient days per 1,000 persons (average 21% reduction). As a percentage of total medical claims, behavioral health claims decreased from 11.8 to 8.3 percent. These savings were achieved at a time when behavioral health claims nationwide were increasing at rates of 20 to 40 percent. Further, utilization of behavioral health services increased significantly for five of the seven companies which suggests that cost savings were not achieved as a result of restricted access to services. USBH reports that savings continue to be achieved following the first year of implementation of managed behavioral health care.

STATEWIDE TREATMENT SYSTEMS

- About two-thirds of the total costs for treatment of addictive disorders comes from public sources. State governments spent $1.259 billion in 1992 directly on treatment, and they channeled an additional $1.293 billion of Federal funds for the prevention and treatment of addiction.[24]
- Recipients of government-supported treatment are generally poor, have severe and long-standing addictions, and probably have poorer chances of recovery from their addiction than more affluent, employed persons whose care is paid for by insurance. Concern about whether government funds are being spent wisely has prompted several States to undertake studies to find out whether patients have improved following treatment. These Statewide studies have looked at each of the five dimensions that are important when gauging successful treatment: reduced alcohol and other drug use; reduced criminal justice involvement; reduced health care use; improved employment or educational involvement; and improved social functioning.
- As States have faced very tight budgets, they have become laboratories for trying out new ways to control or cut the costs of treatment. More than half of the States are experimenting with strategies for controlling substance abuse treatment expenses by better matching patients with the treatment that they need, restricting access to expensive services, and negotiating reductions in service charges. These experiments, often referred to as managed care, are being studied to see if they truly reduce costs without compromising quality or outcomes.
- More than a dozen States have completed outcomes studies within the last several years, and with more than half of the States testing managed care for people with addictions who are eligible for Medicaid, many new studies will be released shortly.[25]

Minnesota[26]

In 1988, Minnesota implemented a managed care system for treatment of addictions for residents with low incomes. The goals of the Consolidated Fund include the provision of timely assessment and placement, the provision of a wide range of clinical options, and the creation of incentives for lower treatment costs. Various funding sources (Medicaid, general assistance medical care, Federal substance abuse block grant, State hospital and State treatment grants) are combined into a single fund, which allows funding to follow the client to the most appropriate placement. The fund is designed to ensure a range of services are available, while promoting cost-savings through the greater use of less intensive, less expensive treatment modalities. Both private and public providers compete for clients funded by the State agency. Of 350 treatment providers in Minnesota 325 (93%) are Consolidated Fund vendors. The State requires all vendors to use uniform placement criteria, assessment, licensing, and client data reporting systems. Between 17,000 to 19,000 clients receive treatment paid for by the Consolidated Fund each year.

Minnesota has done extensive evaluation of the effectiveness of its programs, following for six months after discharge a sample of 19 percent of all persons who received treatment in 1991-1992 from the consolidated fund (5,132) and all treatment sources in the State (11,487).

The overall impact of treatment is striking in each of the important outcome areas measured. Six months after treatment, 64 percent of clients are abstinent. Daily drug use dropped from 35 percent of patients reporting daily use during the six months before treatment to 15 percent during the six months after the end of treatment. Full-time employment increased by 23 percent. The total arrest rate in the six months after treatment was cut by 84 percent, and driving while under the influence (DUI) arrests dropped by 92 percent. Use of medical services and addictions treatment also was reduced substantially.

Almost 80 percent of the costs for treating substance abusing clients are offset in the first year alone by reductions in medical and substance abuse hospitalizations, detoxification, and arrests. In 1991 and 1992, average annual substance abuse treatment expenditures were $50 million. Minnesota estimates annual savings of $39 million, including $7.9 million in saved medical hospital days, $10.8 million in saved residential treatment days (psychiatric hospital days), $3.3 million in saved in reduced detoxification admissions, $9.2 million in avoided DWI arrests, and $8.0 million in other avoided other arrests.

By better contracting and management practices, Minnesota has been able to increase the number of people receiving publicly funded treatment while holding down the cost of treatment. Compared to the previous payment system, the number of persons treated increased by 35 percent. Inpatient placements decreased from 41 to 30 percent while outpatient treatment increased from 36 to 45 percent. The cost per placement increased 6.6 percent between 1989 and 1992. During the same interval, the cost of other medical services rose more than four times as rapidly, increasing 28.4 percent.

California[21]

California recently reported on an initiative to determine the epidemiology of substance abuse and the outcomes of substance abuse treatment. The State sponsored a large-scale study (CALDATA—the California Drug and Alcohol Treatment Assessment) of effectiveness, benefits, and costs of alcohol and other drug treatment in California, using State data bases, provider records, and follow-up interviews with participants in treatment. Results of the study focus on a study sample drawn in 1992, and are extremely encouraging: treatment is effective, regardless of program or drug type, and this success cuts across racial and socioeconomic categories.

Cost-Benefits: The cost of treating the roughly 150,000 participants represented in the study was $209

million; benefits received during the treatment period and following year were approximately $1.5 billion. Most benefits were realized by calculations concerning crime reduction. The societal benefits of treatment outweighed their costs by ratios from 2:1 to 4:1, across all treatment types. Data from the study also suggest that the cumulative lifetime benefits of treatment will be substantially higher than these short term figures.

Treatment Effectiveness: Treatment was found to be quite effective. In general:

- Crime: The level of criminal activity declined by 66 percent from before treatment to after treatment. Longer participation in treatment yielded lower rates of criminal recidivism.
- Alcohol/Other Drug Use: Declines of approximately 40 percent were reported from before treatment until after treatment.
- Health Care: General health indicators significantly improved; reductions in hospitalizations of about 33 percent were reported.

Other information is also encouraging. Treatment for substances with which the public has been particularly concerned (crack and powdered cocaine, methamphetamines) was as effective as treatment for alcohol problems, and a bit more effective than treatment for heroin addiction. No significant gender, age, or ethnic differences were found in the effectiveness data across treatment types.

California will use this information to help make policy decisions regarding substance abuse treatment and its place in the State's overall health care and social services strategy.

Texas[28]

Texas assessed abstinence rates 6 and 12 months following discharge from treatment from the Austin Rehabilitation Center, a publicly funded treatment site providing detoxification, intensive outpatient treatment, and intensive, intermediate, and long-term care. Of 779 clients who entered the program between February 1990 and August 1991, 739 were interviewed on intake, 420 participated in the six month follow-up interviews, and 207

completed 12 month follow-up interviews.

Of patients who completed treatment, 80 percent were abstinent at six month follow-up, as were 60 percent who dropped out prematurely. Of the clients who were unemployed at admission, 74 percent of treatment completers and 58 percent of non-completers were employed. Almost two-thirds of clients had been arrested in the 12 months prior to entering treatment. Of those clients who had been arrested, 70 percent had not been rearrested 12 months following treatment (including 80 percent of treatment completers).

Colorado[29]

Colorado studied abstinence and criminal justice involvement an average of 16 months following discharge in a sample of 868 former clients discharged during fiscal year 1990. The study statistically selected clients to represent more than 26,000 persons admitted to State-funded treatment program in 1990 and 1991.

Using a measure of treatment responsiveness that included use of alcohol and other drugs and involvement with the criminal justice system, researchers determined that 72 percent of clients were responsive to treatment. Persons with alcohol-related problems were more treatment responsive (75 percent) than those with primarily drug-related problems (68 percent). The study found that average monthly income increased from $605 to $835, reflecting the change in employment—up from 36 percent prior to admission to treatment to 61 percent at follow-up. Involvement in the criminal justice system also changed dramatically. Of those clients who had been arrested in the two years prior to treatment admission, 94 percent had not been arrested for driving under the influence and 80 percent had not been arrested for any other offenses.

Massachusetts:[30]

In 1992, the Massachusetts Department of Public Welfare contracted with a private managed care firm to provide all mental health and substance abuse services under Medicaid. With respect to substance abuse, an expanded range

of services is provided including methadone maintenance, acute inpatient treatment, medically monitored detoxification, short-term residential treatment, day treatment, outpatient treatment, and acupuncture. Utilization management approaches include pre-authorization for admission to acute care facilities and post-admission review for most other levels of care. Intensive clinical management and community support services are now being offered to those at highest risk for readmission. A quality management system is being introduced which measures and shares readmission, continuing care, client satisfaction and other data to monitor and improve provider, regional and State performance.

Although the program is in early stages of development, it has already resulted in increased access to services; changed the mix of inpatient, intensive non-residential and outpatient service use; marginally reduced readmission rates; and sharply reduced costs for acute SA care. These reductions have been largely achieved by delivering acute care in medically monitored residential rather than inpatient settings. Inpatient detoxification admissions have dropped from 50 percent to 10 percent of total detoxification admissions; the vast majority of detox admissions (90 percent) are now completed in the medically monitored residential settings. Considerable savings have been realized by using a network of residential providers for acute care at approximately one-third the cost of hospital-based treatment.

Access to services improved, with the proportion of Medicaid enrollees using behavioral health services increasing by 4.6 percent, from 212.7 per 1,000 enrollees to 222.6 per 1,000. For persons with substance abuse disorders, inpatient hospital treatment was cut by 61 percent, while treatment in free-standing detoxification centers and methadone counseling and dosing increased substantially.

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