

Therapeutic Community Treatment May Reduce Future Incarceration: A Research Note

Nena Messina, Ph.D., UCLA Integrated Substance Abuse Programs

Eric Wish, Ph.D., Director of the Center for Substance Abuse Research (CESAR)

Susanna Nemes, Ph.D., Director of Research, Danya International Incorporated

IMPRISONMENT FOR drug-related offenses is the primary strategy for crime control in the United States. As a consequence, increased reliance on imprisonment for drug offenders has resulted in the tripling of the United States prison populations since 1980 (Beck, 1999; Cohen & Canela-Cacho, 1994). Drug offenders accounted for over 250,000 prisoners in 1997 alone; 21 percent of state, 63 percent of federal prisoners (Mumola, 1999). Moreover, half of state inmates and a third of federal prisoners reported committing their current offense under the influence of alcohol or drugs (Mumola, 1999). Recent estimates from the Arrestee Drug Abuse Monitoring Program (ADAM) are that 68 percent of the arrestees in the United States test positive for one or more drugs (NIJ, 1999).

There are several consequences of imprisonment policies for drug offenses. First, these policies have contributed to large increases in criminal justice costs, because of substantial increases in prison populations. At year end 1999, state prisons were operating between 1 percent and 17 percent above capacity, while federal prisons were operating at 32 percent above capacity (Beck, 2000). Based on current policies and practices, the nation's inmate population is projected to reach two million by late 2001 (Beck & Karberg, 2001). National corrections costs, including probation and parole, were recently reported to be more than \$30 billion annually (Mauer, 1997) and continued imprisonment of drug users will require building new prisons at an estimated cost of about \$75,000 per prison cell (Blumstein, 1995). Second, imprisonment policies have had minimal crime reduction effects on drug offenders, as evidenced by the

fact that traditional sanctions have already been imposed on many repeat offenders and have failed to prevent continued drug use or criminal activity (Cohen & Canela-Cacho, 1994; Mauer, 1997). And third, the disproportionate impact of these policies is felt by minority populations and communities (Tonry, 1995). Although drug use cuts across class and racial lines, drug law enforcement has been directed at inner-city minority communities (Mauer, 1997). Rose and Clear (1998) suggest that overreliance on imprisonment can actually lead to the social conditions that increase crime, such as urban communities facing economic hardship due to the removal of large numbers of adult males. The increased numbers of single-parent households and unsupervised youth that result have been shown to be associated with increases in crime rates (Sampson, 1985; Sampson & Groves, 1989).

Many social scientists recognize the inability of traditional criminal justice policies to deal with the extensive drug problem in this country (Mauer, 1997). Fishbein (1990) contends that mandatory minimum sentences designed to "get tough" on drug crime have had limited success because they fail to address the underlying problems of addiction. The recent development of over 275 drug courts across the United States indicates a growing acceptance that court-ordered community-based treatment may be a promising alternative to imprisonment of drug offenders (Deschenes, Turner, & Greenwood, 1995). Zimring and Hawkins (1995) concur, stating that crime reduction by means of imprisonment lasts no longer than the last day of incarceration. The authors claim that

influencing behavior through appropriate treatment will have a greater likelihood of reducing crime by that offender.

One alternative to incarceration may be placement in a residential therapeutic community. Therapeutic communities (TCs) for substance abuse were first established in the late 1950s, as a self-help alternative to existing treatments, particularly for heroin addicts (McCusker et al., 1995). Today TCs are one of the most common residential treatment modalities available for substance abusers with any type of drug addiction. Length of stay in residential TCs can vary from 15 to 24 months and often requires outpatient treatment (or after-care) immediately following the inpatient treatment phase (DeLeon & Rosenthal, 1989). Traditional TC programs may also be modified to serve a particular clientele, such as adolescents, women only or with children, criminal justice referrals, or specific cultural groups (DeLeon, 2000; DeLeon, Melnick, Schoket, & Jainchill, 1993).

Findings from the Treatment Outcome Prospective Study (TOPS) on 10 TCs reported that clients needed six to 12 months of treatment in order to reduce recidivism, and at least a year to reduce use of drugs; however, decreases have been found among clients who stayed in treatment for as little as 50 days (Condelli & Hubbard, 1994). More recent findings from a national sample of community-based programs that participated in the Drug Abuse Treatment Outcome Study (DATOS) found that stays of three months or longer generally predicted better follow-up outcomes (Simpson, Joe, Broome, Hiller, Knight, & Rowan-Szal, 1997), including higher rates of post-treatment employment

and earnings (Condelli & Hubbard, 1994; French, Zarkin, Hubbard, & Rachal, 1993).

There is controversy over the duration of treatment needed for positive outcomes (McCusker et al., 1995). Over the years, studies have repeatedly found that longer programs have lower completion rates and research has shown that success is closely related to a client's completion of the program (Heit, 1991; Martin, Butzin, & Inciardi, 1995; Nemes, Wish, & Messina, 1999). Another correlate of success is outpatient treatment immediately following inpatient treatment (Nemes et al., 1999), and it has been suggested that lengthy programs need to consider shortening the inpatient phase and increasing the outpatient phase in order to reduce client attrition and costs (Condelli, 1986; DeLeon & Rosenthal, 1989; Hiller, Knight, Devereux, & Hathcoat, 1996).

Clients may enter treatment for a variety of reasons including legal, family, employment, or medical pressures, as well as the desire to terminate addiction and associated behaviors (DeLeon, 2000). Both external and internal motivation are believed to play important roles in the treatment process and recovery (Farabee, Prendergast, & Anglin, 1998). Clients who remain in treatment the longest appear to be those who possess a continued motivation to change (DeLeon & Rosenthal, 1989); although clients entering treatment under legal coercion (e.g., most often referral or mandates from the court, probation, or parole) have consistently been found to stay in treatment longer than voluntary admissions, which would result in an indirect relationship between legal coercion and positive treatment outcomes (DeLeon, 1988). Moreover, Farabee et al. (1998) found that the use of coercive measures not only increased the likelihood of offenders remaining in treatment, but also increased the likelihood of offenders entering treatment early in their substance-abusing careers, which has also been associated with more positive treatment outcomes (DeLeon & Jainchill, 1986). Moreover, studies have shown there is little difference in TC treatment outcomes for legally referred clients compared with non-legally referred clients (DeLeon, 1988).

Although there is a substantial amount of knowledge about TCs, many of the prior studies could have important limitations. First, only one study has randomly assigned clients to treatment programs with different durations (McCusker et al., 1995). Second, many of the studies analyzed data from very low

follow-up rates, potentially producing a sample biased towards easier to find and less deviant respondents. And third, the majority of the studies have relied primarily on self-report measures of recent drug use and criminal activity, rather than objective measures (e.g. urine tests, arrest and conviction records). Previous research has found substantial underreporting of cocaine use at follow-up (Messina, Wish, & Nemes, 2000) and Wish, Hoffman, and Nemes (1997) have outlined the potential problems of self-reports in the absence of objective measures.

In this study we use findings from the District of Columbia Treatment Initiative (DCI) to look at whether completing treatment in two residential TCs of varying length might be an effective strategy for reducing the likelihood of a subsequent incarceration.

The District of Columbia Treatment Initiative (DCI)

The DCI was a randomized experiment designed to test the efficacy of providing TC treatment and subsequent outpatient treatment of different lengths and intensity to clients entering treatment in Washington, D.C. The DCI study examined client outcomes in an experiment that addressed many of the limitations of prior research. Clients were randomly assigned to one of two 12-month programs with different lengths of inpatient and outpatient treatment. Objective measures (urine tests and criminal justice data) and self-reports were collected during the pre- and post-treatment periods. And, the very high follow-up rate achieved minimized sample bias in the treatment outcome findings.

The primary difference between the Abbreviated Inpatient and Standard Inpatient TCs was the length of inpatient and outpatient treatment provided. The Standard Inpatient Program offered 10 months of inpatient treatment followed by two months of outpatient services, and the Abbreviated Inpatient Program offered six months of inpatient treatment followed by six months of outpatient services. Persons who sought treatment at the Central Intake Division (CID) run by the D.C. Alcohol and Drug Abuse Services Administration (ADASA) or who were ordered by the court to obtain treatment were eligible to volunteer to participate in the DCI. A more detailed description of the DCI appears in Nemes, Wish, and Messina (1998).

As part of this extensive outcome study, we found that treatment completion was related to marked reductions in drug use at fol-

low-up and post-discharge arrests, as well as increased employment (Nemes et al., 1999). We also discovered that clients interviewed in the community were much more likely to have completed treatment than clients interviewed in prison (44 percent vs. 10 percent). It appeared reasonable to hypothesize that treatment completion had reduced the likelihood of being incarcerated at follow-up. We first considered the obvious possibility that this relationship was circular, with clients being terminated from treatment *after* they had been arrested and incarcerated. Yet, we found that only four clients in our sample reported being terminated from treatment because of an arrest. We excluded these four clients from further analysis. A complete description of the DCI clients is provided in the following section.

Methods

Subjects

A total of 412 clients were randomly assigned to the Standard ($n = 194$) or Abbreviated Inpatient ($n = 218$) programs. An effort to locate and reinterview all 412 clients began 31 months after the first client left treatment. To qualify for a follow-up interview, clients must have completed a tracking information form and signed a consent form at the baseline interview, agreeing to participate in the follow-up. The follow-up time period was targeted for six months post-discharge (e.g., discharge dates reflect the last day of outpatient services for treatment completers and the last day of inpatient or outpatient treatment for those who drop out). However, the follow-up time period actually averaged about 19 months post-discharge.

We successfully reinterviewed 380 (93 percent) of the 408 clients in the target sample (four respondents were deceased and dropped from the follow-up study). Of the 28 clients not followed up, two refused to participate and three were scheduled multiple times but never kept their appointments. Twenty-three persons could not be contacted. For the purpose of this study we excluded the four clients who reported being terminated from treatment due to an arrest, leaving a final sample of 376 clients.

Clients ranged in age from 19 to 55 years, with a mean age of 32. Approximately 72 percent of the sample are male ($n=271$) and the majority are black (99 percent, $n=372$). Clients completed an average of 11 years of education and 70 percent had never been married

($n=260$). Ninety-two percent ($n=345$) of the sample had a history of prior arrest, with an average of 7.8 adult arrests prior to treatment admission. This was a primarily cocaine-abusing sample—52 percent of the clients were diagnosed with cocaine/crack as their primary drug disorder ($n=161$) and 41 percent had problems with both cocaine and heroin ($n=127$).

Data Collection

Extensive baseline interview information was collected for each client at admission. All clients were administered the Individual Assessment Profile (IAP) before random assignment to treatment (Wish et al., 1997). The IAP is a structured interview that provides detailed demographic and drug-use information concerning all facets of the client's life (Flynn et al., 1995). Immediately after the IAP interview, clients received the Reading Comprehension Subtest of the Peabody Individual Achievement Test-Revised, which measured the client's reading grade level. Clients who were found to be only marginally literate were not asked to proceed with any written psychological tests (Hoffman et al., 1995), but were eligible for treatment (20 percent read below the sixth grade level) (Karson & Gesumaria, 1997). Those who had an appropriate reading grade level were administered a battery of psychological tests, which included the Beck Depression Inventory, the Brief Symptom Inventory, the Millon Clinical Multiaxial Inventory II, the State-Trait Anger Expression Inventory, the Trail Making Test, and the Structured Clinical Interview for DSM-III-R (SCID-I and SCID-II).

The Individual Assessment Profile Post-Discharge Follow-up Questionnaire (IAPF) was administered at follow-up. Criminal records were obtained from the D.C. Pretrial Services Agency and pre- and post-treatment arrests were coded as measures of criminal histories.

Results

We first used bivariate analyses to identify factors that were associated with incarceration at follow-up and immediately found that only 6 percent of the 105 women were incarcerated at follow-up compared with 24 percent of the men ($n=65$). Due to the very low number of women incarcerated ($n=6$), we limited our analyses to the 271 male clients.

In addition to treatment completion status, we looked at a number of demographic, criminal history, and substance-abuse history

TABLE 1.

Percent of Men Incarcerated at Follow-up, by Client Characteristics
($n=271$)^a

Characteristics	% Incarcerated	P-value
Age at Admission		.01
19–25 ($n=44$)	48	
26–30 ($n=86$)	24	
31–35 ($n=71$)	18	
>36 ($n=70$)	14	
Education at Admission		.21
11 years or less ($n=176$)	26	
12 years or more ($n=93$)	18	
Ever Had Legitimate Job		.35
Yes ($n=245$)	23	
No ($n=24$)	29	
Marital Status at Admission		.09
Married/Living As ($n=41$)	17	
Divorced/Separated ($n=38$)	13	
Never Married ($n=190$)	27	
Criminal Justice Status at Admission		.01
None ($n=78$)	4	
Probation, Parole, Bail, Jail ($n=192$)	32	
Total Prior Arrests		.01
0–1 ($n=33$)	0	
2–5 ($n=68$)	19	
6–9 ($n=74$)	30	
>10 ($n=95$)	32	
Primary Drug Problem		.01
Marijuana ($n=4$)	100	
Alcohol ($n=9$)	33	
Heroin ($n=8$)	38	
Cocaine ($n=112$)	21	
Heroin & Cocaine ($n=94$)	14	
Prior Treatment		.05
Yes ($n=123$)	19	
No ($n=145$)	28	
SCID Diagnosis		.41
No Disorder ($n=73$)	25	
Other Disorders ($n=16$)	6	
Depression ($n=15$)	33	
Antisocial Personality Disorder ($n=123$)	19	
Treatment Program Status		.01
Did Not Graduate ($n=173$)	36	
Graduated ($n=98$)	7	
Treatment Program Attended		.98
Standard Inpatient ($n=138$)	24	
Abbreviated Inpatient ($n=133$)	24	

^aNumbers vary slightly due to missing data.

TABLE 2.
Coefficients of Logistic Regression Assessing Incarceration at Follow-up
(*n*=222)

Variables	Adjusted Odds Ratio			
	Beta	P-value	Exp (B)	% Change in Odds
Age	-0.1004	.01	0.9045	-10
Total Prior Arrests	0.0511	.13		
C.J. Status at Admission				
[None]				
Probation, Parole, Bail, Jail	2.7447	.01	15.5605	+1,457
Primary Drug Disorder				
[Alcohol/Marijuana]		.02		
Heroin	0.9275	.45		
Cocaine	-1.2851	.13		
Heroin & Cocaine	-1.8683	.04	0.1544	-85
Prior Drug Treatment				
[No]				
Yes	0.0917	.83		
Treatment Status				
[Did Not Graduate]				
Graduated	-2.8257	.01	0.0593	-94
Constant	0.9796	.51		

[Brackets] indicate reference category.

variables collected at treatment admission that we thought might be related to post-treatment incarceration. Table 1 shows that six of the eleven variables that we examined were significantly related to being incarcerated at follow-up. Most notably, men who dropped out of treatment (36 percent vs. 7 percent), who were under 25 years old at admission (48 percent vs. 24 percent vs. 18 percent vs. 14 percent), and who had extensive involvement with the criminal justice system prior to treatment (e.g., criminal justice status at admission and prior arrests) were most likely to be incarcerated at follow-up. Clients who were under some form of criminal justice supervision (e.g., probation, parole, on bail, or in jail) prior to treatment (32 percent vs. 4 percent), and who were arrested six or more times prior to treatment (30 percent vs. 19 percent) were most likely to be incarcerated at follow-up.

Furthermore, a very small number of clients whose primary admitting drug problem was marijuana were more likely to be incarcerated at follow-up (100 percent vs. 33 percent vs. 38 percent vs. 21 percent vs. 14 percent), compared to primary problems with alcohol, heroin, or cocaine (with or without heroin). And, clients who had received prior

substance-abuse treatment were significantly less likely to be incarcerated at follow-up (19 percent vs. 28 percent). Education completed prior to admission, employment history, marital status, SCID diagnoses, and treatment program attended were not related to post-treatment incarceration.¹

Logistic regression analysis was performed to determine the degree of the association between treatment completion and incarceration at follow-up while controlling for significant client characteristics and other related factors found in the bivariate analyses. Adjusted odds ratios were used to interpret statistically significant effects:

$$[\text{Exp}(\text{B}) - 1] \times 100 = \text{adjusted odds ratio.}$$

Odds ratios for categorical variables represent the odds of the respective outcome for clients who had the attribute indicated by the variable, relative to the odds for clients in a se-

lected reference category.

Age and total prior arrests were entered into the regression equation as continuous variables, and primary drug problems of alcohol and marijuana were combined due to the low number of clients within each category. Table 2 shows that three treatment admission variables—age, primary drug problem, and criminal justice status—remained significantly related to incarceration at follow-up (prior drug treatment and total prior arrests were no longer significant). Each one-year increase in the age of a client reduced the odds of being incarcerated by 10 percent. Having a primary drug problem of cocaine and heroin combined reduced the odds of being incarcerated at follow-up by 85 percent, compared to having a problem with marijuana or alcohol. However, formal criminal justice supervision at treatment admission increased the odds of incarceration at follow-up by over 1000 percent.

After controlling for treatment admission variables, treatment completion remained significantly related to incarceration at follow-up. Completing treatment reduced the odds of being incarcerated at follow-up by 94 percent. Due to the significant effect of treatment completion, we felt it necessary to report the characteristics of treatment completers from previous findings with this sample (Nemes et al., 1999). Additional logistic regression analyses (not shown here) revealed that older clients diagnosed with heroin dependence were more likely to complete treatment. In addition, clients who were under criminal justice supervision at admission were more likely to complete treatment than those who had no criminal status. It is important to note that the treatment program attended (Abbreviated Inpatient or Standard Inpatient) was not a significant predictor of treatment completion. This finding takes on added significance in view of other findings showing that completing treatment was related to positive outcomes regardless of type of treatment program attended.

Discussion

Our findings suggest that completion of treatment was associated with considerable reductions in incarceration at follow-up in this high-risk population. Even after controlling for the large negative effect of being under formal criminal justice supervision at admission (i.e., a high-risk population), completing treatment remained an important factor associated with substantially lower probabili-

¹SCID-generated diagnostic categories are based on hierarchical categories and may include one or more of the previous disorders. For example: Clients diagnosed with depression may also be diagnosed with other Axis I and Axis II disorders. Clients diagnosed with antisocial personality disorder (APD) may also have other disorders.

ties of incarceration. This result is consistent with our prior findings indicating that treatment completion was related to a number of other positive outcomes at follow-up (Nemes et al., 1999), even after controlling for a multitude of other variables related to treatment outcomes, such as inpatient treatment services (Messina, Nemes, Wish, & Wraight, 2001), antisocial personality disorder (Messina, Wish, & Nemes, 1999), and gender (Messina, Wish, & Nemes, 2000).

One finding that is difficult to interpret is the small handful of marijuana/alcohol users that were at an increased risk of being incarcerated. The only drug that has been experimentally shown to cause aggression is alcohol (Reiss & Roth, 1993), which could be associated with the commission of more violent crimes that usually result in incarceration. In fact, more crimes are committed under the influence of alcohol than under the influence of all illegal drugs combined (Boyum & Kleiman, 1995). Yet, our bivariate analyses indicate that this high-risk group was clearly driven by the small number of marijuana users. The relationship between drugs and crime is complex and not that easy to understand. Boyum and Kleiman (1995) report that those who sell drugs publicly are more likely to be involved in predatory crimes and drug sales have been found to have a strong association with committing numerous crimes. We explored the possibility that this small group was more likely to have previously been involved in drug trafficking and found that all of the groups were equally likely to have had a previous arrest for drug sales.

Although our findings indicate that treatment completion is associated with a reduced likelihood of being incarcerated at follow-up, it is difficult to identify the mechanism behind these findings. Is it treatment completion or client compliance that is most important? Clients who are motivated to complete treatment could also be the most motivated to do well after treatment. Previous findings from the DCI outline the difficulties of identifying clients that are likely to complete treatment (Nemes et al., 1999). Two consistent findings are that older clients (Condelli & Hubbard, 1994), and those that are court-ordered to obtain treatment (DeLeon, 1988; DeLeon, 2000) are generally more likely to remain in treatment. Regard-

less of the "completion versus compliance" dilemma, the findings from this study should be replicated. If persons who complete treatment in a TC are less likely to be incarcerated at follow-up, residential treatment may be one answer to the rising costs of the criminal justice system in the United States, as well as to the huge social costs to minority populations.

References

- Beck, A. (1999). Trends in U.S. correctional populations: Why has the number of offenders under supervision tripled since 1980? In: K. Haas and G. Alpert (eds.), *The dilemmas of corrections: Contemporary readings, 4th edition*. Waveland Press: Prospect Heights, Illinois.
- Beck, A. (2000). *Prisoners in 1999*. Bureau of Justice Statistics Bulletin, Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics.
- Beck, A. & Karberg, J. (2001). *Prison and Jail Inmates at Midyear 2000*. Bureau of Justice Statistics Bulletin, Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics.
- Blumstein, A. (1995). Prisons. In: J. Wilson & J. Petersilia (Eds.), *Crime*. San Francisco, CA.: Institute for Contemporary Studies.
- Boyum, D., & Kleiman, M. (1995). Alcohol and other drugs. In: J. Wilson & J. Petersilia (Eds.), *Crime*. San Francisco, CA.: Institute for Contemporary Studies.
- Cohen, J., & Canelo-Cacho, J. (1994). Incarceration and violent crime. In: A. Reiss and J. Roth (Eds.), *Understanding and preventing violence: Consequences and control, vol 4*. Washington, D.C.: National Academy of Sciences.
- Condelli, W. (1986). Client evaluations of therapeutic communities and retention. In: G. DeLeon & J. Ziegenfuss (Eds.), *Therapeutic communities for addictions*. Springfield, IL: Charles C. Thomas; 1986.
- Condelli, W., & Hubbard, R. (1994). Relationship between time spent in treatment and client outcomes from therapeutic communities. *Journal of Substance Abuse Treatment, 11*, 25-33.
- DeLeon, G. (1988). Legal pressure in therapeutic communities. *Journal of Drug Issues, 18*(4), 625-640.
- DeLeon, G. (2000). *The Therapeutic Community: Theory, Model, and Method*. Springer Publishing Company: New York, NY.
- DeLeon, G., & Jainchill, N. (1986). Circumstances, motivation, readiness and suitability as correlates of treatment tenure. *Journal of Psychoactive Drugs, 18*, 203-208.
- DeLeon, G., Melnick, G., Schoket, D., & Jainchill, N. (1993). Is the therapeutic community culturally relevant? Findings on race/ethnic differences in retention in treatment. *Journal of Psychoactive Drugs, 25*(1), 77-86.
- DeLeon, G., & Rosenthal, M. S. (1989). Treatment in residential therapeutic communities. In T. Karasu (Vol. Ed.), *Treatments of Psychiatric Disorders: Vol. 2* (pp. 1380-1398). American Psychiatric Press.
- Deschenes, E., Turner, S., & Greenwood, P. (1995). Drug court or probation?: An experimental evaluation of Maricopa County's drug court. *The Justice System Journal, 18*(1), 56-73.
- Farabee, D., Prendergast, M., & Anglin, D. (1998). The effectiveness of coerced treatment for drug-abusing offenders. *Federal Probation, 62*(1), 3-10.
- Fishbein, D. (1990). Biological perspectives in criminology. *Criminology, 28*, 27-72.
- Flynn, P., Hubbard, R., Luckey, J., Phillips, C., Fountain, D., Hoffman, J., Koman, J. (1995). The Individual Assessment Profile (IAP): Standardizing the assessment of substance abusers. *Journal of Substance Abuse Treatment, 12*, 213-221.
- French, M., Zarkin, G., Hubbard, R., & Rachal, J. (1993). The effects of time in drug abuse treatment and employment on posttreatment drug use and criminal activity. *American Journal of Drug and Alcohol Abuse, 19*, 19-33.
- Heit, D. (1991). *The therapeutic community in America today*. Therapeutic Communities of America, 14th World Conference of Therapeutic Communities. Montreal, Canada.
- Hiller, M., Knight, K., Devereux, J., & Hathcoat, M. (1996). Posttreatment outcomes for substance-abusing probationers mandated to residential treatment. *Journal of Psychoactive Drugs, 28*, 291-296.
- Hoffman, J., Schneider, S., Koman, J., Flynn, P., Luckey, J., Cooley, P., Wish, E., & Diesenhuis, H. (1995). The centralized intake model for drug abuse treatment: The role of computerized data management. *Computers in Human Behavior, 11*(2), 215-222.

- Karson, S., & Gesumaria, R. (1997). Program description and outcome of an enhanced, six-month residential therapeutic community. In: G. DeLeon (ed.), *Community as method: Therapeutic communities for special populations and special settings*. Westport, Connecticut: Praeger, 201-212.
- Martin, S., Butzin, C., & Inciardi, J. (1995). Assessment of a multistage therapeutic community for drug-involved offenders. *Journal of Psychoactive Drugs*, 27, 109-116.
- Mauer, M. (1997). Lock 'em up and throw away the key: African-American males and the criminal justice system. In J. Marquart & J. Sorenson. *Correctional contexts: Contemporary and Classical Readings*. Roxbury Publications Co.: Los Angeles, CA.
- McCusker, J., Vickers-Lahiti, M., Stoddard, A., Hindin, R., Bigelow, C., et al. (1995). The effectiveness of alternative planned durations of residential drug abuse treatment. *American Journal of Public Health*, 10, 1426-1429.
- Messina, N., Wish, E., & Nemes, S. (1999). Therapeutic community treatment for substance abusers with co-occurring antisocial personality disorder. *Journal of Substance Abuse Treatment*, 17 (1&2), 121-128.
- Messina, N., Wish, E., & Nemes, S. (2000). Correlates of underreporting of post-discharge cocaine use among therapeutic community clients. *Journal of Drug Issues*, 30(1), 116-132.
- Messina, N., Wish, E., & Nemes, S. (2000). Predictors of treatment outcomes in men and women admitted to a therapeutic community. *The American Journal of Drug and Alcohol Abuse*, 26(2), 207-228.
- Messina, N., Nemes, S., Wish, E., & Wraight, B. (2001). Opening the black box: The impact of inpatient treatment services on client outcomes. *Journal of Substance Abuse Treatment*, 20, 1-7.
- Mumola, C. (1999). *State and Federal Prisoners, 1997*. Bureau of Justice Statistics Bulletin, Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics.
- Nemes, S., Wish, E., & Messina, N. (1998). *The District of Columbia treatment initiative (DCI) final report*. Published by the National Evaluation Data and Technical Assistance Center (NEDTAC), for the Center for Substance Abuse Treatment.
- Nemes, S., Wish, E., and Messina, N. (1999). Comparing the impact of standard and abbreviated treatment in a therapeutic community: Findings from the District of Columbia Treatment Initiative Experiment. *Journal of Substance Abuse Treatment*, 17(3&4), 339-347.
- National Institute of Justice (1999). *Comparing drug use rates of detained arrestees in the United States and England*. Washington, D.C.: U.S. Department of Justice.
- Reiss, A., & Roth, J. (1993). *Understanding and preventing violence*. Washington, D.C.: National Academy of Sciences.
- Rose, D. & Clear, T. (1998). Incarceration, social capital, and crime: Implications for social disorganization theory. *Criminology*, 36, 411-479.
- Sampson, R. (1985). Neighborhood and crime: The structural determinates of personal victimization. *Journal of Research in Crime and Delinquency*, 22, 7-40.
- Sampson, R. & Groves, W. (1989). Community structure and crime: Testing social disorganization theory. *American Journal of Sociology*, 94(4), 774-802.
- Simpson, D., Joe, G., Broome, K., Hiller, M., Knight, K., & Rowan-Szal, G. (1997). Program diversity and treatment retention rates in the Drug Abuse Treatment Outcome Study (DATOS). *Psychology of Addictive Behaviors*, 11(4), 279-293.
- Tonry, M. (1995). *Malign neglect: Race, crime, and punishment in America*. New York: Oxford University Press.
- Wish, E., Hoffman, J., & Nemes, S. (1997). The validity of self-reports of drug use at treatment admission and at follow-up: Comparisons with urinalysis and hair assays. In: L. Harrison (Ed.), *The Validity of Self-Reports: Implications for Survey Research*. NIDA Research Monograph, 167, 200-225. Rockville, MD: National Institute on Drug Abuse.
- Zimring, F. E., & Hawkins, G. (1995). *Incapacitation: Penal confinement and the restraint of crime*. New York: Oxford University Press.