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RESEARCH REVIEWS

CLINICAL PERSPECTIVE

SCIENCE AND PRACTICE IN ACTION

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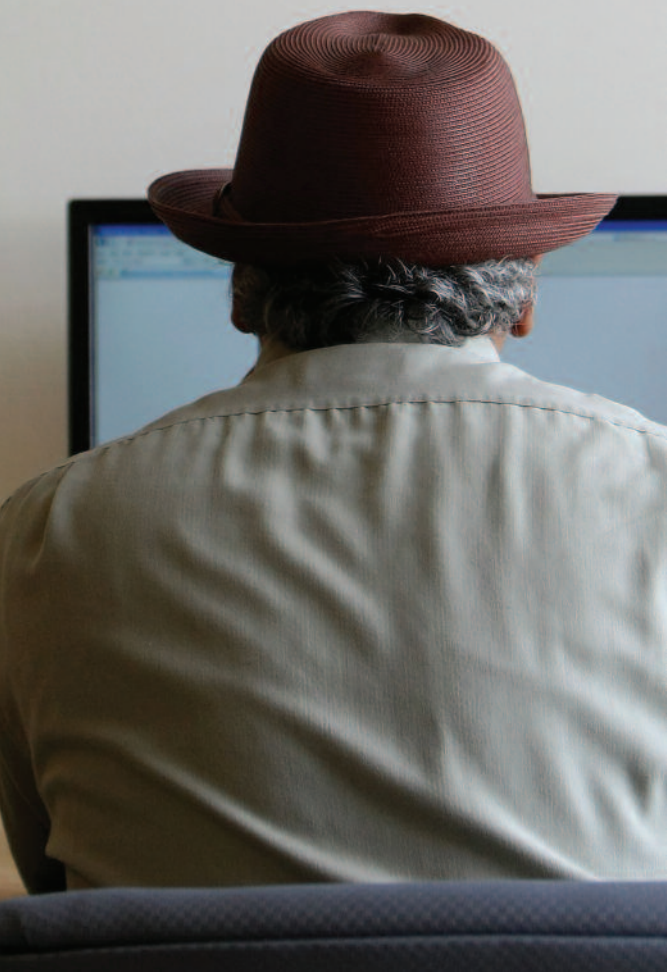

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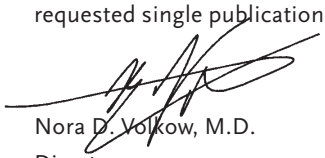
A Note From NIDA's Director

The rehabilitation of substance-abusing criminal offenders is an urgent issue for public health and public safety. In addition, improving treatment for these individuals could be a key to raising the overall success rates in the Nation's drug abuse treatment system. In some States, as many as two-thirds of those who enroll in community treatment programs do so under judicial mandate (see "Drug Abuse Treatment Beyond Prison Walls," page 24). Yet, recent meta-analyses suggest that substance-abusing offenders benefit less from interventions to reduce recidivism or drug abuse than do substance-abusing nonoffenders or offenders who are not involved with drugs: The findings showed smaller intervention effects in study populations consisting exclusively of substance-abusing offenders than in general substance abuse or offender populations (see "Interventions to Promote Successful Re-Entry Among Drug-Abusing Parolees," page 6).

To meet the challenge and gain the benefits of improving care for substance-abusing offenders, NIDA launched the Criminal Justice–Drug Abuse Treatment Studies (CJ-DATS) project (*www.cjdats.org*) in 2002. In the project's first 6 years, CJ-DATS researchers have conducted large-scale surveys of treatment availability and effectiveness, setting a baseline for measuring improvements; developed specialized screening and assessment batteries for drug-abusing offenders; and generated and tested strategies to help parolees re-engage with their communities. A second phase of the CJ-DATS project, now under way, addresses implementation issues, including policies and practices to integrate justice and treatment systems and practices.

In 2006, NIDA published *Principles of Drug Abuse Treatment for Criminal Justice Populations,* codifying the lessons learned from CJ-DATS and other research (*drugabuse.gov/PODAT_CJ/principles*). The response to the booklet makes clear that the sense of urgency on this issue is widespread; it has become one of the most requested single publications in NIDA's history.



Nora D. Volkow, M.D.
Director
National Institute on Drug Abuse

Editor's Note

Treating Criminal Offenders: Where Things Stand

Three articles in this issue of *Addiction Science & Clinical Practice* address the issues raised when the destructive cycles of criminality and drug abuse combine. The authors offer stimulating research and practice-based perspectives on ways to improve criminal offenders' chances of extricating themselves from the meshed coils of recidivism and relapse.

Prendergast summarizes what we have learned from nearly 20 studies that analyzed combined data from multiple trials aimed at reducing recidivism or substance abuse. These indicate that a variety of evidence-based treatments can be effective. However, most of the studies evaluated interventions to reduce recidivism in general offender populations or to reduce relapse in general populations of substance abusers. To identify best practices, the field requires more studies in populations consisting of individuals who have both problems. Leukefeld and colleagues describe one such study, a pilot evaluation of an intervention designed specifically to help substance-abusing women offenders reduce their risk factors for HIV infection.

Heaps and colleagues report on a distinguished effort to integrate correctional and substance abuse treatment to ensure public safety as well as recovery. Working with the Illinois criminal justice system on the one hand and selected treatment providers on the other, the authors' organization, Treatment Alternatives for Safe Communities (TASC) of Illinois, guides and coordinates clients' care from arrest through sentencing, incarceration, and parole. The goal is continuity of care at every stage to produce benefits that are cumulative and permanent rather than intermittent and temporary. Other jurisdictions are using the Illinois TASC project as a model.

Together, these articles and the accompanying response panels constitute a brief status report on progress toward breaking the intersecting vicious cycles of criminality and addiction. Though they suggest that we are closer to the beginning than the end of the quest, they also exemplify imaginative conceptual, organizational, and clinical responses to the problems.

Hendricks and Gorbach write on an issue that probably disproportionately affects those drug abusers in the community who have histories of incarceration: the synergistic impact of drugs and HIV on nutritional status. Although the syndromes that occur require specialized evaluation and treatment, drug abuse clinicians have important roles to play as providers of basic nutritional information, sentinels for emerging problems, and collaborators in care.

As always, we hope you find this issue of *Addiction Science & Clinical Practice* engaging and useful. We welcome your responses, suggestions, and proposals for article topics, which you can send to us via *www.nida.nih.gov/ascp/feedback/*.

David Anderson
Editor
National Institute on Drug Abuse

Interventions to Promote Successful Re-Entry Among Drug-Abusing Parolees

Although evaluations have found prison treatment programs to be generally effective, most studies report that paroled graduates of these programs are much more likely to remain drug-free if they receive continuing treatment in the community. This article reviews research findings on principles of effective correctional treatment and the interventions that have been shown to be effective with drug-abusing parolees or that have been tested with general drug-abusing populations and show promise for use with parolees. The article concludes with a discussion of several issues that clinicians need to consider in adopting and implementing these interventions.

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State and Federal prisons in the United States currently house nearly 1.6 million inmates, the majority of whom have drug problems. Treating drug-involved inmates is a potentially powerful strategy for reducing addiction's impact on public safety and public health. Evaluations of prison treatment programs, which have focused mainly on therapeutic community programs, have found them to be effective. Nevertheless, many inmates never have the opportunity to participate. In 2004, only 15 percent of drug-dependent inmates received treatment, while another 35 percent participated in less intensive self-help, peer counseling, or education programs (Mumola and Karberg, 2006).

Each year, more than 600,000 people leave prison and re-enter the Nation's communities. Within 3 years of their release, more than two-thirds of these individuals are rearrested, and one-fourth return to prison with a new sentence (Mumola and Karberg, 2006). Resumption of drug abuse precipitates or contributes to much of this recidivism. In addition to high relapse rates among parolees who never received treatment in prison, studies have found that more than 50 percent of graduates of many prison treatment programs relapse within 12 months (e.g., Martin et al., 1999). This statistic improves by 10 to 20 percent, however, when such graduates attend further treatment in the community (Knight, Simpson, and Hiller, 1999; Martin et al., 1999; Wexler et al., 1999).

Drug abusers who are on parole or probation require interventions that conform to principles of effective correctional treatment. The reasons are twofold. First, the patterns of thinking and behavior and life challenges that correctional treatment addresses to prevent recidivism also condition these patients' potential

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response to drug abuse treatment. Second, criminal activity that leads to a return to prison will interrupt and perhaps cancel the patient's progress toward recovery.

This article summarizes principles of correctional treatment and reviews evidence-based drug abuse interventions for adult parolees and probationers. It then focuses on interventions that promote recovery in general drug-abusing populations and appear promising for use with criminal justice-involved patients. The current understanding of these issues benefits from systematic reviews and multiple-study meta-analyses that, over the past two decades, have identified key features contributing to the effectiveness of some interventions and provided quantitative estimates of effect sizes (Table 1).

PRINCIPLES OF EFFECTIVE CORRECTIONAL TREATMENT

Dr. Donald Andrews and colleagues have been developing a body of research aimed at generating principles of effective correctional treatment—that is, treatment that can reduce rearrests and reincarcerations and can help offenders reintegrate into society (Andrews, 1995; Andrews et al., 1990). Andrews and colleagues argue that correctional programs that follow three principles related to *risk, criminogenic needs,* and *responsivity* produce the best outcomes. Numerous studies and meta-analyses support the importance of these principles (Andrews et al., 1990; Knight, Simpson, and Hiller, 1999; Lowenkamp, Latessa, and Holsinger, 2006). Developed for correctional populations, the principles apply to the large portion of the drug-abusing population that is involved in the criminal justice system.

The *risk principle* consists of two elements: (i) clients who are assessed as being at higher risk for reoffending are more likely to benefit from treatment than lower risk clients; and (ii) higher risk clients should receive more intensive services than lower risk clients. In the work of Andrews and colleagues, "risk" refers to the likelihood of future criminal behavior, but it is reasonable to assume that the principle also holds for drug abuse—that is, offenders with more severe drug problems should receive higher intensity treatment, while those at lower risk of relapse should be referred to less intensive programs, such as drug education, monitoring through drug testing, or self-help. Apart from ensuring optimal outcomes, matching problem severity to treatment approach makes for efficient use of scarce treatment resources. What constitutes high and low risk depends on whether the patient is a probationer or parolee and what treatment resources are available. The guidelines for designating clients as at high risk will be tighter in systems where intensive services are in short supply than in systems where they are more available.

According to the *criminogenic needs principle,* offenders have many needs, and correctional treatment should focus on those related to recidivism. Andrews and colleagues (1990) have identified the following targets as the most promising for correctional treatment: procriminal attitudes, procriminal associates, impulsivity, risk taking, limited self-control, poor problem-solving skills, poor educational and employment skills, and drug and alcohol dependence. These problems are all associated with drug abuse as well as recidivism. Offenders also have other needs that may require attention for various reasons, but are not associated with criminal behavior and have little or no impact on recidivism. These include enhancing self-esteem, improving living conditions, and addressing vaguely defined personal or emotional problems. Although correctional treatment should not focus on these needs, addiction treatment might benefit from such focus. Determining risk levels and needs requires assessment instruments suitable for identifying crime factors and drug use factors.

Andrews and colleagues (1990) describe the *responsivity principle* as concerned with "the selection of styles and modes of service that are (a) capable of influencing the specific types of intermediate targets that are set

The following targets are promising for correctional treatment: procriminal attitudes, procriminal associates, impulsivity, risk taking, limited self-control, poor problem-solving skills, poor educational and employment skills, and drug and alcohol dependence.

TABLE 1. Effect Sizes From Meta-Analyses of Treatment Interventions for Drug-Abusing and Offender Populations

INTERVENTION	CITATION	SETTING	OUTCOME	NO. OF STUDIES (NO. OF SUBJECTS)	EFFECT SIZE *(r)*	SIGNIFICANCE
General Drug Abuser Treatment Samples						
Case management	Hesse et al., 2007	Community	Drug use	8 (2,391)	.06	NS
Case management	Hesse et al., 2007	Community	Linkage with services	11 (3,132)	.21	S
Cognitive-behavioral therapy	Dutra et al., 2008	Community	Drug use	13 (NR)	.14	S
Community drug treatment	Prendergast et al., 2002	Community	Drug use	78 (NR)	.15	S
Contingency management	Dutra et al., 2008	Community	Drug use	14 (NR)	.28	S
Contingency management	Griffith et al., 2000	Community (Methadone tx)	Drug use	30 (NR)	.25	S
Contingency management	Lussier et al., 2006	Community	Drug use	30 (2,390)	.32	S
Contingency management	Prendergast et al., 2006	Community	Drug use	47 (NR)	.21	S
Motivational interviewing	Burke et al., 2003	Community	Drug use	5 (717)	.27	S
Relapse prevention	Dutra et al., 2008	Community	Drug use	5 (NR)	.16	S
General Offender Treatment Samples						
Behavioral reinforcement/ incentives	Pearson et al., 2002*	Institution/community	Recidivism	23 (1,935)	.07	NS
Cognitive-behavioral therapy	Landenberger & Lipsey, 2005*	Institution/community	Recidivism	58 (NR)	.11	S
Cognitive-behavioral therapy	Lipsey & Landenberger, 2006*	Institution/community	Arrest	9 (NR)	.14	S
Cognitive-behavioral therapy	Aos et al., 2006	Institution/community	Recidivism	25 (6,546)	.07	S
Cognitive-behavioral therapy	Pearson et al., 2002*	Institution/community	Recidivism	44 (8,345)	.14	S
Relapse prevention	Dowden et al., 2003	Institution/community	Reconviction	31 (NR)	.13	NR
Drug-Abusing Offender Treatment Samples						
Case management	Aos et al., 2006	Community	Recidivism	12 (2,572)	.03	NS
Cognitive-behavioral therapy	Lipton et al., 2002*	Institution/community	Substance use	10 (1,633)	.08	S
Community drug treatment	Aos et al., 2006	Community	Recidivism	5 (54,334)	.07	S

The table includes meta-analyses published in 2000 or later. All of the effect sizes are positive, indicating that the treatment group had a better outcome than the comparison group. Effect sizes from studies that use the standardized mean difference (*d*) have been converted to the correlation coefficient (*r*; Lipsey and Wilson, 2001). Conventionally, an effect size of $r = .10$ is small; $r = .30$ is medium; and $r = .50$ is large (Cohen, 1988). Another way to interpret *r* is as the percentage difference in the outcome between the treatment group and the comparison group; thus, an effect size of $r = .15$ for arrests can be interpreted as a 15 percentage point difference in arrests in favor of the treatment group.

S, significant; NS, not significant; NR, not reported.

*These studies include both juvenile and adult offenders.

with offenders and (b) appropriately matched to the learning styles of offenders." This principle speaks both to the types of treatment that are most appropriate for offenders and to the characteristics of staff who deliver the treatment. The Andrews group (1990) argues that the approaches most appropriate to the learning styles of offenders include behavioral and social learning techniques such as "modeling, graduated practice, role playing, reinforcement, resource provision, and detailed verbal guidance and explanations (making suggestions, giving reasons, cognitive restructuring)." As for treatment staff, the responsivity principle recommends that they relate to their clients with warmth, flexibility, and enthusiasm, but with clear messages about the unacceptability of procriminal attitudes, behaviors, and associations.

Andrews and colleagues developed the risk/needs/responsivity principles from research on treatments for the general population of criminal offenders. In more recent work, the responsivity principle has been extended to apply to the distinctive needs of women, racial/ethnic groups, and clients of different ages (Kennedy, 2003-2004). With specific reference to drug-abusing offenders, NIDA recently published research-based principles of treatment for this population (National Institute on Drug Abuse, 2006; see *NIDA's Principles of Drug Abuse Treatment for Criminal Justice Populations*). The NIDA principles are consistent with the Andrews principles; together, they provide a framework for establishing programs and other interventions that have a high likelihood of reducing drug abuse and its consequences, including associated crime and further involvement in the criminal justice system.

RE-ENTRY INTERVENTIONS FOR DRUG-ABUSING PAROLEES

Multiple meta-analytical studies indicate that cognitive-behavioral therapy (CBT) and relapse prevention interventions reduce parolees' risks for recidivism (Table 1). One meta-analysis found that drug treatment as variously delivered by community providers significantly lowers recidivism among drug-abusing offenders. In addition, individual studies have suggested that pharmacological treatments for heroin abuse and gender-specific programs for women can both reduce drug abuse and crime, and improve psychological functioning in offender populations.

Two considerations strongly support a supposition that CBT and relapse prevention achieve their beneficial effects on recidivism partly by lowering the risk of drug relapse. First, relapse contributes to a high percentage of recidivism; second, other meta-analyses have demonstrated that CBT and relapse prevention curtail drug use among general community samples of drug abusers, significant portions of which typically consist of clients under criminal justice supervision. For these same reasons, case management and contingency management approaches, which also reduce drug use in general community samples, probably can reduce recidivism as well. The fact that a meta-analytical review of studies of case management for drug-abusing offenders did not demonstrate a significant impact on recidivism suggests that programs may need to adapt this approach to make it effective for this population.

Cognitive-Behavioral Therapy

CBT programs for offenders are designed to change the distorted thinking processes and patterns (often called "criminal thinking") that foster criminal behavior. As part of that agenda, CBT programs often incorporate relapse prevention techniques, which help drug-involved offenders to identify high-risk situations for drug use and crime, to develop and practice coping skills to deal with these situations, to create or strengthen social support systems, and to promote feelings of self-efficacy (Dowden, Antonowicz, and Andrews, 2003). Although community drug abuse treatment programs commonly administer CBT to promote recovery, only those that specialize in treating offenders are likely also to address criminogenic needs or criminal thinking. Without such attention, treatment may be insufficient, because those problems also contribute to drug relapse and reversion to criminal behavior.

Relapse contributes to a high percentage of recidivism.

A number of meta-analyses have found CBT programs to be effective in reducing recidivism and, less often, relapse to drug use among offenders (e.g., Landenberger and Lipsey, 2005; Pearson et al., 2002; see Table 1). As the curriculum of CBT programs tends to be of relatively low intensity (usually one or two sessions a week for fewer than 20 weeks; Landenberger and Lipsey, 2005), such programs may not be appropriate for those at highest risk for recidivism and relapse.

Several manualized "brand name" CBT programs are available for adult offenders, including the Cognitive Interventions Program (National Institute of Corrections, 1996), Moral Reconation Therapy *(www.moral-reconation-therapy.com)*, Reasoning and Rehabilitation (Ross, Fabiano, and Ewles, 1988), and Thinking for a

Change *(nicic.org/Library/016672)*. These programs are designed for use in criminal justice settings, but there is no reason that they cannot also be delivered, with proper training of staff, in community facilities that serve drug-abusing offenders.

Case Management

Parolees enter the community with multiple needs that must be addressed to increase their chances of success. In addition to substance abuse disorders, parolees may need assistance with housing, education, employment, transportation, family issues, medical and mental health problems, and documentation (e.g., Social Security card, driver's license). Parole officers can provide some assistance through referrals or service vouchers, but their case loads are large and their primary duty is supervision. Case managers identify and prioritize clients' needs, coordinate clients' drug treatment with services from other agencies, and follow up on client progress, subject to release-of-information agreements. Case management for drug-abusing offenders can be provided within probation or parole agencies, in treatment programs, or through an independent agency such as Treatment Accountability for Safer Communities (TASC).

Parolees may need assistance with housing, education, employment, transportation, family issues, medical and mental health problems, and documentation.

Established in the early 1970s, TASC is the most prominent case management service for criminal justice-involved individuals. Under TASC, drug-abusing offenders (originally probationers, but more recently parolees as well) are offered the opportunity to enter community-based treatment. TASC identifies clients in need of drug treatment, assesses their individual needs, and refers them to community treatment as an alternative or as a supplement to criminal justice sanctions. Once clients are in treatment, TASC case managers monitor client progress and compliance with conditions of release. Case managers also assist clients in making appointments, intervene with service agencies to address problems, and follow up on client progress with treatment providers. TASC programs throughout the United States are guided by 13 critical elements, which provide structure and consistency to services for their clients *(www.nationaltasc.org/components-of-ntasc-programs/critical-elements)*.

A rigorous evaluation of five TASC programs conducted in the early 1990s reported mixed, but overall favorable, outcomes for reducing drug use and crime (Anglin, Longshore, and Turner, 1999). The failure to find consistently positive outcomes across the five programs suggests that treatment effects depend at least partly on the design and quality of specific TASC programs—an observation that applies to any treatment model. Other case management models for drug abusers generally are effective in linking clients with needed services but appear to have limited effect on post-treatment drug use and other psychosocial outcomes (Hesse et al., 2007).

Contingency Management

An extensive body of laboratory and field research supports the effectiveness of contingency management, or the use of positive reinforcement, to promote abstinence and other desirable behaviors among clients in drug abuse treatment (Higgins and Silverman, 1999). Two meta-analyses of studies with general (i.e., not specifically parolee) drug-abusing samples (Lussier et al., 2006; Prendergast et al., 2006; see Table 1) found that clients who received contingency management obtained 20 to 30 percent better drug use outcomes than did comparison clients who were given standard treatment. In general, the positive effects of contingency management tend to diminish in the months after treatment.

Within criminal justice settings, it may be assumed—albeit on theoretical rather than empirical grounds—that contingency management may be particularly useful with offenders who enter treatment under legal pressure. Reinforcement for abstinence or other treatment-related behavior is potentially more effective with this population than coercion and the threat of punishment, which do not necessarily motivate clients to engage in treatment and may provoke active resistance. Although contingency management is a promising approach for drug-abusing parolees, research is needed to examine how best to use it, given that the criminal justice setting traditionally tends to rely on sticks rather than carrots to change behavior.

Residential Treatment

Residential treatment in the community usually follows the therapeutic community (TC) model (DeLeon, 2000). TCs are highly structured residential programs in which clients participate for 6 to 12 months. TCs focus on resocializing the client to a drug-free, crime-free lifestyle, with the "community" of staff and residents and their interactions supplying the primary therapeutic input. Many TCs also provide a variety of support services to facilitate resocialization.

The TC is the most intensive and expensive treat-

ment for those with drug dependence. Per the risk principle, it should be reserved for offenders who are at high risk and those who have severe drug dependence. As noted earlier, the criteria for identifying offenders as at high risk and their drug problems as of high severity depend on the nature of the offender population within a given system and the relative availability of TC treatment and other forms of less expensive treatment. In many jurisdictions, TC treatment is one of the community treatment options for parolees who have participated in prison-based TCs and ensures a continuum of care from one criminal justice setting to another.

TCs have a long history of treating clients involved in the criminal justice system, and the TC focus on treating the whole person (as opposed to drug problems exclusively) is particularly appropriate for this population. A considerable body of research supports the effectiveness of TC treatment for offenders, particularly in a continuum of care that involves prison treatment followed by community treatment (Knight, Simpson, and Hiller, 1999; Martin et al., 1999; Prendergast et al., 2004; Wexler et al., 1999). As has been noted, a key finding of most of these studies is that offenders who participate in prison-based TC programs generally have outcomes similar to those who do not receive treatment, unless they also attend some type of community treatment.

Pharmacotherapy

A number of medications have been found to be effective in treating opiate addiction, including methadone, buprenorphine, and naltrexone (Center for Substance Abuse Treatment, 2005*a*). The handful of research studies that have evaluated the use of medication with opiate-dependent offenders has documented positive outcomes with the use of naltrexone with Federal probationers (i.e., parolees; Cornish et al., 1997) and with the use of methadone in jail (Magura et al., 1993) and in prison (Kinlock et al., 2007). The main barrier to greater use of pharmacotherapy with opiate-dependent offenders is not the small research base, but rather resistance by many criminal justice agencies and treatment providers.

Programs for Women

Clinicians and researchers have recognized for some time that drug-abusing women have needs that are distinct from those of men. They are more likely to have coexisting psychiatric disorders, lower self-esteem, more severe drug abuse histories, and extensive histories of sexual and physical abuse (Grella and Joshi, 1999; Langan and Pelissier, 2001). Drug-abusing women offenders also are at high risk of acquiring sexually transmitted diseases, including infection with HIV, because of their participation in prostitution for money or drugs (Maruschak, 1999).

Compared with programs for men or those that treat both men and women, treatment programs that are designed to be responsive to the needs of women feature different philosophies, treatment approaches, types of services, and staffing patterns. Such programs place a greater emphasis on social model, peer-based treatment approaches than do more general programs (Grella et

NIDA'S PRINCIPLES OF DRUG ABUSE TREATMENT FOR CRIMINAL JUSTICE POPULATIONS (2006)

1. Drug addiction is a brain disease that affects behavior.
2. Recovery from drug addiction requires effective treatment, followed by management of the problem over time.
3. Treatment must last long enough to produce stable behavioral change.
4. Assessment is the first step in treatment.
5. Tailoring services to fit the needs of the individual is an important part of effective drug abuse treatment for criminal justice populations.
6. Drug use during treatment should be carefully monitored.
7. Treatment should target factors that are associated with criminal behavior.
8. Criminal justice supervision should incorporate treatment planning for drug-abusing offenders, and treatment providers should be aware of correctional supervision requirements.
9. Continuity of care is essential for drug abusers re-entering the community.
10. A balance of rewards and sanctions encourages prosocial behavior and treatment participation.
11. Offenders with co-occurring drug abuse and mental health problems often require an integrated treatment approach.
12. Medications are an important part of treatment for many drug-abusing offenders.
13. Treatment planning for drug-abusing offenders who are living in or re-entering the community should include strategies to prevent and treat serious, chronic medical conditions, such as HIV/AIDS, hepatitis B and C, and tuberculosis.

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Programs increasingly include trauma-informed elements within their curricula.

al., 1999). In response to broader societal gender differences, such as women's lower economic status and primary responsibility for child-rearing, these programs are more likely to dispense a wider array of services, including services for children. Because of the high prevalence of past and current sexual and physical abuse among women offenders, re-entry programs increasingly include trauma-informed elements within their curricula (Covington, 1999; Najavits, 2002). A number of studies indicate that women drug abusers do better in treatment programs that are tailored to their particular needs, rather than generic in approach (for a meta-analysis of women's treatment programs, see Orwin, Francisco, and Bernichon, 2001).

Continuing Care

Regardless of the choice of intervention, positive outcomes from prison-based drug treatment programs are most likely to persist when offenders participate in post-release community treatment. The success of a continuing care model, which involves prison treatment followed by community treatment, is contingent on the parolee's appearing for admission to the community treatment program and continuing to attend. Many parolees do not do so, even in States where treatment is a condition of release for parolees with identified drug problems.

Clear guidance from research as to how to increase parolee enrollment in treatment is lacking, but criminal justice agencies and treatment programs can try a variety of potentially effective techniques. They may, for example, use the same provider in prison and in the community, give incentives for enrollment in community treatment, utilize case management to coordinate services, provide transportation from prison to the program, or enlist the parole officer and family members to apply pressure and encouragement to enter treatment.

Three months is generally considered to be the minimum period that a drug abuser must stay in formal treatment to achieve favorable outcomes. Some individuals may need more time, depending on the severity of their drug problems, the presence of other needs, and the intensity of the treatment (Simpson, Brown, and Joe, 1997). Dropout prior to 3 months is common, however (e.g., Brecht, Greenwell, and Anglin, 2005). Surprisingly, some evidence suggests that drug-abusing parolees who leave community treatment after a few weeks have poorer outcomes than those who do not attend community treatment at all (Wexler, Burdon, and Prendergast, 2005). Treatment programs that serve offenders can use a number of evidence-based techniques to promote participation in treatment, including motivational interviewing (Miller and Rollnick, 1991), cognitive enhancement interventions (Czuchry and Dansereau, 2005), and contingency management (Higgins and Silverman, 1999). Client engagement in treatment, as well as maintenance of recovery, is also enhanced by participation in formal and informal social support networks, including Twelve-Step and other self-help groups.

CLINICAL ISSUES IN PROVIDING TREATMENT TO PAROLEES

Several issues are important to the effective provision of evidence-based practices to parolees. Positive outcomes are less likely without proper assessment and well-implemented interventions. Clinicians must help mandated clients make the transition from legal compliance with parole conditions to willing participation in treatment.

Assessment

It is essential that treatment providers screen and assess prospective clients with appropriate validated instruments. The initial screening and assessment results can help clinicians determine whether a client needs treatment (as opposed to education or self-help), which level of treatment intensity is appropriate, and which needs should be addressed and with what priority. After a client has participated in treatment for several months, reassessment may inform a decision to raise or lower the level of care or to address emerging needs.

Screening and assessment instruments that have been

validated and that take into account criminal history and risk for recidivism are available for use with drug-abusing offenders, many of them at no cost (see Center for Substance Abuse Treatment, 2005*b*, Chapter 2 and Appendix C; *download.ncadi.samhsa.gov/Prevline/pdfs/bkd526.pdf).* Program staff members will require training in proper administration, scoring, and interpretation. Online information about assessment instruments for drug-abusing offenders is available at *www.ibr.tcu.edu/pubs/datacoll/datacoll.html, lib.adai.washington.edu/instruments/,* and *www.nicic.org/Library/011716.*

Implementation

All the interventions discussed in this article can be considered "evidence-based," as each has produced positive outcomes in multiple studies with rigorous research designs. Nevertheless, not all community programs that adopt evidence-based practices have similar success with their clients. Much depends on how practices are implemented. Successful implementation requires qualified staff, solid plans for training and staff development, fidelity to the main features of the model, and organizational characteristics that promote the successful adoption of new practices (Fixsen et al., 2005; Friedmann, Taxman, and Henderson, 2007). As treatment for drug-abusing parolees usually involves personnel from both criminal justice and treatment agencies, forging collaborative and cooperative relationships is also critical (Taxman, 1998).

Mandated Treatment

Many drug-abusing parolees are mandated to treatment or at least are under pressure from their parole officers to enter treatment after a relapse. Such clients do as well as or even better than clients who enter voluntarily (Farabee, Prendergast, and Anglin, 1998), probably because they remain in treatment longer than voluntary clients. Still, as Leukefeld and Tims (1988) note, "A stable recovery cannot be maintained by external (legal) pressures only; motivation and commitment must come from internal pressure." Legal pressure may compel offenders to comply with treatment requirements and place them in a situation where the tools and supports for change are available. Progress only occurs, however, when external pressure is transformed into an internal desire for change and a willingness to take steps toward it.

Although the motivation of drug-abusing parolees to engage in treatment may be low initially, motivation can increase as a result of peer pressure, clinical techniques, and insight developed over the course of treatment. Because motivation is a dynamic process, programs can actively intervene to shift the balance in favor of change. Whatever level of initial motivation clients bring to treatment, clinicians may use a variety of tools, many discussed earlier, to promote treatment engagement with a consequent increase in the chance of positive outcomes.

CONCLUSION

A variety of effective approaches are available for the treatment of drug-abusing parolees. Whether they, in fact, produce expected reductions in drug use and crime and improvements in psychosocial functioning depends on the ability of criminal justice agencies and public health agencies and programs to develop collaborative systems of care that integrate the supervision and monitoring functions of criminal justice with the treatment and service delivery functions of public health (Marlowe, 2003; Taxman, 1998). Ideally, a treatment system for drug-abusing offenders would extend horizontally and vertically. Horizontally, it would link criminal justice agencies with treatment agencies and other community resources to provide referrals and services for this population. Vertically, the system would incorporate a wide range of alternative strategies answering to the needs, characteristics, and life status of its clients, including extended care throughout the required period of time. Re-entry programs that follow the principles of effective treatment of offenders, use tested treatment approaches and techniques, and maintain collaborative relationships with criminal justice agencies and social service systems provide the best opportunity for parolees to reduce their drug use and crime and to successfully reintegrate into society.

Whatever level of initial motivation clients bring to treatment, clinicians may use a variety of tools to promote treatment engagement.

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Response: Pathways to Recovery and Reintegration

Deanne Benos, B.A.; Flo Stein, M.A.; and Harry K. Wexler, Ph.D.

Harry K. Wexler: When I started out, there was very little treatment for offenders. Prisons were seen as warehouses, and "nothing works" was the prevailing belief. Then research started to demonstrate reductions in recidivism with therapeutic communities (TCs). Policymakers and legislators became very interested. TC became the dominant model throughout prisons. It is still prominent throughout the United States, especially in the California prison and parole system. However, there is now much diversity in these programs and curricula, with elements of cognitive-behavioral therapy (CBT), criminal thinking therapy, and Twelve Steps.

Flo Stein: As Dr. Prendergast (2009) writes, a number of therapeutic models have now been shown to be effective for offenders and parolees. In North Carolina, the State Department of Corrections provides CBT training for custody personnel who use it in the prison system. Part of the model's appeal is that CBT learning can be reinforced by community treatment providers and extended each time an offender re-enters the criminal justice system. The offender doesn't have to start over each time.

Deanne Benos: In Illinois, we've been working on a program called Operation Spotlight that uses CBT to address criminogenic factors among high-risk parolees. When parolees violate parole rules, have difficulty complying with the community treatment program, or show a high level of risk of returning to prison, we use a graduated sanctions process that includes sending them to Spotlight Re-Entry Centers. The centers—there are seven of them spread across the State—provide services, including individual counseling sessions, to parolees seeking assistance upon release from prison as well as to high-risk offenders. They have contributed to an 18 percent drop in new offense incarcerations between 2004 and 2007, resulting in the lowest annual rate on this measure in State history. In addition, the centers have helped reduce parole technical offense violations by nearly 40 percent from 2006 to 2008.

Stein: We're implementing a large-scale contingency management (CM) program in North Carolina. Some of our legislators went to a National Conference of State Legislatures meeting where CM was presented. They came back very enthusiastic and passed legislation that requires each of our programs to use up to 1 percent of its money for rewards and other incentives.

Wexler: That's quite an experiment. How's it working?

Stein: We're in our first year, so time will tell. I think some are using the model well, and others are still learning. I do think CM is an important strategy: Rewarding appropriate behaviors, such as showing up on time for treatment, participating in the group effectively, and things like that, can improve client motivation.

Wexler: The CM concept makes sense: Using positive rewards and counterpunches is simply Learning Theory 101. The National Development and Research Institute participated in a CM project that obtained positive results as part of NIDA's Criminal Justice–Drug Abuse Treatment Studies (CJ-DATS) project. However, CM's effect is limited in the offender population. As with any specialized intervention that does not treat the "whole" person, CM needs to be delivered in conjunction with other services. Although it certainly has a place in treatment of these patients, overreliance on it would be a mistake.

Pharmacotherapy, which Dr. Prendergast mentions only briefly, holds a lot of promise but has been ignored and unfairly criticized. Several studies have identified high death rates among releasees who are addicted to opioids. Members of this population are good candidates for methadone and buprenorphine. We should explore ways

to identify these individuals pre-release and to begin pharmacotherapy before they are paroled. With careful vetting and explicit guidelines, we can avoid a lot of the criticism and resistance to pharmacotherapy.

Assessment and management

Benos: I endorse Dr. Prendergast's view that recidivism should be the measure of success in treating substance-abusing offenders. Showing that we can keep people from returning to prison is the best way to encourage the public, government agencies, and politicians to support quality substance abuse treatment for prisoners and parolees.

Wexler: In my work in California and throughout my career, I've found that focusing on reducing recidivism is the best way to unite public health and criminal justice.

Stein: To me, a key principle advanced by Dr. Prendergast's paper is the importance of addressing parolees' treatment needs based on criminogenic risks.

Wexler: California prisons are implementing risk-needs assessments along the lines that Dr. Prendergast describes in his paper. For high-risk inmates and parolees, they're using CBT, criminal thinking models, and other kinds of behavioral curricula, some of which are commercially available as software packages or workbooks. That said, when it comes to assessing individuals to place them in prison aftercare, I don't think our procedures are as good as they need to be. They should enable us to adjust our assessments on a person-by-person basis and give us an array of treatment options for each individual. They don't generally do that yet.

Stein: Our assessments are now being done by Treatment Accountability for Safer Communities of North Carolina (TASC-NC). The objective is to enable judges and probation officers to assign services appropriately, which is particularly important because the State doesn't have the resources to provide judges with pre-sentencing evaluations. TASC-NC personnel work with community corrections officers to assess offenders' criminogenic and drug abuse risk levels and work out treatment plans. TASC-NC care managers are responsible for matching each offender to appropriate care. They can choose from any treatment program that the State provides, including TC, intensive outpatient, and residential care.

Wexler: Case management is a major step. Within prison, it can ensure continuity of care in the event of relocation due to crowding, security, and other reasons. Upon release, it can ensure that individuals receive the appropriate type of aftercare. One of our key recommendations for reforming California's prison system was to institute an ambitious case management system that follows offenders through prison and aftercare. Illinois' Sheridan program (see Heaps et al., 2009) was seen as a very useful model.

Benos: We work with Treatment Alternatives for Safe Communities (TASC) of Illinois to coordinate services for clinical reentry management for drug-abusing parolees. Illinois TASC staff begin clinical assessments before inmates are released from the Sheridan Drug Prison facility, and each inmate is assigned to an Illinois TASC case manager upon release. It has been a tremendous asset for us to have these case managers begin the work in the facility, with an understanding of what the inmate has gone through in his or her treatment program.

Still, getting individuals into aftercare following release is a challenge. For that reason, along with Illinois TASC, we bring the parole agent and others, such as community council members and religious figures, into the prison to establish a relationship as early as possible with each parolee and to conduct re-entry planning meetings at least 30 to 60 days prior to release. The community leaders get to know the parolee as a person. They can address his or her anxieties and concerns about returning home and, it is hoped, help with any difficult issues.

Wexler: The first 90 days post-release are crucial. It's a very tricky time, when lots of people get into trouble. Everything, even simple things like getting transportation from home to treatment and having necessary paperwork, must be carefully supervised.

Benos: The transition tends to go more smoothly when the integration between systems is tight. In Illinois, community service providers who wish to work with some of our programs must complete immersion training at the jail or prison facility. They must also be willing to coordinate services with our model and establish rapport and credibility with parole agents.

Stein: We have been talking about risk assessment, and responsivity is the other cornerstone of finding the right program for each individual. We don't always get the treatment fit right. If an offender is having trouble with the adjustment of re-entry or is relapsing, it might be that the program is not a match. In any treatment, there can be a number of problems: personality differences with the counselor, the wrong type of treatment program, an incompatible philosophical approach, or a lack of gender-specificity. In an effective model of prison aftercare, administrators must be able to respond to these issues. In the past, we thought that failures were the fault of the offenders, but often the the system is part of the problem.

Benos: Research like that reported in this paper makes it easier to communicate the idea that, even if an individual who has been through an intensive substance abuse program relapses, public safety has still been improved, because we've reduced numerous health and criminal risks for that individual. For example, consider a hypothetical offender with an extensive criminal history of violence related to substance abuse. If such an offender, after participating in a program, relapses and is rearrested for only a

minor possession or property offense, public safety has been improved. The lesser crime is an indication that the offender is slowly making progress. After another round of treatment, this individual might seek support through treatment or a support network before the next relapse instead of reoffending. Although public awareness has improved on this issue over the past two decades or so, the belief persists that if we invest tax dollars in a drug-involved individual with a criminal history, that person will stop using drugs immediately after completing the initial treatment program. In actuality, it's more of a gradual process.

Offenders in groups and as counselors

Wexler: One question we haven't addressed is whether treatment groups should include both releasees and substance abusers who are not involved in the criminal justice system. There are arguments to be made both for and against this approach. On the one hand, if you mix, you have to address criminogenic issues, criminal thinking, and other issues that aren't relevant to nonoffenders. Plus, probationers may have to meet certain criteria under varying levels of supervision, and programs need to know how to work with those requirements. On the other hand, our long-term goal is integration back into the community. At some point, I think it's a good idea to move toward heterogeneous treatment groups. You don't want to keep parolees and probationers in a secluded, isolated group.

Stein: True, but from the public policy point of view, we need to control criminal recruitment. We certainly don't put young offenders in groups with older male offenders. Also, we try not to mix women and men anymore. In essence, though, I agree with you that the end goal is integration. Plus, logistical matters can sometimes force those decisions upon you. In North Carolina, our population is spread out over a large rural area; out of necessity, our treatment programs are often mixed.

Wexler: What you said is absolutely right. At certain points in rehabilitation, people may be having difficulties or may be recruiting younger people, and there's the whole male-female problem. Those problems are important, and policy has to deal with them. Certainly, there are points in an individual's rehabilitation when you'd want to isolate him or her from a more general population. However, over the long run, if we're doing our job, offenders should move into the general population. Our challenge is to find a way to transition them successfully.

Stein: Also, our recovery programs involve giving back to the community and rehabilitating one's image in it. One way probationers can do that is by going to community treatment, contributing to the community, paying fines and restitution, and complying with requirements.

Wexler: Another way that ex-offenders can give back to the community is to find work as community treatment counselors. That way, they can make the problem into the solution. Going to school and getting credentialed are ways of reconnecting with the community and sustaining recovery. The more we welcome ex-offenders in recovery into the process and let them contribute, grow, and progress along career paths, the better. I think that's a major contribution, and one that inspires those in prison. When these individuals return to places like Sheridan, they are perceived as very credible by those in treatment.

Benos: We hire former prisoners at Sheridan and contract with provider organizations that are run or staffed by former prisoners. Now that Sheridan has been open for 4 or 5 years, some programs even employ Sheridan graduates, which provides a lot of motivation for current participants.

Stein: Credentialing can be a problem, though. It involves hundreds of hours of training, supervision in the research and practice of both justice and treatment, and an examination. It's pretty rigorous. A recovering person can qualify, however, and certainly his or her life experiences provide insight and credibility.

Wexler: Education and vocational training don't have to involve preparation for becoming an addiction counselor, necessarily. Data show that education and career preparation of all kinds are very good recidivism reducers. They give a person tools for recovery and help the person to adapt to and participate in the community constructively.

Stein: Self-care is an important part of all addiction treatment. It would be fruitful to investigate how much responsibility we're giving the offender toward achieving and maintaining recovery. These guys like having the responsibility.

Wexler: I agree, and to build on that, I think we should do more to welcome prison inmates with addictions as collaborators in the work toward their own recovery. We should be asking them what they need from treatment, how they see it progressing, and how we can work with them. In our process, we don't tend to pay sufficient attention to the voices of offenders or ex-offenders.

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Nutrition Issues in Chronic Drug Users Living With HIV Infection

Human immunodeficiency virus (HIV) infection and chronic drug abuse both compromise nutritional status. For individuals with both disorders, the combined effects on wasting, the nutritional consequence that is most closely linked to mortality, appear to be synergistic. Substance abuse clinicians can improve and extend patients' lives by recommending healthy diets; observing and assessing for food insecurity, nutritional deficits, signs of weight loss and wasting, body composition changes, and metabolic abnormalities; and providing referrals to food programs and nutritionists. More studies are needed on the nutritional consequences of using specific illicit drugs, the impact on health of specific micronutrient and metabolic deficiencies seen in people with HIV, and the causes and clinical implications of body fat changes associated with HIV.

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Nutritional status strongly influences the well-being and survival of individuals living with human immunodeficiency virus (HIV) infection, which compromises nutritional status in complex ways that may produce malnutrition via multiple mechanisms (Mangili et al., 2006). The limited data available on the topic indicate that injection drug use further increases HIV-infected individuals' nutritional risk (Forrester, Tucker, and Gorbach, 2004; Smit et al., 1996):

- illicit drugs may interfere with nutrient absorption or alter appetite or metabolism;
- chronic drug users' lifestyles may lower nutritional status by impairing access to food, food selection, housing, and social support (Kim et al., 2001; Smit et al., 1996); and
- coinfection with hepatitis is common in injection drug users (IDUs) and has the potential to alter nutritional status significantly (Piroth et al., 1998). Patients with hepatitis frequently lose weight and may develop anemia and neutropenia (Soriano et al., 2002). As liver disease advances, alterations in metabolism may lead to dietary intolerance or limit nutrient intake.

This article reviews nutritional issues affecting HIV-positive IDUs. Many of the same issues likely also apply to HIV-infected chronic noninjecting users of illicit drugs and individuals in early recovery, who often confront lifestyle, social, and economic issues similar to those that compromise the nutrition of IDUs. We discuss the prevalence, causes, assessment of, and appropriate clinical responses to wasting and weight loss, micronutrient deficiencies, and body fat redistribution and metabolic abnormalities.

WASTING AND WEIGHT LOSS

Early in the HIV epidemic, researchers established an independent link between severe malnutrition and mortality among HIV-infected individuals. Death was found to occur, on average, when body weight fell below 66 percent of the ideal body weight (IBW) or when lean body mass (LBM) fell below 54 percent of the norm (Kotler et al., 1989). Today, advances in understanding and treatment of HIV have markedly lowered the frequency of severe malnutrition in populations with access to highly active antiretroviral therapy (HAART). For example, data from the Adult and Adolescent HIV Disease Project indicate that the incidence of HIV wasting syndrome, as defined by the Centers for Disease Control and Prevention (CDC), declined from 30.2 to 11.9 cases per 1,000 person-years of infection between 1992 and 1999, with most of the drop occurring after the introduction of HAART in late 1995 (Dworkin, Williamson, and Adult/Adolescent Spectrum of HIV Disease Project, 2003). This progress notwithstanding, unintentional weight loss and wasting continue to contribute to morbidity and mortality in the HIV-infected population. One study found that a drop of 5 to 10 percent from the patient's initial body weight quadrupled his or her risk of death (Tang et al., 2002). Conversely, in a cohort of HIV-positive women, none of whom were on HAART at baseline and almost half of whom had a history of injection drug use, a higher body mass index (BMI) and increases in BMI were associated with a decreased risk of disease progression (Jones et al., 2003).

The most widely used standard for identifying individuals with HIV whose condition warrants nutritional or medical intervention to increase weight or body mass is the CDC AIDS surveillance case definition for wasting: profound involuntary weight loss of more than 10 percent of baseline body weight plus either chronic diarrhea (at least two loose stools per day for 30 days or more) or chronic weakness and documented fever (constant or intermittent for 30 days or more) in the absence of a concurrent illness or other condition that might cause such symptoms (e.g., cancer, tuberculosis, cryptosporidiosis, or other specific enteritis) (Centers for Disease Control and Prevention, 1987).

A Department of Health and Human Services Working Group has suggested expanding the diagnosis of wasting to also include patients who weigh less than 90 percent of their IBW (or have a BMI less than 18.5), have lost more than 10 percent of their pre-illness maximum weight, or have experienced weight loss of more than 5 percent in the previous 6 months (Grinspoon, Mulligan, and Department of Health and Human Services Working Group on the Prevention and Treatment of Wasting and Weight Loss, 2003). The aim of the proposed changes is to identify at-risk patients sooner, especially in light of evidence that HAART has altered the characteristics of wasting in ways that render the CDC definition a less sensitive predictor of nutritional risk. For example, the Multicenter AIDS Cohort Study of 5,622 men in Baltimore, Chicago, Los Angeles, and Pittsburgh found that patients reported diarrhea as frequently in the HAART era as before, but experienced less anemia, fever, fatigue, and thrush (Smit et al., 2002). Using three of the newly proposed criteria—weight less than 90 percent of IBW, or a BMI less than 18.5, and weight loss of more than 10 percent—Campa and colleagues (2005) found an 18 percent prevalence of wasting among 119 HIV-infected IDUs.

Reviews of wasting and malnutrition in HIV-positive IDUs indicate that the causes are multifactorial and may be secondary to decreased dietary intake, malabsorption, or increased resting energy expenditure (see *Etiology of Wasting and Weight Loss in HIV-Infected Injection Drug Users*) (Mangili et al., 2006; Smit and Tang, 2000). Injection drug use promotes each of these factors independently of HIV. In one study among Hispanic HIV-negative women, IDUs reported more food insecurity, fewer meals per week, lower intake of vegetables and fish, and more ingestion of sweets and fried foods than non-IDUs from the same relatively low socioeconomic stratum (Himmelgreen et al., 1998) (Figure 1). The IDUs registered lower scores in all anthropometric measures except height.

The combined impact of HIV and injection drug

ETIOLOGY OF WASTING AND WEIGHT LOSS IN HIV-INFECTED INJECTION DRUG USERS

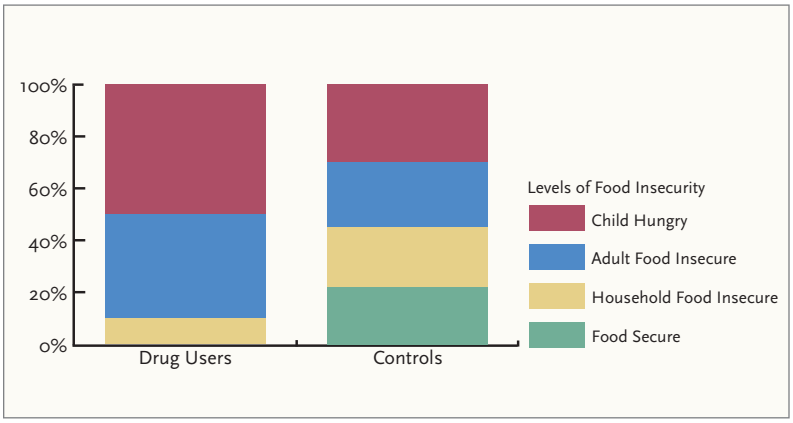
Decreased dietary intake related to abdominal pain, anorexia, chaotic lifestyle, dementia, depression, diarrhea, esophagitis, fatigue, food insecurity, mouth sores, nausea, and vomiting.

Malabsorption related to antibiotic-induced alterations in intestinal flora, enteropathy, HIV-induced mucosal changes, Kaposi's sarcoma, medication effects on absorption of specific nutrients, and opportunistic gastrointestinal infections.

Altered metabolism related to drug effects (e.g.,from cocaine), fever or cytokine-induced increase in basal metabolic rate, hormonal deficiencies, increased lean body mass breakdown, and medication (HAART) effects on metabolism.

use on weight loss and wasting appears synergistic. The inadequate nutrient intake associated with chronic drug use leads to decreased nutritional status and impaired immunity. In turn, weakened immunity allows viral loads to increase, leading to more frequent secondary infections. New infections increase nutritional needs, further widening the gap between nutritional requirements and attainment. Several studies suggest that HIV and injection drug use together exert a more deleterious effect on weight and body mass than either alone:

FIGURE 1. Injection Drug Use and Levels of Food Insecurity



All 32 low-income, injection drug-using (IDU) women in a survey indicated that they sometimes could not obtain enough food to allay hunger and maintain adequate nutrition. Nearly half indicated that they had experienced the most severe level of food insecurity, in which parents' dietary sacrifices still do not leave enough food to fill their children's stomachs. Food insecurity was common but not universal and was less severe among a comparison group of 41 low-income non-IDU women. (Himmelgreen et al., 1998; Adapted with permission of John Wiley & Sons, Inc.)

- Smit and colleagues (1996) surveyed 107 IDUs and found that those who were HIV-positive had a higher prevalence of involuntary weight loss than those who were HIV-negative, even though their self-reported intakes of macro- and micronutrients and calories were higher and exceeded estimated needs.
- Studies of Hispanics in the Bienestar cohort ($n = 285$) disclosed that HIV-positive IDUs had lower BMIs than HIV-positive non-IDUs (Forrester, Tucker, and Gorbach, 2004, 2005). Use of cocaine and concurrent use of cocaine and opiates were both associated with weight loss over time, while use of other illicit drugs was associated with weight stability. Infection with HIV or hepatitis, intestinal malabsorption, resting energy expenditure, diet and physical activity, as measured in these studies, did not explain the observed differences in weight and BMI. Studies are needed to evaluate more precisely how different illicit drugs affect metabolism and whether they have a role in wasting.
- A study using data from the Nutrition for Healthy Living (NFHL) cohort found that injection drug use predicted lower BMI and fat mass among HIV-positive women, but not men (Forrester et al., 2000). Both male and female IDUs in this study reported adequate dietary energy intake, on average, although male IDUs' intakes of iron and zinc were significantly lower than those of male non-IDUs.

Several other reports from the NFHL cohort shed additional light on HIV-positive IDUs' diets. Woods and colleagues (2002) linked injection drug use to greater dietary vulnerability among HIV-positive women in the sample; overall, 25 to 35 percent of infected women, half of whom were drug users, reported intakes below 75 percent of the recommended dietary allowance for key micronutrients. Woods also found that dietary intake increased as weight and CD4 cell count decreased, perhaps because individuals needed more nutrients to maintain weight as their disease progressed. Another analysis (Kim et al., 2001) revealed that 36 percent of the NFHL cohort met formal assessment criteria for food insecurity as defined by Radimer, Olson, and Campbell (1990; see *U.S.D.A. Food Security Survey*) and that an additional 8 percent described themselves as persistently hungry. IDUs consumed less energy than nonusers, and dietary inadequacy correlated with lifestyle and behavioral factors (Kim et al., 2001). Minorities, subjects without an adult caregiver, subjects with dependent children, and those without food shopping assistance had less adequate diets.

Data from other studies also indicate that lifestyle and socioeconomic issues contribute to the nutritional vulnerability of IDUs with HIV. Food insecurity and viral load were independent predictors of wasting in HIV-positive IDUs in a study that also identified heavy alcohol consumption, heavy cocaine use, and inability to hold a job as contributors to the syndrome (Campa et al., 2005). HIV infection also has been independently associated with food insecurity; in a Canadian study, the problem was five times as prevalent among HIV-positive individuals as in the general population (Normén et al., 2005). The impact of lifestyle and socioeconomic factors on HIV-related care, including adherence to HAART, is likely important but has not been well studied.

MICRONUTRIENT STATUS

Researchers have tied individual micronutrients to HIV-associated outcomes since the beginning of the epidemic.

Low levels of vitamins A and B12, zinc, and selenium accelerate disease progression (Baum, 2000). Individuals with HIV generally have low levels of many other micronutrients as well. However, the implications of those deficits remain unclear, as their relationships to outcomes are confounded by variations in disease severity, chronic inflammation, and treatment regimens (Tang et al., 2005).

IDUs in one study reported adequate mean dietary intake of micronutrients, but a significant percentage of those who were HIV-positive were taking in less than the recommended amounts of selenium, retinol, and vitamin E (Forrester, Tucker, and Gorbach, 2004). In other studies, researchers have documented low serum micronutrient levels in IDUs, regardless of their HIV status (Nazrul Islam, Jahangir Hossian, and Ashan, 2001). For example, injection drug use increases the risk for iron deficiency and iron deficiency anemia in both HIV-positive and HIV-negative women (Dancheck et al., 2005). HAART therapy can alleviate or resolve anemia, which is a risk factor for shortened survival in HIV-infected women (Berhane et al., 2004).

The majority of clinical trials assessing the impact of micronutrient supplementation on HIV-associated outcomes in developed countries have been small and have shown modest effects; the results, taken collectively, are mixed (Tang et al., 2005). Interestingly, a recent study found that elevating the serum selenium level through micronutrient supplementation increased CD4 cell counts and reduced viral load in HIV-infected IDUs (Hurwitz et al., 2007). Participants whose serum selenium level did not increase despite supplementation—because of either noncompliance with the regimen or individual differences in response to supplementation—gained no benefit compared with the placebo group. These results underscore the need for individual nutritional assessment to determine the necessity of and response to micronutrient supplementation.

Ideally, people should strive to achieve an adequate micronutrient intake by consuming a balanced diet of varied, high-quality foods, rather than by relying on supplementation. Many questions remain with regard to micronutrients and their role in HIV-associated outcomes, including the potential impact of coinfections and oxidative stress. HIV infection increases oxidative stress—a buildup of potentially toxic oxygen-containing molecules—as indicated by increased plasma levels of lipid peroxidation and/or reduced antioxidant levels compared with those of healthy controls (Tang et al., 2005). HIV-positive IDUs, with their combination of dietary and metabolic risk for micronutrient deficiency, should be the focal population in research to answer these questions.

U.S.D.A. FOOD SECURITY SURVEY

A questionnaire developed by U.S. Department of Agriculture researchers assesses levels of food security. The questioner begins by saying, "I'm going to start by reading you statements people have made about their food situation and ask you whether they were true for you during the past 12 months."

1. "The food that I bought just didn't last, and I didn't have money to get more." During the last 12 months, was this true for you often, sometimes, or never?

2. "I couldn't afford to eat balanced meals." During the last 12 months, was this true for you often, sometimes, or never?

3. In the last 12 months, did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?

4. If so, did this happen once or twice, in more than a couple of some months but not all, or in almost every one of the last 12 months?

5. In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? Yes or no?

6. In the last 12 months, were you ever hungry but didn't eat because there wasn't enough money for food? Yes or no?

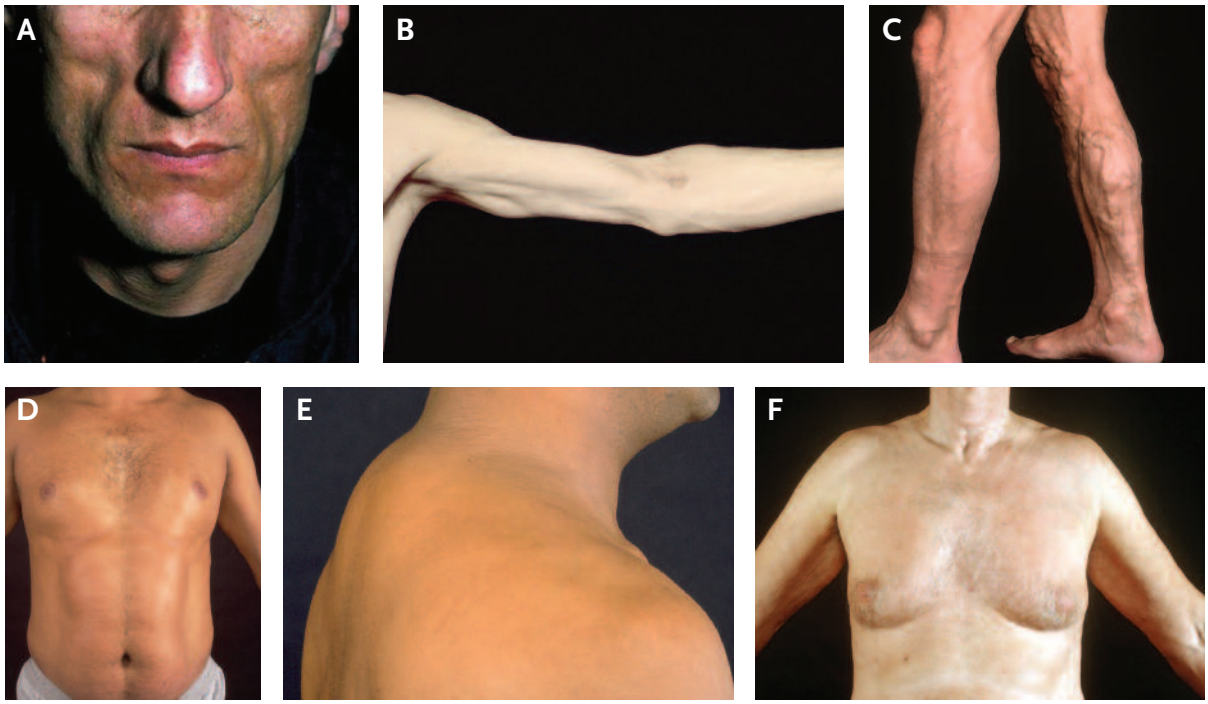
For complete survey materials, with instructions for scoring, see: *www.ers.usda.gov/Briefing/FoodSecurity/surveytools/short2008.pdf.* While this survey was developed for research, providers may find the questions useful in clinical settings and may consider recommending food assistance programs to clients with survey scores corresponding to low or very low food security.

FAT REDISTRIBUTION AND METABOLIC COMPLICATIONS

Changes in body fat distribution are a common complication of HIV infection (Wohl et al., 2006). Called HIV-associated lipodystrophy syndrome (HALS), these changes may be peripheral (affecting the arms, legs, buttocks, and face) or central (affecting the abdomen, chest, and upper back) and may involve either lipoatrophy (fat loss) or lipohypertrophy (fat gain; Figure 2).

The Fat Redistribution and Metabolic Change in HIV Infection (FRAM) study systematically evaluated fat loss and accumulation (Bacchetti et al., 2005; Study of FRAM, 2006). Peripheral lipoatrophy emerged as the body composition change unique to HIV and was not

FIGURE 2. HIV-Associated Lipodystrophy Syndrome (HALS)



HALS affects the distribution of fat throughout the body. These images of HIV-positive men show typical manifestations of the syndrome, such as lipoatrophy or fat loss in the face and arms (A and B), lipohypertrophy or fat deposition in the legs and abdomen (C and D), a hypertrophied dorsocervical fat pad (E), and gynecomastia or fat gain in the fatty tissue of the chest (F). Studies suggest that a high-fiber diet and healthy fat intake may forestall or alleviate HALS.

Panel A courtesy of AIDS Images Library, *www.aidsimages.ch*; panels B-F © 2008 Mediscan.

typically associated with a reciprocal increase in visceral adipose tissue or trunk fat. Forrester and Gorbach (2003) found, similarly, that HIV-positive subjects on HAART, both IDUs and non-IDUs, had less fat in their arms and legs than subjects who were either HIV-negative or not on HAART. In a comparison between HIV-positive (n = 213) and HIV-negative (n = 100) IDUs, the picture was not as clear (Smit et al., 2005). Fat loss was more common among the infected group and was not associated with HAART use. Central adiposity was more common among IDUs who had not injected drugs during the previous 6 months, who were HIV-positive as opposed to seronegative, or who were receiving HAART as opposed to not receiving this therapy. These investigators found that IDUs' reports of body changes were reasonably valid. HALS appears to be a dynamic syndrome, with patients developing and losing features of fat loss and accumulation (Jacobson et al., 2005). The syndrome continues to be a subject of intense research.

No therapy has been found to reverse lipoatrophy completely (Wohl et al., 2006). Although changing the HAART regimen or stopping protease inhibitor therapy has been shown to improve some of the metabolic abnormalities seen in HIV infection, it has not improved lipoatrophy. Relatively little is known about the influence of diet on the development of HIV-associated lipoatrophy, and more research is needed to determine specific guidelines for clinically efficacious nutrition therapy (Dong and Hendricks, 2005). Studies to date indicate that patients may decrease their risk of some forms of fat deposition by maintaining high-fiber and healthy fat intakes (Hadigan et al., 2001; Hendricks et al., 2003) and, more generally, by following the same dietary guidelines that decrease chronic disease risk in the general population (Dong and Hendricks, 2005).

HIV infection and some HIV medications increase the risk of dyslipidemia and altered glucose metabolism. The lipid abnormalities seen most commonly in HIV-infected individuals include reduced high-density lipoprotein (HDL) levels and increased triglyceride levels (Wanke et al., 2002). Theoretically, the risk for cardiovascular disease that is normally associated with these factors may be exacerbated in a state of chronic inflammation such as that caused by HIV infection; as a result, lifestyle

COMMON NUTRITION DISORDERS IN HIV-INFECTED INJECTION DRUG USERS

Wasting and Weight Loss

Micronutrient Deficiencies
- Iron
- Selenium
- Zinc
- Retinol

Metabolic Abnormalities
- Dyslipidemia
- Insulin resistance
- Body composition changes
- Fat atrophy
- Fat deposition
- Obesity

changes such as diet and smoking cessation may be particularly important in this population (Dubé et al., 2003). The alterations in glucose metabolism associated with HIV and HAART include hyperglycemia and insulin resistance (Wanke et al., 2002). Along with the virus and medications, additional factors such as gender, age, BMI, diet, and levels of physical activity affect these abnormalities (Wanke et al., 2002). Pending studies that focus specifically on HIV-infected IDUs, the same interventions used to control these problems in the overall population of HIV-infected individuals are warranted.

The advances in understanding and treatment that have made HIV infection a chronic manageable disease have moved diet and other lifestyle risk factors forward in research and clinical importance. Nutrition issues related to aging—which include changes in taste and appetite, decreased ability to perform activities of daily living such as shopping for and preparing food, and the impact of other medications on nutritional status—also are of increasing concern as more people live longer with HIV.

ASSESSMENT AND INTERVENTION

Common Nutrition Disorders in HIV-Infected Injection Drug Users lists the nutrition issues seen most frequently in HIV-infected IDUs. For the substance abuse clinician, the best way to assess potential wasting may be to observe or inquire about weight changes and to ask simple questions about the patient's access to adequate food. Food security is routinely monitored in the United States with household or individual surveys developed by the U.S. Department of Agriculture (USDA); the six-item Short Module, which may be useful for screening, may be found at *www.ers.usda.gov/Briefing/Food Security/surveytools/short2008.pdf* (see also *U.S.D.A. Food Security Survey*). Patient self-report may be the best early indicator of body composition changes; when such changes are noted or suspected, clinicians should use specific body composition measures to assess body fat redistribution.

Treatment providers should tailor nutrition recommendations to each patient's social and medical needs. Chronic drug users in treatment may be inpatients, in which case meals at the facility should be the emphasis. For outpatients, counselors should help individuals identify Federal nutrition program eligibility and educate them about nutrition and food choices. Treatment providers should counsel all HIV-positive IDUs, especially those with metabolic risk, to follow key recommendations from the *Dietary Guidelines for Americans* (U.S. Department of Health and Human Services, 2005), which encourage the consumption of a nutrient-rich, balanced diet that is adequate in micronutrients, appropriate exercise, and smoking cessation (see *Dietary Guidelines for IDUs with HIV*). Individuals vary in their nutritional needs and their ability to make dietary changes. Many will benefit from referral to a nutritionist for further help with nutrition counseling and food assistance.

Involuntary weight loss is a serious medical concern, and patients should be interviewed to determine potential underlying causes.

Involuntary weight loss is a serious medical concern, and patients should be interviewed to determine potential underlying causes. Multiple therapies exist for wasting and weight loss; appropriate interventions for individual patients depend on the etiology of their weight loss. In general, initial recommendations to reverse or slow weight loss should promote greater calorie and nutrient intake through increased consumption of a nutrient-dense diet. Patients should be encouraged to keep a simple food diary to share with their health care provider, who can use it to identify reasons for weight loss and ways to improve dietary intake. If weight loss is not reversed, the patient requires referral to a nutritionist for more in-depth dietary assistance. Although the use of meal replacements and appetite stimulants can be helpful in some cases, these interventions should be supervised by a clinician or nutritionist who can evaluate their impact on overall dietary intake, metabolic risk factors, and nutritional efficacy.

CONCLUSION

Malnutrition, deficiencies of micronutrients, and complications with metabolism and body composition are

DIETARY GUIDELINES FOR IDUs WITH HIV

Basic healthy eating guidelines for IDUs with HIV do not differ from those for the general public, given below. Those individuals who cannot maintain healthy weight or who develop malabsorption or metabolic alterations may require specialist nutritional attention and clinical intervention.

Balance energy consumption and expenditure to achieve a healthy weight.

Eat a balanced diet and engage in regular physical activity.

Consume a diet rich in a variety of fruits and vegetables.

Consume whole grains and high-fiber foods often.

Keep total fat consumption between 20 and 35 percent of calories and saturated fat to less than 10 percent, with most fats coming from fish, nuts, and vegetable oils.

Limit salt consumption.

If you drink alcohol, do so in moderation.

Remember that food safety is important; clean, cook, and store food appropriately.

Sources: *www.health.gov/dietaryguidelines* and *www.americanheart.org*.

common in HIV and often lead to lowered immunity and reduce the chance of survival. Drug use complicates these issues and increases the likelihood of food insecurity and wasting. When treating patients with HIV who are chronic drug users or in recovery, clinicians must pay particular attention to nutrition status as well as lifestyle and socioeconomic problems that may compromise individuals' access to food and dietary intake. Basic assessments for nutritional deficits include global observation; patient self-reports of weight changes, food availability, and food intake; calculations of BMI; and estimated nutrient needs. To prevent or reverse nutritional deficits, clinicians and counselors can promote normal healthy diets; direct patients to food assistance programs; refer patients to nutritionists; or prescribe meal replacements and dietary supplements. Research is needed to better understand the nutritional consequences of illicit drug use, the impact of specific micronutrient and metabolic deficiencies, and the causes and implications of HALS.

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Drug Abuse Treatment Beyond Prison Walls

The period surrounding release from prison is a critical time for parolees, bearing the potential for a drug-free and crime-free life in the community but also high risks for recidivism and relapse to drugs. The authors describe two projects. The first illustrates the use of a formal Delphi process to elicit and combine the expertise of treatment providers, researchers, corrections personnel, and other stakeholders in a set of statewide guidelines for facilitating re-entry. The second project is a six-session intervention to enable women to protect themselves against acquiring or transmitting HIV in their intimate relationships.

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Of the nearly 1.8 million admissions to substance abuse treatment in the United States and Puerto Rico in 2006, 38 percent resulted from criminal justice referrals (Substance Abuse and Mental Health Services Administration, 2008). In some jurisdictions, criminal justice referrals account for even higher percentages of substance abuse treatment entries—for example, two-thirds of those in Kentucky (Center on Drug and Alcohol Research, 2006). Although most offenders who enroll in treatment do so in lieu of incarceration, a significant percentage are re-entering their communities after having served terms in jail or prison (for data on the increasing size of adult correctional populations, see Figure 1).

The period following release from incarceration is often very difficult. Offenders must balance their new freedom with the requirements of parole and other expectations. They often desire to make up for time lost while incarcerated and need to adjust to personal relationships that may have changed. Research to date has established a few firm principles for assisting substance-involved offenders during this period. We know that:

- prison-based treatment can enhance offenders' chances of making a successful transition (Leukefeld, Farabee, and Tims, 2002);
- offenders who attend community aftercare following prison-based treatment have less drug use and fare better economically than those who do not (O'Connell et al., 2007); and
- in the broad population of offenders, coerced community treatment results in outcomes that are as good as those obtained with uncoerced treatment, and these results very likely apply as well to offenders in re-entry.

Beyond these general principles, substance abuse researchers and clinicians

are working to identify treatment approaches that can respond to the special needs of substance-abusing parolees (Prendergast, 2009). To succeed, these efforts and any resulting interventions must mesh successfully with the criminal justice system, which has ultimate supervisory authority over offenders during re-entry (Heaps et al., 2009).

This article describes two projects aimed at improving treatment for re-entering offenders, both conducted at the University of Kentucky Central States Research Center (KCSRC) for the NIDA Criminal Justice–Drug Abuse Treatment Studies (CJ-DATS) network. The first project brought together justice and treatment providers and other stakeholders to jointly generate guidelines for facilitating successful re-entry. The resulting Kentucky Re-Entry Guidelines for Drug-Abusing Offenders (Staton Tindall et al., 2007*a*) will serve as a framework for re-entry activities in Kentucky. The process through which these diverse collaborators were able to efficiently integrate their expertise in a substantive consensus document may be useful to other States and communities. In the second project, KCSRC is conducting trials of an intervention it developed to reduce HIV acquisition and transmission among women making the transition from incarceration to life in their communities. Preliminary data suggest that the intervention successfully alters assumptions and reduces risky behaviors.

A PROCESS FOR AGREEMENT

One challenge in coordinating criminal justice and substance abuse efforts is simply the number of concerns and perspectives to be considered. To ensure representation of relevant knowledge areas and stakeholder interests in the new guidelines, KCSRC solicited input from more than 40 individuals, including wardens and deputy wardens from correctional facilities, prison- and jail-based substance abuse treatment providers, probation and parole officers and supervisors, transition case managers and supervisors, and community treatment administrators and counselors. To facilitate the task of eliciting, evaluating, and merging all these perspectives, KCSRC implemented a formal Delphi process.

Delphi processes are designed to generate consensus analyses of complex issues in which multiple viewpoints and types of expertise count (Linstone and Turoff, 1975). For example, educators might use a Delphi process to reach agreement on what subject matter students should master to merit certification in a particular academic or professional field. A basic Delphi process involves three stages: Administrators (1) circulate questions that solicit each participant's thoughts and priorities regarding the issue, (2) construct a document from the feedback and circulate it for comment and revision, and (3) repeat the second step until a version of the document emerges that the great majority of participants endorse. The process may be conducted entirely by mail or through a combination of mail and face-to-face group meetings.

Because the number of participants and the range of relevant expertise needed to adequately analyze re-entry issues could be unwieldy for a traditional Delphi process, KCSRC utilized a modified "rotational" process. In this approach, participants were divided into subpanels for quicker turnover of ideas (Custer, Scarcella, and Stewart, 1999). The process extended over nine quarterly meetings. Participants said the face-to-face discussions were critical for appreciating how complex re-entry is for the offender and the need for systems integration to enhance his or her chances of success.

The Kentucky Re-Entry Guidelines for Drug-Abusing Offenders (see page 26) exemplifies what States and/or communities can do to develop their own guidelines. Self-generated, customized guidelines fit local organizational structures and philosophies; they are therefore easier to implement than the generic suggestions developed, for example, by the Department of Justice Reentry Partner Initiative, the Urban Institute, the National Institute of Corrections, and the Reentry Policy Council. Nevertheless, as barriers to re-entry exist everywhere, even customized guidelines must be coupled with commitments to organizational and systems change.

FIGURE 1. The Growth in Adult Correctional Populations, 1980-2007

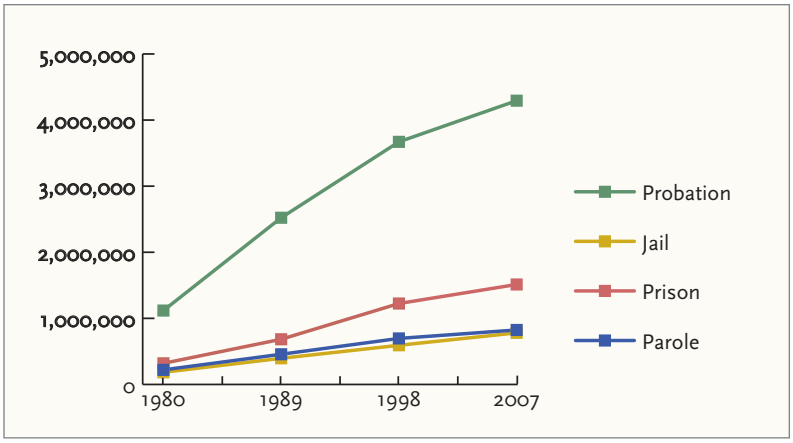


Figure adapted from the Bureau of Justice Statistics (*www.ojp.usdoj.gov/bjs/glance/corr2.htm*).

THE KENTUCKY RE-ENTRY GUIDELINES FOR DRUG-ABUSING OFFENDERS

1. Increasing communication and collaboration across agencies—prison treatment, community treatment, and parole—is important to establish a continuum of care for offenders at community re-entry.
2. More consistency within and across prison-based drug abuse treatment and community-based treatment will increase treatment participation and decrease recidivism and relapse.
3. Re-entry processes should be tailored to meet the needs of the individual and should begin at least 6 months before re-entry so that each offender's unique contextual factors and barriers can be addressed.
4. Preparation before release from prison is crucial in the key areas of living arrangements, employment, and family support and should address offenders' needs for a resumé, driver's license, Social Security card, job training, and appropriate medications.
5. Community support systems—including Alcoholics Anonymous/Narcotics Anonymous, family support, and mentorship programs—should be identified and used.
6. Case management approaches should target living arrangements, employment, and family support at re-entry.

REDUCING POST-RELEASE HIV RISK

Epidemiological and survey data reveal a pressing need to increase HIV services for offenders. HIV infection is more prevalent among offenders than among the general U.S. population (Maruschak, 2007), with about 25 percent of all infected individuals cycling through the criminal justice system (Hammett, Harmon, and Rhodes, 2002). Ideally, correctional institutions and community-based treatment programs should provide comprehensive HIV programming with education, rapid testing, prevention and treatment interventions, and medical care referrals at community re-entry. Actual circumstances are far from this ideal, with only about half of all correctional agencies and half of all community-based treatment programs providing even HIV testing (Oser, Staton Tindall, and Leukefeld, 2007).

The prevention of HIV infection in women offenders is a particularly urgent public health priority. Women are the fastest-growing group of U.S. prisoners. Their HIV infection rate is higher than that of male prisoners and about 15 times that of women in the general U.S. population (De Groot and Cu Uvin, 2005). Moreover, women offenders are more likely than their male counterparts to have been sentenced for drug crimes (31.5 versus 20.7 percent) and so have higher risks of HIV exposure associated with drug abuse. Women's risks of acquiring or transmitting HIV, like other problem behaviors, increase during the adjustment period following release from prison (Reentry Policy Council, 2005).

KCSRC has developed and tested an intervention to enable women to assess their own risks of HIV infection accurately as well as to be assertive and persuasive advocates for safe behaviors with their intimate partners. Many women offenders have participated in relationships that feature risky sexual behaviors and drug abuse (Covington, 1998), as well as emotional, physical, and sexual abuse (Bond and Semaan, 1996).

To identify beliefs and assumptions that limit women's abilities to refuse or avoid risky behaviors in their intimate relationships, KCSRC investigators conducted six focus groups (Staton Tindall et al., 2007*b*). Focus group moderators used a script informed by a review of the scientific literature on women's relationships and by consultation with substance abuse treatment clinicians. The 56 women who participated in the group discussions were all in substance abuse treatment, but they came from various levels of corrections—prison, transitional prison, community re-entry, and drug court supervision. KCSRC investigators analyzed the focus group transcripts and forwarded their findings to a panel of women substance abuse treatment clinicians and researchers for their review. This process led to the identification of seven "Risky Relationship Thinking Myths" (see *Thinking Myths*) which then became targets of the intervention.

The KCSRC intervention, which is called Reducing Risky Relationships–HIV (RRR–HIV), counters the thinking myths with facts and builds skills for promoting safe behaviors with partners and opting out of unsafe behaviors. In each of five sessions that take place in prison in the weeks before community re-entry, participants examine the presence and impact of one of the thinking myths in their own relationships (see *Learning to Make Healthy Choices*). Activities include "relationship thought mapping" and structured stories to target specific change. Takeaway handouts and homework are distributed for review and preparation for the next session. A sixth and final session, conducted with individual participants by telephone 30 days after community re-entry, reviews and reinforces the contents of the earlier sessions. A manual for RRR–HIV delivery is available from the corresponding author, but it is not intended for implementation until efficacy studies are complete.

KCSRC is collaborating with CJ-DATS Research Centers in Connecticut, Delaware, and Rhode Island on a trial of the intervention's efficacy. Women prisoners were recruited 6 weeks before community re-entry and randomized to receive either RRR–HIV or to view an educational video about HIV. Clinicians who delivered RRR–HIV used the manual and received supervision after each session. To ensure fidelity and consistency in delivery, a single individual supervised all clinicians for the entire study. In addition, biweekly cross-site conference calls made it possible to update implementation, review data quality, and resolve problems.

Altogether, 422 women were randomized in the trial: 215 to receive RRR–HIV and 207 to view the educational video. Sixty-eight percent of the participants were African-American, and the mean age was 35 years (*SD* = 9.1 years). Clinicians have conducted 30-day followup interviews with 168 of the women who received RRR–HIV. These women reported significantly fewer risky behaviors in the month post-release compared with the month immediately prior to incarceration. Their average:

- number of sex partners decreased from 4.3 to 0.5 ($P = .004$);
- occasions of unprotected sex decreased from 29.6 to 5.9 ($P < .001$);
- condom self-efficacy (i.e., ability to purchase, carry, and use condoms correctly and confidently and to insist upon condom use with potential partners; Kowalewski, Longshore, and Anglin, 1994) increased significantly ($P < .001$); and
- relationship power, as indicated by the extent of their emancipation from the seven thinking myths, increased significantly ($P < .001$).

In the 30-day followup interviews completed thus far, the 168 women who received RRR–HIV were more likely than 162 women from the video-only education intervention to endorse these true propositions:

- women who use drugs do not make healthy choices ($P = .001$);
- HIV can be transmitted by shared injection equipment ($P = .001$);
- using crack/cocaine increases HIV/hepatitis risk ($P = .020$);
- one can't judge HIV risks based only on a partner's appearance ($P = .009$);
- greater condom self-efficacy decreases HIV risk ($P = .048$; Kowalewski, Longshore, and Anglin, 1994); and
- male and female condoms should not be used together ($P < .001$).

Offenders who have key identification and job-seeking documents in hand upon release from incarceration are better prepared for a smooth community re-entry. Prescriptions should also be filled to avoid lapses in medication regimens. Some facilities provide small cash disbursements.

These findings are encouraging but should be interpreted with caution. Although every woman eligible for release was invited to join the study, the participants were not a random sample of incarcerated women. In addition, the study data are self-reported and thus are subject to potential bias. Participants may have under-

THINKING MYTHS

The responses of 56 women in focus groups revealed ideas and assumptions that can make women more vulnerable to HIV acquisition and transmission in their intimate relationships. Researchers codified them into seven Risky Relationship Thinking Myths:

Fear of Rejection: "Having sex without protection will strengthen my relationship."

Self-Worth: "I only think good things about myself when I am in a relationship, even if it is risky."

Drug Use: "I can use drugs and still make healthy decisions about sex."

Safety: "I know my partner is safe by the way my partner looks, talks, and/or acts."

Trust: "I've been with this partner for a long time, so there's no need to practice safe sex."

Invincibility: "I will not get HIV, because I'm not really at risk."

Strategy/Power: "I have to use sex to get what I want."

LEARNING TO MAKE HEALTHY CHOICES

The Reducing Risky Relationships–HIV intervention begins prior to discharge from prison. Once a week for 5 weeks, the women meet for 90-minute group sessions in which they learn new thinking patterns and concrete ways to avoid contracting or transmitting HIV and other sexually transmitted diseases. Thirty days after release from prison, each woman participates in a 30-minute followup session by phone or in person.

Session One: The Facts about HIV. This session, the most didactic, teaches women general facts and transmission information about HIV, hepatitis B (HBV), and hepatitis C (HCV). The interventionist also discusses behaviors that increase risk for contracting HIV, HBV, and HCV. Participants learn the risks associated with indirect sharing; how these risks can be reduced by sterilizing intravenous drug use paraphernalia; how the use of crack and cocaine increases risk for HIV, HBV, and HCV; how using male and female condoms can reduce HIV, HBV, and HCV transmission risk; and why the HIV test and risk reduction counseling are important.

Session Two: HIV Addictive Risky Relationships. This session focuses on the drug use thinking myth. The interventionist leads discussions of similarities in the experiences of falling in love, using substances, and being involved in risky relationships; the characteristics of healthy and unhealthy relationships, including sexual relationships; and connections between women's drug use and risky behaviors. The interventionist presents the physiological effects of drugs and helps participants develop a plan for avoiding drug use.

Session Three: HIV Partner Risky Relationships. This session addresses the fear of rejection and self-worth thinking myths. Discussion material includes the different types of abuse, the cycle of violence and the fact that lulls between abusive episodes do not mean abuse has ended, and how abuse increases women's risk for HIV and other sexually transmitted infections. Women are asked to think of ways they can protect themselves and cope with the painful feelings of abuse without using substances.

Session Four: HIV Risky Sexual Relationships. This session counters the safety, trust, and invincibility thinking myths. Topics covered include the right of women to protect themselves sexually, relationship triggers that can lead to engaging in risky and unprotected sex, and the connection between substance use and risky sex. The interventionist teaches effective communication skills for negotiating safer sex and assists the group in creating a plan to avoid responding to triggers with risky sex.

Session Five: Positive Relationships. This session focuses on the strategy/power thinking myth. The discussion underscores the importance of having multiple supportive relationships, making the point that depending on one person for support can place women in a vulnerable position. The interventionist helps the participants identify areas of support that women need when leaving prison and times when women should call upon others for support. Participants create a list of people they can count on for support and a list of ways they can contribute to relationships. The group also discusses places to find new relationships.

Session Six: Community Followup. In this post-release session, the interventionist helps participants apply the previous lessons to their lives outside prison. This session also provides support and encouragement for participants as they transition to the community.

reported sexual risk behaviors, although there is reason to believe that they may have been reasonably forthcoming. Studies have shown that in the case of drug abuse, also a sensitive activity (as well as an illegal one), urinalysis results generally confirm individuals' self-reports to clinicians and researchers (Del Boca and Noll, 2000; Rutherford et al., 2000). Finally, self-reports may have been biased by faulty recall of risky sexual and other behaviors that occurred before prison.

Those study limitations notwithstanding, our results suggest that RRR–HIV may be an effective HIV prevention intervention and, more broadly, that HIV prevention for women can be successfully initiated within prison and after community re-entry. We are currently completing 30-day and 90-day followup data collection, examining changes from baseline to followup, and assessing additional outcomes that may differ between the intervention group and the educational video comparison group on relationship thinking myths and HIV risk behaviors.

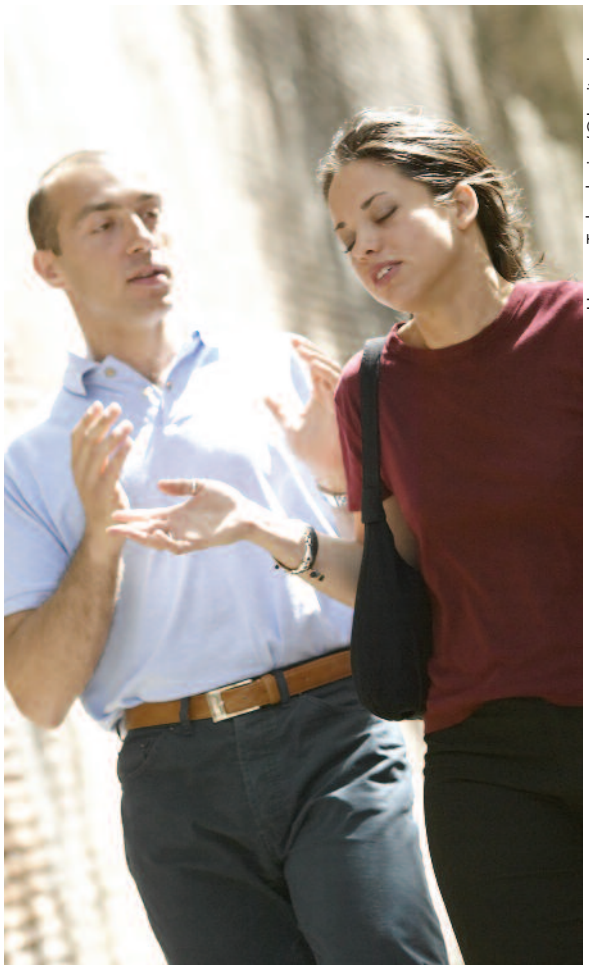
RE-ENTRY OPPORTUNITY

Re-entry is a period of opportunity for offenders to learn to lead crime-free and drug-free lives in their communities. Elevated risks for recidivism, substance abuse relapse, and HIV infection also make re-entry a time of opportunity for interventions to have crucial, lasting impacts. For example, women who use the lessons of RRR-HIV to protect themselves during re-entry may never again be subject to such a confluence of diverse situational risk factors for acquiring the virus.

Many key questions remain to be answered, how-

ever, if we are to take full advantage of the potential for facilitated re-entry to reduce relapse, recidivism, and their associated harms. For example, what motivates some drug-involved offenders to pursue drug abuse treatment and other services during re-entry while others do not? Another important question regards the potential of pharmacotherapy for opioid addiction to reduce relapse, recidivism, and infectious disease transmission during re-entry (Cropsey, Villalobos, and St. Clair, 2005). Criminal justice authorities generally have been wary of methadone and buprenorphine therapy, but naltrexone, as a non-opioid, may be more acceptable (Marlowe, 2006; O'Brien and Cornish, 2006). Re-entry protocols could be tested in which pharmacotherapy is begun in prison and subsequently administered by community treatment organizations or public health departments.

Clinicians and researchers need to work together to better understand how environments and expectations affect risky behaviors, such as substance abuse, during re-entry. In our experience, drug abuse and criminal justice practitioners are well aware of the importance of community re-entry, but collaboration is complicated by practical matters such as confidentiality laws, regulations, and practice traditions. Formal mechanisms such as the Delphi process can facilitate working through some of these complications by providing stakeholders with a shared awareness of the many dimensions of re-entry. Guidelines like those developed in Kentucky can serve as community-tailored roadmaps for re-entry.



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Recovery-Oriented Care for Drug-Abusing Offenders

As described by the authors, a recovery-oriented system of care for drug-abusing criminal offenders is one that provides for continuity of treatment, using evidence-based interventions at every stage as clients progress through the justice system. Treatment Alternatives for Safe Communities of Illinois has partnered with criminal justice and treatment programs to establish a basic recovery-oriented system, with programs that span pre-adjudication, probation or incarceration, and parole.

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For most addicted individuals, sustained recovery requires long-term involvement in abstinence-directed activities and support networks (Brewer, 2006; Vaillant, 1995). Accordingly, clinicians and researchers have begun to develop recovery management models that incorporate interventions for use across the many stages of personal growth, setbacks, and transformation that individuals pass through on the way to long-term recovery (White, Kurtz, and Sanders, 2006). In our view, these approaches will realize their full potential only if they can be integrated into a broader recovery-oriented system of care. Such a system will match treatments and support services to individual needs, provide an appropriate mix of incentives and sanctions, engage clients in treatment with beneficial effects that are cumulative across treatment episodes, and link clients to ongoing support in the community. It will:

- coordinate the delivery of services throughout the recovery process, from detoxification and treatment to ongoing support for a productive, drug-free life in the community;
- coordinate ancillary services, such as employment and housing assistance; and
- help clients achieve a phased integration or reintegration into employment, education, and family relationships based on their stage in recovery (McLellan et al., 2005).

A full recovery-oriented system will also feature programs attuned to the situations and special needs of various subpopulations. Individuals who begin or continue recovery while under criminal justice supervision make up one of the largest of such subpopulations. More than two of every three individuals tested at 39 sites by the National Institute of Justice's Arrestee Drug Monitoring Program in 2003 had illegal substances in their systems when they were arrested (Zhang, 2004).

Between 56 and 66 percent of the 2.2 million people incarcerated in U.S. prisons and jails in 2005 were estimated to have a diagnosable substance use disorder (James and Glaze, 2006). Of the 5 million individuals on probation or parole in 2006, 27 percent of probationers had drug violations as their most serious offense, and 37 percent of parolees had served a sentence for a drug offense (Glaze and Bonczar, 2007). A recovery-oriented system for this population must balance interlinked issues of public safety and public health to facilitate clients' recovery from criminality as well as drug abuse. Together with fulfilling the general requirements for a recovery-oriented system, it must:

- hold clients responsible to both the criminal justice and treatment systems;
- integrate each client's recovery into a legal framework and identify the most critical points of intervention to satisfy both community safety and case-processing needs;
- provide access to evidence-based drug treatment interventions suitable for individual offenders at each stage of their recovery and justice processes; and
- ensure that clients do not receive isolated interventions and fragmented care, but coherent care that builds cumulatively toward sustained recovery.

Neither a treatment system nor a criminal justice system is equipped to manage a recovery-oriented system of care for drug-abusing offenders.

Treatment Alternatives for Safe Communities (TASC) of Illinois is one of numerous TASC organizations founded since the 1970s to reduce criminal recidivism by linking offenders on probation and parole to drug abuse treatment and other services in the community. As one of the oldest and currently the largest of these organizations, Illinois TASC every year reaches more than 20,000 probationers, parolees, and other offenders statewide. Our operational model incorporates the critical elements and clinical components specified by national TASC; our size and resources have enabled us to extend and elaborate this model. Over the years, we have worked with partners in the criminal justice and treatment systems to develop a comprehensive, unified, statewide model that has the essential features of a recovery-oriented system for substance-abusing offenders. We propose that an independent mediating agency, on the scale of Illinois TASC, is vital to the interface between criminal justice and treatment systems that is a prerequisite to recovery-oriented care. We then describe the Illinois model.

IMPASSE AND ANSWER

The importance of integrating substance abuse treatment with criminal justice activities has been evident for some time (e.g., Center on Evidence-Based Interventions for Crime and Addiction, 2007; DeLeon, 2007; Taxman and Bouffard, 2000). In terms of infrastructure, neither a treatment system nor a criminal justice system is equipped to manage a recovery-oriented system of care for drug-abusing offenders. Treatment systems lack the ability to remain in contact with individual clients over the extended periods of time that stable recovery and community reintegration often require. Although justice systems track people for much longer, they are segmented, and each component maintains contact during only one stage of an offender's progress through the system. Hence, police, courts, drug courts, jails, prisons, and parole agencies each may be able to support individual episodes of care, but none has the ability to address recovery from addiction as a years-long process. Moreover, their different mandates, legal frameworks, authorities, and funding limit their ability to coordinate with each other to the degree necessary to support continuity of care.

To date, the most successful and widely accepted example of integration between justice and treatment has been the growing use of drug courts. These special venues effectively engage and retain offenders in substance abuse treatment (Marlowe, DeMatteo, and Festinger, 2003); they are especially suited for individuals with significant treatment needs (Marlowe, Patapis, and DeMatteo, 2003). Drug courts are a positive development, but they are an exception to what has generally been a checkered history of cooperation between justice and treatment. Although both systems may recognize that their objectives of public safety and client recovery are mutually reinforcing—and to a significant extent interdependent—they often have difficulty coordinating the use of their respective tools of social control and clinical intervention. Structural and cultural differences hinder communication and produce friction, especially when events such as relapse to substance abuse occur that elicit potentially discordant responses from the two systems.

Based on our experience at Illinois TASC, we believe that an independent agency to manage recovery-oriented care is an optimal answer to this impasse. The primary objective of such an agency and measure of its success must be the prevention of recidivism, as the goal of public safety takes precedence over that of client recovery in instances where the two may come into conflict. The agency's primary function would be to leverage judi-

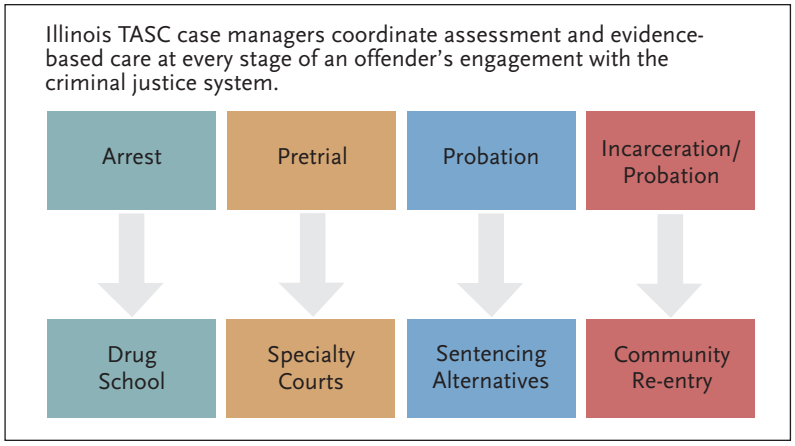
cial authority and clinical interventions in an optimal way to induce lasting behavioral change. By building strong relationships with both justice and treatment, an independent agency can mediate cultural differences, emphasizing the complementary nature of the goals and methods of the two systems, and maintain continuity of care as clients proceed from one to another.

A DEVELOPING RECOVERY-ORIENTED SYSTEM

Illinois TASC provides individual case management for offenders with substance use disorders throughout Illinois. The Illinois TASC organizational structure intersects with every criminal justice component, including courts, jails, juvenile and adult prisons, and probation and parole agencies. Illinois TASC has worked for many years with the State of Illinois and Cook County, which encompasses Chicago, to develop and implement services and treatment programs for clients under supervision by each component (Figure 1). Our goal is to create a complete recovery-oriented system that offers appropriate services to offenders with all types and intensities of drug involvement in all stages of recovery anywhere in the criminal justice system. Although existing programs do not yet match the scale of need, the infrastructure and programs have been established to serve clients in each phase of criminal justice processing:

- **Pre-Adjudication—*The Cook County State's Attorney's Drug Abuse Program (SADAP):*** SADAP provides drug-involved arrestees who have limited criminal records with a basic drug education curriculum that includes information on the science of drug addiction and the criminal justice consequences of drug abuse. Successful graduates have their charges dismissed. Among defendants who register for the program, 80 to 90 percent graduate, and 83 percent of graduates have no arrests for drug crimes in the 3 years after program completion (outcomes comparisons here and below are based on unpublished Illinois TASC administrative data). Illinois TASC coordinates program logistics, such as location, dates, and time; communicates expectations and benefits to participants; monitors participants' attendance; and reports outcomes to all court personnel, including state's attorneys, private attorneys, public defenders, and/or probation officers.
- **Adjudication and Sentencing—*Cook County Mental Health Court (MHC):*** This program diverts offenders with mental illness into a structured probation program with mandated services that are supervised by a judge. The MHC's basic premise is that mental health and substance abuse treatment will help clients escape the cycle of addiction, arrest, and conviction. Illinois TASC works with the MHC to assess clients prior to sentencing, coordinate their enrollment in mental illness–substance abuse programs and other care, and monitor their progress. Unlike many specialty courts, the Cook County MHC accepts clients with lengthy felony arrest and conviction histories. It has been very successful in reducing crime and hospitalizations within this high-risk population: Although 45 percent of all felony offenders in Cook County are rearrested on new felony charges during their probationary period, the figure for those under MHC supervision is only 20 percent. MHC participants averaged 12 days per year in custody while in the program, compared with 112 during the year before their arrest.
- **Adjudication and Sentencing—*Drug Court:*** In several Illinois jurisdictions, drug courts team with the State's Attorney's Office, Public Defender's Office, Adult Probation Department, Illinois TASC, and agencies providing treatment and recovery services. Substance abuse treatment, mandatory drug testing, comprehensive recovery services, and intense supervision are combined for drug court participants. Illinois TASC provides case management, including recovery coach and trauma support services, in addition to placement and monitoring in substance abuse treatment.
- **Probation—*Treatment Alternatives Via Designated Program:*** Perhaps the greatest potential for beneficial change through a recovery-oriented system of care lies with the millions of Americans who are sentenced to

FIGURE 1. Criminal Justice System Components and Corresponding Illinois TASC Programs



Andrew Ward/© Life File

probation for nonviolent, drug-related crimes. In Illinois, the legislature has provided for access to treatment as an alternative to prison for nonviolent offenders with substance abuse or dependence disorders. Under the statute, Illinois TASC assesses defendants to determine whether they have a substance use problem related to their criminal activity. Those who meet legal and clinical criteria may receive probation with TASC supervision. In fiscal year 2008, Illinois TASC assessed approximately 6,000 defendants and made 4,000 placements into treatment, followed by ongoing case management. Felony probationers in Cook County who received treatment and TASC supervision were less likely than other probationers to be rearrested while under supervision—31 percent compared with 49 percent.

- **Prison and Probation—*The Sheridan Model for Integrated Recovery Management:*** To date, this program most fully exemplifies the recovery-oriented principle of continuity of care across transitions in offender status. Sheridan engages participants upon their entry into the prison system and continues to work with them until they complete parole. It serves more than 1,000 inmates at any given time, providing substance abuse treatment, education, employment coaching, and vocational training. Illinois TASC provides prerelease planning and post-release case management services in the community, and it coordinates with parole authorities to monitor treatment compliance and ongoing recovery (Illinois Department of Corrections, 2006). Sheridan inmates who successfully completed aftercare in the community were 67 percent less likely to return to prison than a group of parolees with similar characteristics and criminal histories who did not receive aftercare (Olson et al., 2006).

MANAGING RECOVERY, ONE BY ONE

The point persons in Illinois TASC's operations are our front-line case managers. They are a cadre with diverse backgrounds; some have bachelor's or master's degrees, others have criminal justice or addiction training, and some are in recovery. Each Illinois TASC case manager works closely with the courts, probation agencies, and parole officers to create an individualized case management plan for each client. The plan includes assistance with the spectrum of needs—for example, HIV infection and other health issues, documentation, employment—that can affect recidivism and relapse. With respect to substance abuse, the case manager's role is to weave together correctional and substance treatment agendas, ensuring that interventions are coordinated and timed for maximum long-term effectiveness. Prior to a client's release on probation or parole, the case manager assesses the client's risks for criminality and drug abuse with instruments such as the Texas Christian University Drug Screen and the Client Evaluation of Self and Treatment with Criminal Thinking Scales (see *www.ibr.tcu.edu*).

To the extent possible, the case manager assigns each client to a provider that has demonstrated competency in treating individuals with the client's particular constellation of issues. For example, a client may go to a provider that specializes in treating adults or adolescents, individuals with mental illness, or those with more or less entrenched criminal lifestyles. To facilitate appropriate placement, Illinois TASC collects information and outcomes data from treatment providers throughout the State and develops long-term partnerships with those that use evidence-based practices and have demonstrable records of effectiveness.

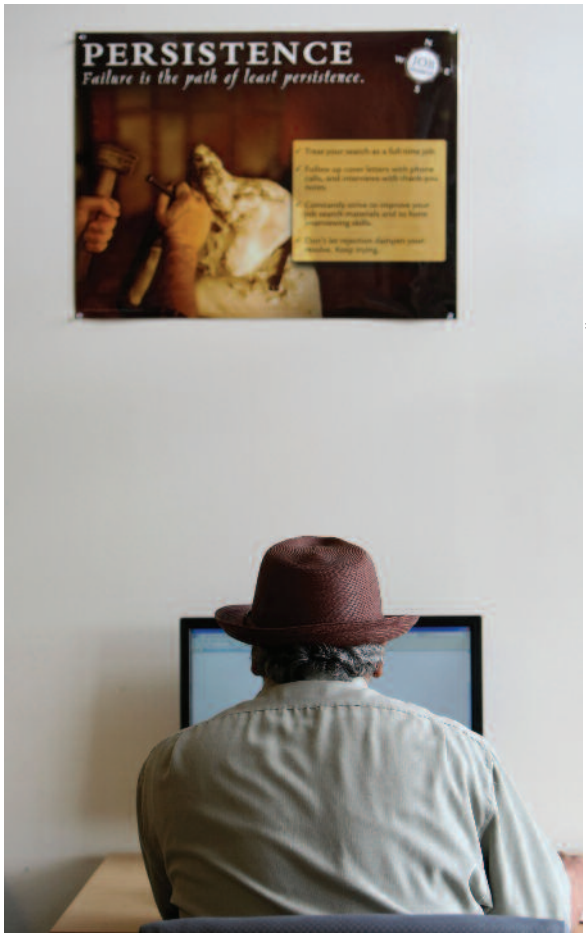
Together, the case manager, justice entity, and treatment provider formulate the specific treatment and recov-

ery approach. The case manager's primary function in these conversations is to mediate; he or she explains the goals and methods of the treatment provider to the justice partner in justice language and those of the justice partner to the treatment provider in treatment language. Illinois TASC's independent status ensures that the case manager is perceived as committed equally to justice and treatment and thus a trustworthy intermediary. The aim of the recovery plan is to deploy the combined powers of social control and clinical intervention optimally to bring about prompt, complete, and long-lasting reduction in criminality and substance abuse. The plan determines the type and intensity of treatment the client will receive; in addition, it stipulates measures to be taken in case of client infractions. Usually, all parties understand that relatively mild relapses are not unusual early in the recovery process and often are better treated as intervention opportunities rather than triggers for immediate incarceration.

The case manager maintains periodic contact with the client throughout the client's term of justice supervision, linking him or her to new services (e.g., housing or employment) as the client's progress or changing situation alters needs. Lapses, relapses, or other deteriorating behaviors are treated as indicated by the initial recovery plan and may lead to a change in the intensity of treatment, reassignment to a different treatment program or setting, or criminal sanctions. If a client lapses repeatedly or relapses severely, the case manager meets with the justice and treatment partners to reassess the plan. Along with mediating between justice and treatment, the case manager functions generally—and most pointedly in these meetings—as an advocate for the client.

The client is held responsible for lapses and relapses. The consequences are more serious for someone who does not engage in treatment, for example, than for someone who works hard in treatment. However, sometimes new problems reveal unsuspected underlying issues that must be addressed, such as previously undetected mental illness, and sometimes justice and treatment have failed to use all the tools indicated by the agreed-upon plan. In such cases, plan revision or better plan adherence rather than mechanical invocation of sanctions may be appropriate.

Illinois TASC's information systems are able to track clients throughout the criminal justice system. In many cases, a client who is rearrested remains on the case manager's client roster. An even more critical point arises



Justin Sullivan/Getty Images News/©Getty Images

when the client leaves jail or prison, a transition that is a focus of the Sheridan program (Olson et al., 2006). Clients graduate from the TASC program when they complete their probation or parole successfully, have stable income and housing, and are engaged in recovery activities.

Over the 2-year period of 2007–2008, 67 percent of the 15,500 probation clients and 49 percent of the 3,100 clients in prison re-entry programs successfully completed all TASC requirements. Overall, approximately 59 percent of all Illinois TASC clients successfully complete program requirements.

CURRENT INITIATIVES AND CHALLENGES

The programs of Illinois TASC and our partners constitute the framework for a recovery-oriented system of care for substance-involved offenders. Cooperation, continuity, and comprehensiveness can always be taken further. Routine Illinois TASC activities aimed at strengthening our system include drug abuse education for criminal justice professionals, training in evidence-based practices for treatment providers, and dissemination of

top-performing providers' effective practices to other providers. We are currently implementing "recovery checkups" with clients no longer in active case management; fully electronic tracking and case files for every client; and prevention services. We are also developing a program, called Halfway Back, that allows individuals who have been released from prison and placed in community-based treatment programs, but are faltering, to enter a residential facility without being reincarcerated.

The system must be strengthened in rural areas, where available treatment and recovery supports, including transportation and employment, are limited. To better implement evidence-based and specialized practices in these communities, there is a need for training, clinical tools, and resource management to meet the needs of small case loads over large distances. Illinois TASC benefits from committed staff in rural areas who apply techniques such as strengths-based assessments and behavioral contracting with clients (Clark, Leukefeld, and Godlaski, 1999) and intensive case management. In a pilot project involving Illinois TASC clients with mental illness and substance use disorders, intensive case management was associated with reduced legal problems and symptoms (Godley et al., 2000).

CONCLUSION

Illinois TASC works with Illinois criminal justice and substance treatment systems to coordinate the use of their respective tools and capabilities. Our guiding concept is that of a recovery-oriented system of care that combines criminal justice authority, substance treatment interventions, and case management to best effect against recidivism and for recovery throughout an offender's criminal justice involvement. The system that is evolving from this partnership currently includes programs for offenders in pre-adjudication, sentencing, prison, and parole status. Illinois TASC's role is to mediate between justice and treatment, assess clients and assign them to treatment programs that meet their individual needs, monitor clients and advocate for them, and evaluate and provide quality improvement services to treatment providers. An independent mediating agency can balance criminal justice and treatment goals in order to reduce recidivism and increase recovery success among substance-involved offenders.

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Response: A Sensible Division of Labor

Douglas McDonald, Ph.D.; Sally J. Stevens, Ph.D.; and Shiela Strauss, Ph.D.

Sally J. Stevens: The article (Heaps et al., 2009) calls attention to the overwhelming need for a systems approach to substance abuse among criminal offenders. Although individual research projects and treatment programs can address particular types of problems, only a systems approach can effectively address the larger picture.

Douglas McDonald: There are three basic ways that criminal justice agencies and drug treatment programs can interact: (1) justice agency employees conduct screening and assessment and refer patients to independent organizations for treatment; (2) a justice agency contracts with a treatment organization to screen, assess, place, and treat patients; and (3) a justice agency engages an intermediary like Treatment Alternatives for Safe Communities (TASC) of Illinois to screen and assess offenders and to refer them to independent treatment programs. The problem with the first model is that assessing drug treatment needs is not the strength of the criminal justice system. The problem with the second is that there are very few programs with the resources to provide the complete range of services across a continuum of care. The third option, using an intermediary agency, strikes me as the best.

The advantages and disadvantages of such choices in "make or buy" decisions have been much studied in the business literature on contracting, privatization, and outsourcing. The issue is whether the costs and benefits of making a product or delivering a service directly are more advantageous than purchasing the product or contracting the service out to another firm. In general, it makes sense to contract with another provider to deliver services that are ancillary to your organization's primary mission. For example, schools often hire an outside business to operate their cafeterias, because food service is peripheral to their core mission of education. Rather than having school principals become experts in food service, it is more efficient to hand the task to an organization that focuses its resources and attention on that service. The core business of the criminal justice system is enforcing laws, processing defendants and offenders, and delivering justice. Drug and alcohol treatment services for offenders who abuse substances may be important and effective in reducing recidivism, but these services are of secondary importance to criminal justice agencies' missions. This makes them good candidates for outsourcing.

Stevens: Using an intermediary agency for screening and referral has some clear advantages. That way, each agency and treatment program in the three-part system specializes in a single aspect of client management—criminal justice processing and sanctions, or screening and assessment and placement, or providing a particular evidence-based treatment model—and can learn to do it really well. As things stand, many treatment programs offer too many services. Some claim to provide multiple evidence-based models, but the fact is that training requirements coupled with high counselor turnover rates make it difficult to implement and provide even one evidence-based model effectively. Ideally, the intermediary should also provide oversight, as Illinois TASC does, to ensure that programs are actually providing what they've promised and to evaluate their effectiveness, at least in terms of treatment retention and immediate outcomes.

Shiela Strauss: A tripartite system consisting of criminal justice, screening and referral, and treatment services provides a sensible division of labor. Since none of the branches needs to be able to perform every task, training and work responsibilities can be divided. If all the branches function effectively, each branch realizes that together they can achieve the overarching objective. This sense of "collective efficacy" will likely foster a good deal of cooperation.

Stevens: An intermediary screening and referral agency well-versed in treatment can also ensure consistency in appropriate treatment placement. We have had experience with referral agencies sending juvenile and adult offenders to different treatment programs somewhat haphazardly, without solid clinical justifications based on addiction intensity or American Society of Addiction Medicine (ASAM) criteria. Thereafter, when justice-involved clients get to the treatment facility, little is done to check on the fidelity of treatment implementation and the appropriateness of the approach. That is where fidelity monitoring comes in.

McDonald: Avoiding conflicts of interest is another advantage to having an intermediary agency perform screening, assessment, and referral. For instance, suppose a treatment provider that is also responsible for screening and placement happens to have a surplus of inpatient beds with few outpatient slots. There's a good chance that the agency, in that situation, will refer more people to inpatient treatment, which could well be an expensive and inefficient use of treatment resources. In contrast, an independent screening and referral agency is less likely to be swayed by such considerations. If it is not in the business of delivering the treatment service itself, it is better positioned to disinterestedly refer each client to the most clinically appropriate treatment services.

Stevens: Our institute provides treatment services in rural areas where we have to make extra effort to provide clients with access to care, especially specialized treatments. For example, we've implemented a mobile outreach program to bring specialized evidence-based services from metropolitan areas to rural treatment centers that otherwise could not provide them. The rural agency and trained treatment providers each make concessions; for instance, the providers undertake long commutes and modify their evidence-based protocols to dovetail with what is already in place at the rural agency. As we've been talking, I've been wondering how the Illinois TASC model would work in our setting. Of course, it would face the same difficulties of sparse provider resources, but it might be better suited to handle some of the logistical issues. I think, too, that the tripod approach with a central screening agency mediating between justice and treatment would avoid some of the resource misallocation that occurs. For instance, I'm aware of several cases in Tucson and nearby rural counties in which African-American adolescent males were referred to drug treatment after offenses such as vandalism, shoplifting, and theft, even though they had never used drugs or had done so only very rarely. That would not happen if expert personnel were making the referral decisions with ASAM criteria.

McDonald: I am struck that 35 years have passed since the Federal Government initiated the nationwide TASC program to provide case management for offenders reentering communities. And yet we're still talking about the need to integrate substance abuse treatment and the criminal justice system. We still experience some of the same problems and struggle with some of the same issues around treating offenders. Yes, there have been some promising innovations, like drug courts, which have taken off and made a dent. Yes, the authors' brief for their Illinois TASC approach is well-reasoned, and their progress to date is estimable—but overall, the lack of progress in the field is discouraging.

Stevens: We have recommended that Arizona contract with one agency for screening and assessment to be conducted in various locations throughout the State. This would promote appropriate placement and facilitate consistent collection of outcomes data. The challenge is daunting and even more so because this system would serve not only people involved in the criminal justice system, but also anyone with substance abuse problems. The questions include: How do you set up a centralized screening and assessment facility? How does it fit in with the existing treatment system? How do clients access the service? How do you place clients in treatment programs around the State? How are training and fidelity checks performed? From our position, at the beginning of this road, we can appreciate the distance Illinois TASC has traveled.

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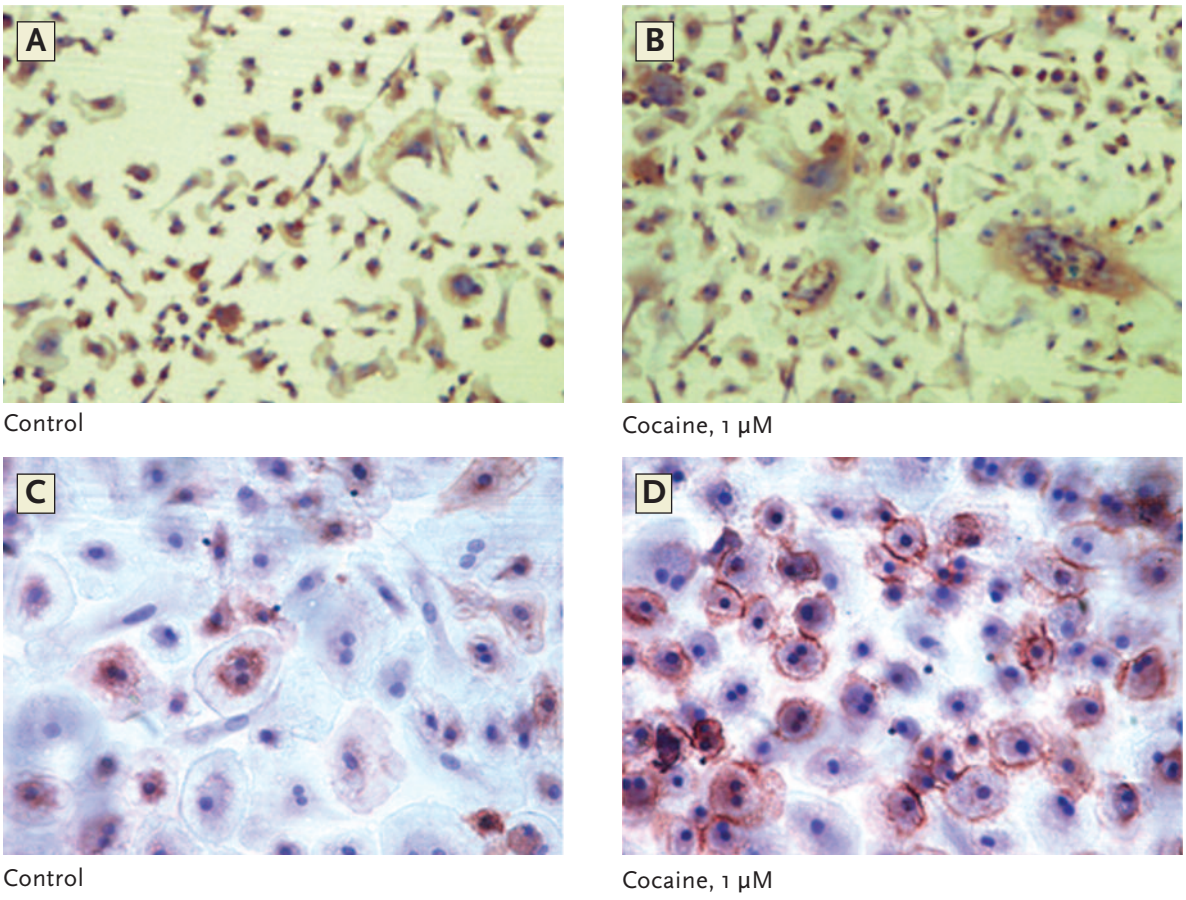
Graphic Evidence

COCAINE MAY INCREASE RISK FOR COGNITIVE PROBLEMS IN HIV



Control

Cocaine, 1 µM

Control

Cocaine, 1 µM

Improved antiviral medications have rendered less common the severe cognitive losses that were a dreaded complication of HIV infection early in the epidemic. Nevertheless, HIV continues to cause pathology in brain tissues, and some patients still cope with mild or moderate cognitive impairments. Photomicrographs from recent experiments demonstrate that cocaine promotes two processes that have been linked to abnormal brain function in patients infected with HIV: viral replication in white blood cells and macrophage activation.

HIV infiltrates the brain inside white blood cells. Once in the brain, the virus may remain dormant or replicate. The faster the virus replicates, the more likely it is to incite inflammation, which can disrupt normal brain cell functioning. Drs. Shilpa J. Buch, Navneet K. Dhillon, and colleagues at the University of Kansas Medical Center showed that cocaine accelerates viral replication. The researchers exposed two laboratory cultures of macrophages, a key white blood cell type, to HIV (A and B); they also exposed one of the cultures (B) to cocaine (1 µM). The virus replicated up to eight times faster in the drug-exposed than in the unexposed macrophages. After 48 hours, rapid HIV replication had caused the drug-exposed macrophages to swell and become distended (B).

Macrophages are sentinels and first-line defenders in the immune system. When activated by viral, bacterial, or other challenges, they release chemicals to attack the invading organisms. These chemicals can be toxic to healthy brain cells, and studies have linked macrophage activation to impaired cognitive performance by people infected with HIV. The Kansas team showed that cocaine independently enhances macrophage activation as much as twofold. The researchers prepared two virus-free macrophage cultures (C and D), exposed one (D) to the drug (1 µM), and then tested both with a red stain that attaches to a cellular product of macrophage activation (human leukocyte antigen-DR). The stain revealed much more of the activation product in the drug-exposed culture (D).

Results from *in vitro* studies do not always reflect what happens in living people. Nevertheless, these findings suggest that cocaine may add to the risk for cognitive deficits in patients infected with HIV.

Source: Dhillon, N.K., et al., 2007. Cocaine-mediated enhancement of virus replication in macrophages: Implications for human immunodeficiency virus-associated dementia. *Journal of NeuroVirology* 13(6):483-495.

Continuing Education Quiz for Counselors

Substance abuse counselors can earn two nationally certified continuing education (CE) hours by reading the indicated articles and completing the multiple-choice quiz below. This is an open-book exam. Complete the quiz by circling ONE OR MORE of the multiple-choice answers. Be sure to answer all questions; unanswered questions will be scored as incorrect. You must score at least 70 percent to earn CE hours. Please note that we must receive your quiz by July 15, 2009.

Interventions to Promote Successful Re-Entry Among Drug-Abusing Parolees—page 4

1. The primary goals of correctional treatment are to:
a. rehabilitate the whole person by addressing issues such as self-esteem, emotional trauma, and substance abuse;
b. prepare offenders for Twelve-Step programs upon release;
c. reduce arrests and reincarceration;
d. reintegrate offenders into the community.

2. Positive outcomes from prison-based drug treatment programs are most likely to be sustained when:
a. offenders participate in community treatment after release;
b. offenders' participation in treatment is voluntary rather than mandatory;
c. finding regular employment is a condition of parole or probation;
d. all of the above.

3. Research has shown that the following evidence-based practices are effective for drug-abusing offenders after release from prison:
a. contingency management and therapeutic community treatments;
b. motivational interviewing and cognitive behavioral therapy;
c. pharmacotherapy and Twelve-Step programs;
d. all of the above.

Nutrition Issues in Chronic Drug Users Living With HIV Infection—page 16

4. Studies have shown that the following has the greatest impact on the nutritional status of HIV-positive injection drug users:
a. HIV infection;
b. injection drug use;
c. the synergistic effect of HIV infection and injection drug use;
d. none of the above, as the data are inconclusive.

5. In injection drug users infected with HIV, wasting and weight loss may result from:
a. malabsorption related to Kaposi's sarcoma, the side effects of antibiotics or other medications, or gastrointestinal infections;
b. metabolic alterations caused by illicit drugs, medications, or hormonal deficiencies;
c. decreased dietary intake due to food insecurity, diarrhea, nausea, or anorexia;
d. all of the above.

6. In treating nutritional deficits for patients infected with HIV, care providers may recommend:
a. healthy diet, consultation with a nutritionist, and diet supplements;
b. light exercise and increased calorie intake with up to 50 percent of calories coming from unsaturated fats;
c. changes in the regimen of highly active antiretroviral therapy (HAART) and increased salt intake;
d. all of the above.

Recovery-Oriented Care for Drug-Abusing Offenders—page 31

7. The authors' concept of a recovery-oriented system of care would provide the following for drug-abusing offenders:
a. a mix of incentives and sanctions;
b. a coherent program of drug treatment interventions;
c. assistance reintegrating into the community and family relationships;
d. all of the above.

8. The authors believe that an agency that is independent of both the criminal justice and treatment systems is uniquely well-positioned to:
a. mediate between the criminal justice and drug treatment systems;
b. determine appropriate sentencing;
c. ensure continuity of care throughout a person's involvement with the criminal justice system;
d. provide evidence-based treatment.

9. In treatment plans that Illinois TASC advocates, lapses and relapses to substance abuse are treated as:
a. immediate grounds for criminal sanctions;
b. learning experiences, especially early in recovery;
c. reasons to reassess treatment plans and consider sanctions;
d. indications that criminal recidivism is probable.

This issue of *Addiction Science & Clinical Practice* has the following objectives for drug abuse treatment providers and researchers:
- to convey that drug treatment in prison can be effective and that positive outcomes are more likely to be sustained after release when offenders participate in community treatment and case managers track and/or co-manage offenders' movement through both the treatment and criminal justice systems;
- to discuss specific programs designed to help drug-abusing offenders decrease recidivism, sustain recovery, and practice healthy behaviors; and
- to increase awareness of how drug use and abuse can produce or complicate co-occurring medical conditions, such as HIV infection.

Please rate the following on a 1 to 5 scale, by circling the appropriate number:

1. To what extent did these articles accomplish these learning objectives?

Completely		Adequately		Not at All
1	2	3	4	5

2. To what extent did you learn something useful to your profession?

Completely		Adequately		Not at All
1	2	3	4	5

3. Was the information well presented?

Completely		Adequately		Not at All
1	2	3	4	5

Please print legibly, copy page, and mail with your $25 payment to: AS&CP CE Quiz, MasiMax Resources, Ste. 175, 1375 Piccard Drive, Rockville, MD 20850. Quiz and payment must be received by July 15, 2009.

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