



Evidence-based treatment and supervision practices for co-occurring mental and substance use disorders in the criminal justice system

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ABSTRACT

Background: Over seven million persons in the United States are supervised by the criminal justice system, including many who have co-occurring mental and substance use disorders (CODs). This population is at high risk for recidivism and presents numerous challenges to those working in the justice system. **Objectives:** To provide a contemporary review of the existing research and examine key issues and evidence-based treatment and supervision practices related to CODs in the justice system. **Methods:** We reviewed COD research involving offenders that has been conducted over the past 20 years and provide an analysis of key findings. **Results:** Several empirically supported frameworks are available to guide services for offenders who have CODs, including Integrated Dual Disorders Treatment (IDDT), the Risk-Need-Responsivity (RNR) model, and Cognitive-Behavioral Therapy (CBT). Evidence-based services include integrated assessment that addresses both sets of disorders and the risk for criminal recidivism. Although several evidence-based COD interventions have been implemented at different points in the justice system, there remains a significant gap in services for offenders who have CODs. Existing program models include Crisis Intervention Teams (CIT), day reporting centers, specialized community supervision teams, pre- and post-booking diversion programs, and treatment-based courts (e.g., drug courts, mental health courts, COD dockets). Jail-based COD treatment programs provide stabilization of acute symptoms, medication consultation, and triage to community services, while longer-term prison COD programs feature Modified Therapeutic Communities (MTCs). **Conclusion:** Despite the availability of multiple evidence-based interventions that have been implemented across diverse justice system settings, these services are not sufficiently used to address the scope of treatment and supervision needs among offenders with CODs.

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Introduction

In the past several decades, there has been a surge in the number of persons placed under supervision of the US criminal justice system. Cresting in 2007 with a total of 7.3 million persons, the population under criminal justice supervision has slightly declined in the years since then (1). However, almost 3% of adults in the United States are currently under some form of criminal justice supervision (2), which is by far the highest rate of incarceration in the world (3). The explosive growth in the criminal justice system is attributable to multiple factors, including the escalating “War on Drugs” conducted at the federal, state and local level, and resulting changes in state and federal drug laws and in law enforcement practices. Moreover, most persons with severe mental illness who were once hospitalized in state institutions have been released to the community, with no appreciable transfer of resources for treatment or support services, particularly for persons

who have mental and/or substance use disorders, and who are often homeless and living in poverty (4–6). For example, approximately half of persons released from state hospitals are homeless, and from 20% to 40% of homeless persons have a severe mental illness (4,6).

Prevalence of co-occurring disorders in the criminal justice system

Rates of serious mental illness are much higher in the criminal justice system than in the general population (7–10). For example, from 17% to 34% of offenders are diagnosed with serious mental illness (7,10,11). This compares with approximately 4–6% of the general population who have a serious mental illness (12,13).

Persons in the justice system also have higher rates of substance use disorders (SUDs) in comparison with the general population (9,10,14). Lifetime rates of substance use disorders among offenders range from 70%

to 86% (9,10,14,15–17), which are substantially higher than in the general population (9,10,18). Between 26% and 32% of offenders report that their criminal activities were committed while under the influence of drugs or alcohol (9,19).

Many persons in the criminal justice system have co-occurring mental disorders and SUDs (9,17,20,21). In looking at the convergence of these two disorders among offenders, an estimated 24–34% of females and 12–15% of males in the criminal justice system have CODs (10–11,14,16,22). In comparison, the rate of co-occurring serious mental illness and substance use disorders is approximately 1.3% in the general population (12,13,23).

Addressing the challenges of CODs among offenders

Persons with CODs in the criminal justice system typically have more than one mental disorder and have a history of abusing multiple substances (24). The combination of these disorders can be quite disabling and often requires a period of detoxification, and stabilization of mental health symptoms. When untreated, mental disorders such as major depressive disorder, bipolar disorder, and psychotic disorders (e.g., schizophrenia) are among the most disabling, although the severity of functional impairment varies widely among offenders (9,25). Other less severe conditions such as adjustment disorders, anxiety disorders, and mild-moderate depression are common among offenders, but do not necessarily require specialized COD interventions (24).

Offenders who have CODs present unique challenges at each major transition point in the criminal justice system. These individuals are more likely to be arrested (26), frequently for non-violent felony offenses. However, individuals with CODs are at higher risk for violence. This is due to augmented rates of substance use and the higher prevalence of characterological disorders with antisocial personality features, which increase the likelihood of violence in comparison to persons who have singular disorders or no disorders (25–28).

Law enforcement officers are more prone to “use of force” with persons who have CODs, and often lack training to prevent escalation of aggressive behavior (26,29). When arrested and placed in jail, persons with CODs are less likely to post bond, are more likely to be sentenced to jail or prison, and experience longer periods of incarceration (30). Persons with CODs also exhibit behavior management problems in jails and prisons and are often placed in solitary confinement, where there is less opportunity to engage in behavioral health treatment (31). Solitary confinement often aggravates acute mental

health symptoms (e.g., depression, paranoia, psychotic thoughts), which can then lead to extended periods of incarceration and/or forensic hospitalization (29,31).

Few COD treatment programs exist in jails and prisons (9,32), and these often focus on crisis intervention and use of psychiatric medication, while sometimes excluding persons who have serious mental illness (33). A recent study found that only 38% of offenders in the United States had received behavioral health services, including only 7% who received services for both mental and substance use disorders (34). There are also many challenges facing inmates with CODs who are released from jails and prisons. For example, these individuals don’t typically receive an extended supply of psychiatric medications, and as a result may experience rapid recurrence of acute psychiatric symptoms (35–37). Other barriers include long waiting periods to see a healthcare prescriber, lack of affordable housing and transportation, employment difficulties due to their felony record (38), and termination of income supports and entitlements. Poorly coordinated reentry services often contribute to the rapid cycling between community systems of care (e.g., emergency and crisis services) and the justice system (39). There is also an absence of integrated treatment services for CODs in many reentry settings (40), and existing behavioral health services are often fragmented and may not sufficiently address risk factors for criminal recidivism (41,42).

Effective frameworks to guide services for CODs in the justice system

Studies examining both mental health treatment and substance abuse treatment programs for offenders indicate positive outcomes related to psychological functioning, substance use, employment, institutional adjustment, and criminal recidivism (43,44). For example, a meta-analysis of studies investigating outcomes of mental health treatment in correctional settings found consistent improvement in behavioral and psychological functioning and reduced recidivism for programs that targeted the combination of mental illness and criminality (44). There is also evidence that COD treatment programs can be effectively implemented in justice settings (29). Several empirically based frameworks are available to guide the development of effective treatment and supervision services for justice-involved persons who have CODs. These include: (1) Integrated Dual Disorders Treatment (IDDT), (2) the Risk-Need-Responsivity (RNR) model, and (3) Cognitive-Behavioral Therapy (CBT). Use of these frameworks in designing behavioral health services for offenders can significantly reduce criminal behaviors (45).

Most comprehensive COD programs in justice settings provide an Integrated Dual Disorders Treatment

(IDDT) approach, consistent with evidence-based practices developed in non-justice settings (46). IDDT provides integration of mental health and substance abuse treatment services within the same programmatic setting, with services delivered by the same set of staff who have expertise in working with both disorders. As is the case with many COD programs in the community, those in justice settings have traditionally adhered to either “parallel” or “sequential” models that are less effective than integrated programs that blend services for mental and substance use disorders at a single site and with a single set of multidisciplinary staff (25,40,47). IDDT programs yield more favorable outcomes for both offenders and non-offenders (9,25,32), are intensive and highly structured, and, in justice settings, include adaptations for offenders such as a focus on “criminal thinking” and other criminogenic risk factors related to recidivism (32,48,49).

The Risk-Need-Responsivity (RNR) model recognizes the importance of focusing scarce correctional resources on offenders who are at high risk for recidivism, as determined by standardized risk screening and risk assessment instruments (50–52). The “Risk Principle” from this model indicates that the intensity of services provided should be proportional to the risk of recidivism, and that more intensive services should be reserved for offenders determined to be at high risk (51,53). Offenders who have CODs have been found to be at high risk for recidivism (29) and have slightly higher levels of risk factors for recidivism in comparison with other offenders (54). However, among offenders with CODs, the risk for recidivism is not due to mental illness per se, but to the presence of other risk factors that are elevated among offenders who have CODs, such as criminal attitudes, criminal peers, lack of education and employment, and substance use (55). As a result, a sole focus on treating mental disorders among this population is insufficient to reduce recidivism, and a broader approach is needed that focuses on the full range of criminal risk factors.

The RNR model provides valuable guidance in designing offender COD treatment programs that emphasize interventions for reducing criminal recidivism (56). For example, the model encourages offender treatment programs to focus on co-occurring substance use disorders, which is a significant “criminogenic need” that independently contributes to the risk for recidivism. The RNR model also guides offender COD programs to target participants who have “high needs” in areas that directly contribute to the risk for recidivism. Criminogenic needs include “dynamic” risk factors that can be reduced through COD treatment, including antisocial attitudes, beliefs, and peers,

substance use, family and/or marital problems, educational deficits, poor employment skills, and lack of prosocial leisure activities (53). Offender programs that match participants to treatment and supervision according to the assessed level of criminogenic needs and risk have been found to significantly reduce recidivism (57,58). Finally, the RNR model also encourages offender treatment programs to focus on resolving various “responsivity” factors such as co-occurring mental disorders, which affect offenders’ ability to engage in evidence-based treatment and supervision (50,53). If unaddressed, these responsivity factors can significantly undermine the effectiveness of offender treatment (53).

Meta-analysis indicates that cognitive-behavioral therapy (CBT) approaches are particularly effective for offenders (59), including those who have CODs. CBT is based on the conceptual linkages between maladaptive thoughts, beliefs, and antisocial behavior, including substance use. Key CBT interventions include developing coping skills that affect substance abuse and criminal behavior, such as cognitive restructuring, problem-solving, conflict management, dealing with active drug users, coping with urges and cravings, and relapse prevention. Cognitive restructuring helps to identify, challenge, and replace maladaptive thoughts, such as rationalizations for criminal behavior and substance use, that tend to escalate psychopathology (e.g., anxiety and depression), and self-deprecating and shame-inducing thoughts that can trigger substance use. Cognitive restructuring is also used to identify and modify different types of “criminal thinking” and “thinking errors” that contribute to antisocial behavior (60). CBT is a versatile intervention that can be applied across a wide range of mental disorders [e.g., major depression, Post-Traumatic Stress Disorder (PTSD), personality disorders, psychosis] and substance use disorders and thus serves as an important component of offender COD treatment programs.

Screening, assessment, and diagnosis of CODs among offenders

Specialized screening and assessment approaches are needed to identify offenders who have CODs and to match them to appropriate services. Key areas of information to examine in screening and assessment of CODs within the justice system include: (1) functional aspects of the disorders, including the historical interaction between the disorders, how the risk for relapse is mediated by each disorder, and the effects of the disorders on criminal behavior, (2) level of criminal risk, and criminogenic needs (i.e., “dynamic” risk factors) that independently contribute to the risk for recidivism, and (3) other factors that influence engagement in

services, such as housing, transportation, employment, and financial and social support (24).

Given the high rates of CODs in the justice system, screening for both mental and substance use disorders should be provided to all offenders. Screening for these disorders should occur at the first point of entry to the justice system, and positive screens should be followed up by a comprehensive assessment conducted by a licensed or certified behavioral health professional. Screening should be provided at various different transition points in the justice system, including jail booking, intake/reception to prison, initial placement on probation or parole, and reentry from custody settings (24). Several evidence-based screening and assessment instruments are available to detect and to evaluate mental disorders, PTSD, and substance use disorders, and many of these are in the public domain. Unfortunately, few screening instruments address both mental and substance use disorders, and as a result, CODs are sometimes not accurately identified. Screening conducted in justice settings should either employ a single instrument that addresses both types of disorders, or a combination of a mental health screen and a substance abuse screen.

Implementation of treatment for CODs across different settings in the justice system

COD treatment programs are described in six major justice settings (pre-booking/law enforcement, courts, jails, prisons, reentry, and community supervision) in which the vast majority of offenders are placed and receive services. For example, over seven million offenders in the United States are housed in jails and prisons or are placed on community supervision (e.g., probation and parole) (61). The types of COD programs reviewed in the following sections are not exhaustive, but reflect interventions that have been widely implemented and that have empirically-supported outcomes.

Pre-booking diversion programs

Pre-booking diversion programs are designed to minimize the use of incarceration for persons who have CODs whose mental illness is serious, through intervention at the time of initial contact with law enforcement. Law enforcement officers are trained to recognize mental illness and to deescalate volatile situations involving persons who have CODs, and to refer these persons to appropriate community services (62), such as crisis stabilization units, triage centers, or other mental health or substance abuse treatment facilities. Persons are thus diverted from arrest and incarceration and are not charged with a crime (63–66). Pre-booking diversion programs are designed not only for persons

with prior criminal justice involvement, but also for those who may not have a criminal record.

Most pre-booking diversion programs engage mental health professionals to assess the need for different types of community treatment and often deploy these professionals (along with law enforcement) to active incident scenes involving persons who have CODs (65,67,68). This model has emerged from the recognition that critical incidents in the community involving CODs are handled more effectively by using a deliberate approach that involves active listening, building trust, and reducing anxiety among persons involved in crisis situations (69). If the mental health professional can't resolve the situation, law enforcement officers transport persons who have CODs for hospitalization.

Four major models of pre-booking diversion have been implemented, including: (1) Crisis Intervention Teams (CIT), (2) psychiatric emergency response teams and other mobile crisis teams, (3) crisis stabilization units and community triage centers, which can be used in combination with CIT and mobile crisis teams, and (4) Community Service Officers (70). CIT teams have been successfully implemented across the United States and in other countries, and provide specially trained law enforcement officers to handle emergency situations involving persons with severe mental disorders and CODs who tend to rapidly cycle through the justice and social service systems, often at great cost (71). These persons often commit non-violent misdemeanors (e.g., public nuisance offenses) that consume a considerable amount of time for law enforcement officers, and encounters with these individuals often end tragically and with unnecessary use of force (72). CIT officers are trained in verbal and physical deescalation strategies, and work closely with mental health professionals to transport and admit persons to behavioral health treatment facilities (66,73).

Emergency response teams and mobile crisis units are also in widespread use in the United States, with early program models established in San Diego (PERT teams) and in Santa Fe, New Mexico (70). These pre-booking programs differ from CIT teams primarily by their involvement of behavioral health professionals to assist law enforcement in addressing crisis situations. Other programs have used specially trained Civilian Service Officers to assist law enforcement in crisis intervention. Pre-booking interventions for persons who have severe mental illness and CODs are often hampered by a lack of resources to provide continuous coverage and to adequately respond to simultaneous crisis incidents (67,74), and also by the absence of ancillary community services such as housing, transportation assistance, child care, short- and long-term behavioral health treatment, and general health care.

Research involving pre-booking diversion programs indicates that they can effectively resolve crisis situations, expand access to behavioral health treatment, prevent incarceration, and reduce jail time without increasing public safety risk (68,75,76). In one of the few comparative effectiveness studies examining pre-booking diversion programs (74), a CIT program was found to produce lower rates of arrest (2%) than programs using the CSO model (5%) or mobile crisis/emergency response teams (14%), and also facilitated higher rates of referrals to mental health treatment (75% versus 20% and 40%, respectively, for CSO and mobile crisis/emergency response teams). Much of the research involving pre-booking diversion programs is qualitative, and relatively few studies examine outcomes following community encounters with CIT or other mobile response teams (77). Existing research studies are characterized by other methodological limitations, including the lack of comparison groups, and an absence of extended follow-up periods and standardized outcome measures that allow for analysis across different studies and study sites (70).

Court-based programs

There are over 3,000 treatment-based court programs in the United States, including drug courts, mental health courts, veterans treatment courts, and other diversion programs for justice-involved persons who have behavioral health disorders. Cumulative research, including several meta-analyses, indicates that drug courts increase retention in treatment and reduce recidivism over follow-up periods of up to several years (78,79). Many treatment-based court programs have recognized that specialized approaches are needed for persons who have CODs, and that outcomes in traditional court diversion programs can be undermined without programmatic adaptations. As a result, a number of specialized court dockets have emerged that focus exclusively on persons who have CODs (32). Specialized COD court dockets are sometimes embedded within drug courts or mental health courts, although freestanding court-based programs for CODs have also been developed in some jurisdictions. Key adaptations to COD courts include: (1) dually credentialed staff, (2) blended screening and assessment, (3) highly structured treatment services that provide Integrated Dual Disorders Treatment (IDDT), (4) the potential for extended program duration, (5) engagement of community mental health services, (6) smaller and less formal status hearings, and (7) specialized community supervision caseloads. COD court programs involve participants who have serious mental illness (e.g., bipolar disorder, psychotic disorders), the majority of whom have been sentenced on felony charge (32). Despite the

emergence of specialized COD court programs, at this time, there have been no rigorous evaluations conducted to determine the impact of these programs on criminal recidivism, utilization of behavioral health services, or psychosocial functioning.

There are now a wide variety of mental health courts (MHCs) that provide diversion from custody for persons with mental disorders. These programs are designed to reduce the rapid cycling through the justice system of persons who have CODs by reducing re-arrest, length of jail stay, and improving psychosocial functioning (80,81). As with drug courts, MHCs feature voluntary participation, use of a multidisciplinary team, supervised involvement in treatment, and incentives (e.g., reduced sentence or dismissal of charges) for program completion (80,82,83). Several MHCs provide adaptations for CODs, such as specialized treatment groups that focus on the interactive nature between the disorders, peer support groups, and other recovery-oriented services.

Preliminary outcomes obtained for MHC participants who have CODs include lower rates of rearrest, shorter duration of incarceration in jail, and reduced psychiatric symptoms (76,84,85). A meta-analysis examining MHC outcomes found significant reductions in rates of arrest, although the effect sizes across studies were only at the moderate level (83). Several studies have examined recidivism following participation in MHCs, and most have found reductions in recidivism over different periods of time (86). For example, over a two-year follow-up period, one study found that 38% of MHC participants were rearrested, in comparison with 48% of MHC eligible defendants who were processed in traditional criminal courts (86). MHCs also appear to enhance engagement and retention in treatment, and linkage with community services (87), although there appears to be a corresponding increase in use of acute mental health services. MHCs that provide a supportive rather than punitive approach appear to be more effective with persons who have CODs (88).

Despite positive findings from early investigations of MHCs, a more recent cost analysis using data from the multi-site MacArthur Mental Health Court Study (81) provides rather discouraging results. Over a three-year follow-up period, the study found that very high costs of behavioral health treatment among participants in four MHCs far outweighed rather modest cost savings related to reduced criminal justice involvement. The MHC programs examined in the study led to an average annual increase of \$4,000 per MHC participant, in comparison with a matched sample of defendants who received treatment as usual. MHC participants who had CODs and who had a greater number of days of prior jail incarceration experienced the highest rates of recidivism and incurred the largest costs (81).

There are several important methodological limitations to existing studies of MHCs that compromise the ability to make far-reaching generalizations about their effectiveness (86). First, few MHC outcome studies provide comparison groups of persons who have mental disorders, including persons who were eligible for MHCs but who were not placed in these programs. Second, most of the studies do not report baseline indicators of criminal history, severity of mental health disorders, or the presence of CODs, thus creating difficulties in interpreting the magnitude of any improvements in post-MHC outcomes. Third, many of the studies provide outcomes only for MHC graduates and don't track program non-completers. Finally, only a few studies that have reviewed outcomes for subgroups of MHC participants, such as persons who have with elevated risk factors for rearrest.

There are clear areas for improvement among MHCs and specialized court-based programs for persons who have CODs, including targeting interventions to address "criminogenic risk factors" that predict recidivism, providing more comprehensive behavioral health services following completion of MHCs, intensive case management to ensure medication adherence and engagement in behavioral health and other services, and use of peer mentors and support groups. As previously indicated, more rigorous controlled research is needed to determine the extended outcomes for different sub-groups of MHC participants who have received evidence-based services to address their CODs, such as integrated dual diagnosis treatment (IDDT).

Treatment in correctional settings

Comprehensive studies have not yet been conducted to determine the extent of COD treatment programs in jails or prisons, and much of the existing research examines either substance use treatment or mental health treatment in these settings. For example, one study indicates that approximately 65% of correctional settings offer substance use services, although only 10% of inmates receive necessary treatment to address their needs (89). One of the few studies reporting on correctional COD treatment programs found 26 such programs located in 13 state prison systems (42). The Council of State Governments (90) reports that 11% of offenders who have CODs receive services to address both disorders. A recent analysis of the ADAM II program found that only 7% of jail inmates report receiving prior substance abuse and mental health treatment (34).

Treatment in jails. The goal of jail-based COD treatment is to provide effective short-term services (1–3 months) to address acute symptoms of behavioral health disorders, and

to provide linkages to treatment services in the community. Initial phases of jail treatment programs involve detoxification, psychiatric consultation to establish a regimen of psychotropic medication, comprehensive assessment, and use of motivational strategies to engage offenders in treatment. A second phase of treatment services involves connecting offenders to community outpatient treatment services, and addressing transportation, housing, and employment needs (33,39). Effective screening and assessment are particularly important in jail settings, given that offenders need to be properly matched with jail and community treatment services in a timely manner. Screening is also provided to rapidly identify non-dangerous persons who have CODs and who can be released from custody. These individuals are often placed in community treatment programs, either as a condition of release or as a sentencing disposition. Jail programs that don't provide these services in an integrated and coordinated manner often fail to improve psychiatric functioning, and result in augmented inmate behavioral problems (91).

Despite the challenges in implementing jail-based COD treatment, there are several examples of effective programs, including the Mentally Ill Substance Abusing (MISA) treatment program in Beaver County, Pennsylvania, the TAMAR Project in Maryland, the WINGS Project in New York City, and the Delaware County Treatment (DCT) COD program (82,92,93). Studies indicate that jail COD programs can reduce reincarceration, help to engage offenders in community-based treatment services following release, and reduce psychological symptoms (76,85). One study of a jail-based COD treatment program in Pennsylvania that provided post-release services found significant reductions in recidivism over a 12-month follow-up period, and low rates of substance use (94). Another study investigating the Auglaize County Transition (ACT) jail COD treatment program found significant differences in recidivism for inmates receiving specialized treatment services (12%) versus traditional services (82%; 95). Operational features of jail-based treatment programs that facilitate positive outcomes include use of an integrated treatment model, greater access to community-based services (e.g., through reentry services provided by jail treatment staff or case managers), more intensive and longer duration of behavioral health services provided upon community reentry, and a high level of fidelity to the intended treatment protocols through use of manualized curricula and regular monitoring of treatment delivery (76,85,92,95). Positive family support also appears to provide a "buffer" against the stress of reentry following involvement in jail COD treatment (94).

The majority of outcome studies examining in-jail treatment or reentry services involve programs that address either substance use or mental disorders, and

not both (96–98). Another limitation to the existing research is that several jail COD studies only provide qualitative data related to improvements in symptoms or other areas of psychosocial functioning (92,99), or provide findings from process evaluations that review features of program implementation rather than outcomes related to substance use and criminal recidivism. Other areas that have not been sufficiently explored include the degree to which jail COD interventions are implemented with fidelity and are focused on “criminogenic needs” that contribute to the risk for recidivism (92).

Treatment in prisons. Prison COD programs are often provided within Therapeutic Communities (TCs) of 12–18 months duration, which have been shown to be an effective modality of treatment. TCs emerged in the early 1960s and were systematically implemented in prisons through federally sponsored grant programs such as “Project Recovery” and “Project Reform.” TCs use a hierarchical community structure and provide consistent interpersonal feedback from peers and staff to facilitate lasting psychological and behavior change. Key strategies include behavior modification and “shaping,” confrontation, development of cognitive skills, vocational training, and exposure to a prosocial peer network (100). Treatment outcomes from follow-up periods of three months to two years include significant reductions in rearrest and substance use relapse when contrasted with outcomes of comparison groups. For example, prison TCs provide better outcomes than group counseling or behavior therapies among offenders who have CODs (101–104). Prison-based TCs focus on increasing prosocial behaviors (e.g., taking leadership roles in community activities, constructive problem-solving in group settings) through regular feedback from peers and professional staff, and involvement in group therapy. Medication management is a prominent feature of all prison COD programs, and a subset of prison TC programs provide community reentry services such as transitional housing, vocational rehabilitation, and job placement services.

Prison COD programs involve a multidisciplinary team of behavioral health and correctional professionals that provide an integrated approach to address mental and substance use disorders (105). These programs are typically of longer duration and are more intensive than substance abuse treatment services provided in prison. Many prisons have implemented Modified Therapeutic Communities (106–108) that provide specialized services for CODs that are somewhat different than those implemented in traditional TCs. Program adaptations for MTCs include psychoeducation, medication management, and use of

integrated treatment (e.g., Integrated Dual Disorder Treatment, IDDT; 109,110) to address the interaction between substance use, mental disorders, and criminal thinking/behavior. MTCs are also less confrontational and punitive than traditional TCs, focus on individual recovery needs, and provide higher levels of positive reinforcement, praise, and support for program achievements (106,110). More recently, MTCs have been adapted to provide gender-specific services for female prisoners, who have high rates of CODs, including Post-Traumatic Stress Disorder (PTSD), and significant unmet needs for health, vocational, and education services (107,111–113).

Research indicates that prisoners who have CODs and who are enrolled in MTCs have reduced substance use, enhanced psychological functioning (e.g., reduction of symptoms), and lower recidivism in comparison with prisoners who have CODs and who participate in traditional TCs. For example, Sullivan and colleagues (110) found greater reductions in substance use (56% versus 31%) and longer time to relapse (3.7 months versus 2.6 months) among prisoners with CODs who participated in MTCs, in comparison with prisoners in traditional TCs. A meta-analysis conducted by Magor-Blatch and colleagues (104) reviewed studies of TCs modified for prisoners who have CODs and found positive outcomes related to substance use, mental health and social functioning, and criminal recidivism. For example, several studies found significant reductions in substance use, reduced levels of criminal activity, reductions in the severity of psychiatric symptoms, and higher levels of social functioning, during follow-up periods of 2–18 months (114–116).

TCs have also been found to be more effective than traditional mental health treatment among prisoners who have CODs, with lower rates of substance use (31% versus 56%) and reincarceration (9% versus 33%) during a 12-month follow-up period (117), and lower rates of reincarceration during a 17-month follow-up period (118). For prisoners who have CODs, involvement in TCs is associated with improved psychological functioning during a 12-month follow-up period, in comparison with persons receiving traditional prison mental health treatment (117). Other significant outcomes for prison COD programs versus traditional mental health programs include higher rates of follow-up abstinence (102), lower rates of recidivism (102,119), and higher rates of adherence to psychiatric medication (102). Several studies have also demonstrated enhanced outcomes for modified TCs serving female prisoners with CODs, in comparison with those enrolled in traditional mental health programs. Key outcomes from these studies include significant reductions in

recidivism (31% versus 45%), substance use (24% versus 33%), and trauma symptoms (29% versus 42%), and improvement in mental health symptoms (11% versus 15%) over follow-up periods of 6–12 months (108,115,117).

Prisoners who have CODs are at increased risk for reincarceration in comparison with other offenders (27) and thus have urgent needs for continuity of treatment and supervision services between custody and post-custody settings. Studies of prisoners receiving COD treatment in TCs that is followed by involvement in community-based TCs found significantly lower rates of recidivism (5%) during one-year follow-up, in comparison with those receiving only prison TC services (16%), and those receiving standard prison mental health services (33%) (106). Higher rates of treatment retention and lower rates of substance abuse were also detected among those enrolled in both prison and community TCs (107,108,110).

Despite generally positive outcomes from prison MTCs designed for those who have CODs, results have not been consistent across follow-up periods of differing duration, nor do all studies report consistent improvements across various outcome measures. This suggests that there may be significant variation in the quality and fidelity of prison COD treatment, in characteristics of program participants (e.g., related to criminal history/risk level, and severity of mental and substance use disorders), and perhaps in the types of outcome measures. Sample sizes and heterogeneity of the prison populations are also somewhat restricted in many of the studies of prison MTCs. Further research is needed that examines multiple outcomes for prisoners receiving COD treatment (e.g., drug testing and self-reported substance use, utilization of services, housing status, employment, arrest, and reincarceration), that includes larger and more diverse samples, and that provides extended follow-up periods. As existing outcome studies have primarily focused on prison-based TCs, research is needed to examine other modalities of COD programs in prison and during reentry, including intensive outpatient and non-TC residential programs.

Reentry services

Offender reentry programs are designed to promote continuity of COD treatment for offenders who are released from jail or prison. Reentry programs include reentry courts, Assertive Community Treatment (ACT) teams, and integrated case management services, and involve a diverse array of correctional personnel, including jail and prison behavioral healthcare providers, case managers and discharge planners, employment specialists, and probation and parole officers. Reentry courts provide 6–12 months of judicially supervised involvement in behavioral

health services for persons released from custody who are placed on either parole or probation, using the drug court model. Studies examining reentry courts have found reduced rates of rearrests and reconvictions (43% versus 53%) over follow-up periods of from 2 to 3 years, but higher rates of technical violations (15% versus 7%) when comparing reentry court participants and non-participants (120). Assertive Community Treatment (ACT) involves intensive monitoring, supervision, and crisis intervention for persons with severe mental illness and CODs, with services provided by a multidisciplinary team of behavioral health professionals. ACT has been adapted for use with offenders (Forensic Assertive Community Treatment; FACT), and research indicates that FACT teams can reduce jail bookings and psychiatric hospitalization, and enhance contact with outpatient behavioral health treatment services (121). Integrated case management programs for offenders provide coordination of behavioral health services, target “criminogenic needs” related to risk for recidivism, implement sanctions and incentives tailored to fit the needs of offenders who have CODs and other special needs, and provide strategic partnerships with community service providers (122,123).

All reentry programs for offenders with CODs initiate linkages with community agencies that provide behavioral health treatment, housing, and employment services (124). Effective reentry hinges on good communication and transfer of information between jail/prison personnel and community agencies to facilitate a smooth transition to the community. Key services include developing a reentry plan, providing transportation and supervision to attend initial treatment appointments, and enrollment in or reinstatement of benefits (e.g., SSI/Medicaid).

Research indicates that reentry programs for persons who have CODs can be effective in reducing criminal recidivism (e.g., 108,125). As mentioned previously, in comparison with persons receiving standard mental health or TC treatment in prison, those participating in prison TCs modified for CODs that are followed by community TCs experience lower rates of recidivism and substance abuse (107,108,110). Cohen and colleagues (125) also found low recidivism rates and high rates of employment for a reentry program designed for “high risk” female offenders who have CODs. Similar findings were obtained for male offenders who have CODs, using a phased treatment approach and peer mentors.

Community supervision

Of the 4 million persons who are under probation supervision in the United States (126), approximately 16% suffer from mental disorders (127), including

many who have CODs. Probationers and parolees who have CODs do not fare as well in traditional supervision, and experience high rates of technical violations, often stemming from minor violations related to attending required appointments and payment of fees (26–28,128). In response, several jurisdictions have implemented specialized probation and parole caseloads and have created treatment-based day reporting centers and other intensive services (129). For example, the Connections program in San Diego pairs probation officers with social workers to supervise persons who have CODs, using an Assertiveness Community Treatment (ACT) model (129). Supervision officers are trained to provide a supportive versus punitive approach that focuses on problem-solving and engagement in treatment services (128).

Specialized probation and parole caseloads are smaller, provide more intensive services, and are supervised by officers who receive advanced training in COD and behavioral health treatment services (130). In many cases, probation and parole officers serve as case managers to ensure engagement and ongoing participation in treatment and other services, and to monitor compliance with court-ordered conditions of supervision (24,26–28). In some cases, specialized probation and parole programs are hindered by the lack of transportation, child care, and the absence of COD treatment services in the community. Use of day reporting centers has been implemented in some jurisdictions to address these concerns and to reduce the need for probationers and parolees to travel to appointments at multiple locations (131). Day reporting centers have been found to significantly reduce criminal recidivism among probationers, including those who have CODs (132).

Discussion and conclusions

Persons with CODs are overrepresented in the criminal justice system (24,133), as are those with other chronic health disorders. This trend is not abating, and offenders who have CODs present significant challenges for those working in law enforcement, community supervision, treatment, and in custody and reentry settings. High rates of CODs in the justice system may be attributable to law enforcement and sentencing policies that target drug law violators, to pronounced levels of criminogenic risk factors for arrest (e.g., criminal attitudes and peers, educational and employment deficits) among persons who have CODs (40,134), and to high rates of arrest among this population for technical violations related to conditions of probation and parole (26–28). Arrestees who have CODs remain incarcerated for longer than normal periods, often present behavioral problems while

in jail and prison, are frequently placed in solitary confinement, and are more likely to relapse and be rearrested following release from custody (27).

In the past two decades, there have been major advances in conceptualizing and implementing COD services for offenders. For example, integrated screening and assessment for both mental and substance use disorders are now available in many justice settings, and an increasing number of standardized and psychometrically sound screening and assessment instruments are available and used in these settings (24). Several empirically based models have been identified to help design assessment, treatment, and supervision services for offenders who have CODs, including the Risk-Need-Responsivity (RNR) model, Cognitive-Behavioral Therapy (CBT), and Integrated Dual Disorders Treatment (IDDT). These models have contributed to the implementation of evidence-based interventions such as Illness Management and Recovery (IMR), Therapeutic Communities (TCs), and Assertive Community Treatment that are adapted for offenders.

Other pre- and post-booking diversion programs such as CIT and specialized treatment-based COD courts hold great promise for early intervention in the justice system to prevent rapid cycling, relapse, and recidivism. Integrated COD treatment programs have also been successfully developed in jails, prisons, reentry, and community supervision settings (39). These programs share several common features, including highly structured and intensive services, use of motivational and engagement techniques, extended program duration, intensive case management and outreach services, and use of multidisciplinary staff with cross-training in both disorders. Despite these advances, integrated services for CODs are absent in many communities and correctional facilities (9,39,42), and there is much work to be done to expand treatment capacity for this population.

Despite the emergence of evidence-based models to guide implementation of COD services in the justice system, relatively few offenders who have CODs receive integrated treatment for their mental and substance use disorders (9,34). For example, only 27% of arrestees have a lifetime history of substance abuse treatment, and only 7% have received treatment for both substance use and mental disorders (34). Only a few court-based programs have been adapted to meet the growing need for COD treatment in diversion settings (32), and the absence of adequate treatment services for offenders with CODs is also noteworthy at the point of release from custody (40).

Research examining outcomes of COD services in justice settings is rather limited, when compared with available findings from offender mental health and substance abuse programs (43,44). For example, few studies have examined outcomes from jail or court-

based programs, or those in community corrections settings. Although research indicates that jail-based COD treatment programs can reduce recidivism and promote involvement in community treatment (85,95), findings related to cost benefits of jail diversion programs for persons with CODs are equivocal, with some programs experiencing higher costs related to higher utilization of community inpatient treatment (76). There are also several methodological limitations to studies that have examined jail-based programs for persons who have CODs, including high rates of sample attrition (135) and inequivalence of comparison and treatment groups (76).

Despite positive findings from research investigating imprisonment and reentry TCs (108), little is known about rates of relapse and recidivism among offenders receiving other COD interventions. Similarly, research has not yet determined the effects of several COD interventions that have been used successfully in non-offender samples, such as IDDT, and there are few examples of curricula-based COD treatments that have been adapted for offenders. Further research is also needed to explore outcomes of COD services provided for juveniles and for female offenders.

From a public policy perspective, many communities and local jurisdictions are now reexamining their approaches to arrest, sentencing, and incarceration of non-violent felons who have CODs, and are expanding the use of less costly and more effective community diversion programs (136). These initiatives have resulted in improved public safety and significant cost savings from avoidance of new construction for jails and prisons (90,137). The Affordable Care Act (ACA) also has provided new opportunities to expand COD services for offenders (138,139) through increased access to community-based behavioral health treatment and case management services. For example, Medicaid-funded health system “navigators” and “Health Homes” have been established for persons who have chronic health conditions such as CODs. There have also been accelerated efforts to enroll or reenroll offenders in Medicaid and other entitlement programs while supervised in the justice system (138).

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