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Medication-Assisted Treatment in Criminal Justice Agencies Affiliated with the Criminal Justice-Drug Abuse Treatment Studies (CJ-DATS): Availability, Barriers, and Intentions

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ABSTRACT. Medication-assisted treatment (MAT) is underutilized in the treatment of drug-dependent, criminal justice populations. This study surveyed criminal justice agencies affiliated with the Criminal Justice Drug Abuse Treatment Studies (CJ-DATS) to assess use of MAT and factors influencing use of MAT. A convenience sample ($N = 50$) of criminal justice agency respondents (e.g., jails, prisons, parole/probation, and drug courts) completed a survey on MAT practices and attitudes. Pregnant women and individuals experiencing withdrawal were most likely to receive MAT for opiate dependence in jail or prison, whereas those reentering the community from jail or prison were the least likely to receive MAT. Factors influencing use of MAT included criminal justice preferences for drug-free treatment, limited knowledge of the benefits of MAT, security concerns, regulations prohibiting use of MAT for certain agencies, and lack of qualified medical staff. Differences across agency type in the factors influencing use and perceptions of MAT were also examined. MAT use is largely limited to

detoxification and maintenance of pregnant women in criminal justice settings. Use of MAT during the community reentry period is minimal. Addressing inadequate knowledge and negative attitudes about MAT may increase its adoption, but better linkages to community pharmacotherapy during the reentry period might overcome other issues, including security, liability, staffing, and regulatory concerns. The CJ-DATS collaborative MAT implementation study to address inadequate knowledge, attitudes, and linkage will be described.

KEYWORDS. Medication-assisted treatment, substance abuse treatment, criminal justice, prisoners, parole and probation, methadone, buprenorphine

INTRODUCTION

Medication-assisted therapy (MAT) is underutilized in the treatment of alcohol- or opioid-dependent, criminal justice populations (1–7) despite substantial evidence of its effectiveness in reducing opioid and alcohol use (8, 9), criminal behavior and arrest (10–13), and human immunodeficiency virus (HIV) risk behavior (14, 15). MAT here refers to the addition of pharmacotherapy to traditional substance abuse counseling in order to attenuate withdrawal symptoms, craving, and/or the reinforcing euphoria resulting from alcohol or drug use. Opioid agonist treatment, for example, is rare in criminal justice settings in the United States despite widespread experience in correctional facilities throughout the world (16, 17) and expert consensus recommendations calling for its expansion (18–20). National concern over the drug-crime relationship during the past 25 years has led to the predominance of criminal justice sanctions in lieu of therapeutic approaches such as MAT, and this in turn has resulted in a vast expansion of the drug-involved correctional population (21, 22). The potential role of MAT for criminal justice populations is particularly germane today as numerous drug-involved inmates return to the community, and state budget crises provide impetus for evidence-based interventions such as MAT to reduce the costs of rearrests and reincarceration as well as the societal, human, and health care costs associated with chronic substance dependence.

Increasing adoption and implementation of evidence-based treatments such as MAT in criminal justice settings is an overarching goal for the Criminal Justice Drug Abuse Treatment Studies (CJ-DATS). CJ-DATS is a national

research program funded by the National Institute on Drug Abuse (NIDA). It includes 10 Research Centers, their criminal justice partner organizations, and NIDA scientists. Many of the program's key questions reflect the need to understand organizational and systems issues that can facilitate or hinder implementation of effective drug treatment and other services for criminal justice populations. Particular interests include how agencies, sites, or programs adopt and implement evidence-based practices across different stages of criminal justice processing, as well as how the implementation of evidence-based programs and practices can be improved to yield better client outcomes through increased access to and utilization of services. In preparation for the design of a multisite implementation trial, the MAT Working Group of CJ-DATS administered a preliminary planning survey to understand the availability of, need and readiness for, and barriers to MAT among partnering criminal justice agencies.

METHODS

Study Population

Data were collected on MAT policies and practices from 50 agencies located in 16 different locales within the United States, including 14 states, 1 federal district, and 1 unincorporated territory. Criminal justice agencies comprised 4 types: 18 jails, 12 prison or unified prison/jail systems, 12 probation or parole or unified probation/parole departments, and 8 drug courts. All 50 agencies dealt primarily with adult populations.

Survey Development and Administration **Analysis**

The survey was developed through a consensus-based approach, drawing on the expertise of our working group and prior correctional surveys (2, 3). The survey was administered in August to October of 2009 to a convenience sample of criminal justice officials representing different criminal justice agencies working in partnership with the 10 CJ-DATS research centers. Investigators identified appropriate respondents (e.g., agency Administrators, Superintendents, Medical Directors) from CJ partners in jail, prison, probation, parole, and drug court settings. Some respondents completed the survey independently, whereas for others, telephone or in-person interviews were conducted. All research centers received either institutional review board (IRB) exemption or expedited approval for this survey.

Survey Description

Items asked respondents to fill-in the percentages of the agency's population with opiate or alcohol dependence, as well as to check boxes to identify the populations provided with MAT (e.g., individuals experiencing opiate withdrawal, infected with HIV, receiving MAT in the community, and pregnant women) and the specific medications provided. Respondents were also asked to indicate whether it would be possible to introduce or expand use of MAT for opiate addiction and alcohol (Yes/No response format). Additionally, respondents were asked to rate a series of 15 factors that might influence agency use of medication (e.g., administrative opposition, security concerns, liability issues, cost concerns) using a Likert-type scale where a rating of 0 indicated the factor was "Not important" and a rating of 5 indicated the factor was "Very important." Open-ended questions asked respondents to elaborate on factors rated 4 or 5. Finally, using a Likert-type scale where 0 represented "Not at all likely" and 5 indicated "Very likely," respondents were asked to indicate the likelihood that the agency would introduce or expand MAT in the next 2 years.

Data analyses were conducted using SAS software (version 9.2). Fisher's exact test and analysis of variance (ANOVA) were used to compare current practices and descriptive data among the different types of criminal justice agencies. *t* tests and logistic regression were used to compare agencies that currently provide MAT for maintenance with agencies that do not. Multiple regression analysis was used to examine the relationship between factors perceived to influence agency use of MAT and the likelihood of introducing or expanding MAT practices.

RESULTS

Sites varied dramatically in the reported prevalence of opioid dependence (median, 18%; interquartile range, 8%–50%) and alcohol dependence (median, 33%; interquartile range, 15%–63%), but these rates did not significantly vary by agency type. Of 18 jails, 15 (83%) of jails and 10 (83%) of 12 prisons reported providing MAT for opiate or alcohol dependence in a limited capacity (e.g., detoxification, administration to pregnant women only), compared with 3 (37.5%) of 8 drug courts and 2 (17%) of 12 probation/parole agencies (Table 1). Overall, methadone was the most commonly used medication (25 of 50 agencies), followed by clonidine (20 of 50 agencies), with buprenorphine (5 agencies, 10%) and naltrexone (1 agency, 2%) rarely provided.

Jails were the agency most likely to provide MAT, including clonidine, for opiate detoxification (15 [83%] of 18), followed by prisons (8 [67%] of 12), but only 9 (50%) of the jails and 6 prisons (50%) provide methadone or buprenorphine for opiate detoxification. Regarding opiate maintenance, 9 of 18 jails reported providing methadone for pregnant women (none provided buprenorphine), and 5 (28%) provided methadone or buprenorphine for persons already taking that medication. Regarding opiate maintenance in prison, 9 of 12 prisons or unified jail/prison agencies reported providing methadone or buprenorphine for pregnant women, 3 (25%) for persons already taking

TABLE 1. Current MAT Practices, by Agency Type

	Jail (N = 18)	Prison or prison/jail unified system (N = 12)	Probation or parole (N = 12)	Drug court (N = 8)	P
Mean percentage of opiate dependent clients (SD)	30.9 (27.4)	25.2 (25.0)	16.5 (17.0)	49.1 (29.7)	.11
Mean percentage of alcohol dependent clients (SD)	44.1 (26.9)	36.9 (28.1)	34.8 (25.5)	35.1 (25.4)	.82
% Agencies provide MAT for any clients	83.3%	83.3%	16.7%	37.5%	.0001
% Agencies provide MAT for opiate dependence	83.3%	83.3%	16.7%	37.5%	.0001
% Agencies fund MAT for opiate dependence	61.1%	58.3%	8.3%	37.5%	.02
% Agencies provide/fund:					
Methadone	66.7%	83.3%	0.0%	37.5%	.0001
Buprenorphine	5.6%	16.7%	8.3%	12.5%	.75
Naltrexone	0.0%	8.3%	0.0%	0.0%	.64
Clonidine	72.2%	50.0%	0.0%	12.5%	.0001
% Agencies that provide/fund MAT for:					
Opiate detoxification	83.3%	66.7%	0.0%	37.5%	.0001
Opiate detoxification (w/ methadone or buprenorphine)	50.0%	50.0%	0.0%	37.5%	.01
Pregnant women	50.0%	75.0%	0.0%	37.5%	.0001
Maintenance for persons already on MAT	27.8%	41.7%	0.0%	37.5%	.06
HIV+ individuals	55.6%	16.7%	8.3%	37.5%	.03
Individuals leaving the CJ agency	27.8%	8.3%	0.0%	0.0%	.11
% Agencies provide/fund MAT for alcohol dependence	77.8%	75.0%	16.7%	37.5%	.003

methadone (overlapping with those who treat pregnant women), and only 1 of 12 prisons provided methadone maintenance for persons not already on methadone. One prison reported providing buprenorphine maintenance to persons switching from methadone, and one prison reported providing naltrexone for persons already taking naltrexone.

Probation/parole agencies were least likely to provide MAT for either detoxification (0) or maintenance (1 of 12, 8%). Provision of MAT was also rare for individuals who are leaving a criminal justice agency (e.g., leaving prison or ending probation), with only 12% of respondents (5 jails, 1 prison) indicating this practice. Of the 30 criminal justice agencies that provided MAT, 22 (73%) indicated that they were also responsible for funding those MAT services. Jails and prisons were significantly more likely to fund MAT than drug courts or probation/parole agen-

cies; only 2 of 12 probation/parole sites provide MAT, with just 1 responsible for funding.

Respondents rated the importance of 15 factors thought to influence agency use of MAT (Table 2). The top 6 factors were (1) security concerns; (2) MAT is offered by community treatment programs; (3) agency favors drug-free treatment over MAT; (4) concerns about liability issues; (5) state or local regulations prohibit us from prescribing medications; and (6) do not know of evidence of clinical effectiveness for criminal justice populations.

There were significant differences between agency types. Agency preference for drug-free treatment varied significantly by agency type ($F = 5.57, P = .003$). Post hoc comparisons indicated that prisons tended to cite preference for drug-free treatment as a greater factor in the use of MAT than drug courts ($P = .001$), jails ($P = .08$), and probation/parole agencies ($P = .10$).

TABLE 2. Factors That Might Influence Use of MAT for Opiate Dependence, by Agency Type

Factors*	Jail (N = 18)	Prison or prison/jail unified system (N = 12)	Probation or parole (N = 12)	Drug court (N = 8)	P
State or local regulations prohibit prescribing medications	3.7 (1.9)	1.7 (2.3)	2.2 (2.4)	2.2 (2.3)	.09
Inconsistent with agency's treatment philosophy	2.6 (1.9)	3.0 (1.5)	1.5 (2.0)	1.7 (2.1)	.22
Perception that pharmacotherapies "just substitute one drug for another"	2.2 (1.9)	2.6 (2.0)	1.9 (2.2)	0.8 (1.3)	.35
Do not know of evidence of clinical effectiveness for criminal justice populations	2.7 (2.0)	2.8 (1.9)	1.6 (1.8)	2.8 (1.0)	.38
Better alternatives are available for criminal justice populations	2.8 (1.8)	2.0 (1.8)	1.8 (2.0)	2.2 (0.8)	.47
Inadequate information at this agency about the use of medication	2.6 (1.9)	1.7 (1.7)	2.5 (2.1)	2.7 (1.5)	.55
Difficult to get reimbursed, or have concerns about the cost	2.9 (2.0)	2.1 (1.9)	1.8 (2.0)	3.0 (1.9)	.41
Clinical staff object to the use of medications	1.7 (1.8)	2.2 (1.7)	1.6 (2.1)	1.2 (1.3)	.73
Concerns about liability issues	2.9 (2.0)	2.7 (1.4)	2.2 (2.0)	3.8 (1.5)	.37
MAT is offered by community treatment programs	3.0 (1.8)	3.0 (2.0)	3.3 (1.7)	2.8 (1.5)	.96
Agency favors drug-free treatment over MAT	2.6 (1.8)	4.1 (1.4)	2.8 (1.7)	0.8 (1.3)	.003
Security concerns	3.1 (2.1)	4.5 (1.2)	2.0 (2.2)	2.2 (1.9)	.02
Administrative opposition	1.8 (1.9)	2.9 (1.7)	1.2 (1.6)	1.2 (1.3)	.10
Lack of qualified medical or nurse staffing	1.8 (2.1)	1.3 (1.6)	2.7 (2.1)	3.8 (1.8)	.06
Opiate dependence is an uncommon problem in our agency	1.3 (1.9)	1.7 (1.7)	2.3 (1.7)	0.3 (0.8)	.17

*Likert-type scale where a rating of 0 indicated the factor was "Not important" and a rating of 5 indicated the factor was "Very important."

The rating of security concerns also differed significantly by agency type ($F = 3.8, P = .02$). Post hoc comparisons indicated that prisons rated security concerns as a greater factor in use of MAT than probation/parole ($P = .02$) or drug courts ($P = .08$). Respondents were more likely to indicate their belief that jails as compared to than the other 3 agency types were prohibited from prescribing medications by state or local regulations ($F = 2.4, P = .09$). Drug courts and probation/parole agencies tended to cite lack of qualified medical staff more so than jails and prisons ($F = 2.7, P = .06$).

Data from these 15 factors were also examined by whether or not the agency currently provides any MAT for maintenance (Table 3). Lack of qualified staff ($F = 15.22, P = .0003$), inadequate information ($F = 7.10, P = .01$), staff objections ($F = 6.71, P = .01$), and liability concerns ($F = 3.95, P = .05$) were rated as significantly more important factors for agencies

not providing MAT for maintenance than for those agencies that provide MAT maintenance. Agencies that currently provide MAT for maintenance also tended toward lower endorsement of the perception that "MAT just substitutes one drug for another" ($F = 2.90, P = .10$), and that "opiate dependence is not a common problem within the agency" ($F = 3.30, P = .08$). Controlling for agency type, independent correlates of the current provision of MAT for maintenance were lack of qualified staff ($\chi^2 = 5.01$, adjusted odds ratio [AOR] = .63 [.42-.94], $P = .03$) and staff objections to the use of MAT ($\chi^2 = 4.54$, AOR = .62 (.40-.96), $P = .03$) in a stepwise multiple logistic regression analysis.

In their open-ended remarks, some prison officials commented that MAT was impractical because prisoners are typically "clean" by the time they arrive at prison. Some jail officials agreed that starting MAT in jail was impractical because jail stays are often very short but, on

TABLE 3. Factors That Might Influence Use of MAT for Opiate Dependence by Whether or Not Agency Currently Provides MAT for Maintenance

Factors*	Currently provides MAT for maintenance (N = 26)	Does not provide MAT for maintenance (N = 24)	P
State or local regulations prohibit prescribing medications	2.5 (2.4)	2.8 (2.2)	.65
Inconsistent with agency's treatment philosophy	2.2 (1.9)	2.5 (2.0)	.59
Perception that pharmacotherapies "just substitute one drug for another"	1.6 (1.9)	2.5 (1.9)	.10
Do not know of evidence of clinical effectiveness for criminal justice populations	2.2 (2.1)	2.8 (1.5)	.27
Better alternatives are available for criminal justice populations	1.9 (1.6)	2.7 (1.8)	.15
Inadequate information at this agency about the use of medication	1.7 (1.6)	3.0 (1.9)	.01
Difficult to get reimbursed, or have concerns about the cost	2.4 (2.0)	2.6 (2.0)	.65
Clinical staff object to the use of medications	1.1 (1.3)	2.4 (2.0)	.01
Concerns about liability issues	2.3 (1.7)	3.3 (1.8)	.05
MAT is offered by community treatment programs	2.8 (1.9)	3.3 (1.5)	.40
Agency favors drug-free treatment over MAT	2.6 (2.0)	3.0 (1.7)	.39
Security concerns	3.1 (2.1)	3.1 (2.1)	1.00
Administrative opposition	1.5 (1.9)	2.2 (1.7)	.20
Lack of qualified medical or nurse staffing	1.1 (1.7)	3.2 (1.9)	.0003
Opiate dependence is an uncommon problem in our agency	1.0 (1.7)	2.0 (1.7)	.08

*Likert-type scale where a rating of 0 indicated the factor was "Not important" and a rating of 5 indicated the factor was "Very important."

the other hand, inmates are in withdrawal when they arrive. Remarks on regulatory concerns indicated that community agencies were often relied on for MAT because of regulation barriers, which require special licensing for the administration of some MAT medications. Regarding security, comments centered around concerns about possible diversion and inmates waiting in line for daily MAT administration. Liability concerns also focused on possible diversion and overdose. Respondents noted that agency lack of knowledge of MAT as an evidence-based practice occurred at various levels of the organization. Some described it as occurring agency-wide, whereas others depicted it at the medical staff or officer level. Funding-related comments cited the current budget climate, or, in the case of some community corrections agencies, the agency does not pay for any medical services.

Respondents were asked to indicate if it would be possible to introduce or expand MAT if evidence were available showing that MAT improved criminal justice outcomes. Of the 20 sites that do not currently provide MAT, 70% said it would be possible to introduce methadone, 70% buprenorphine, and 65% naltrexone. Sites

that currently provided MAT ($n = 30$) expressed similar interest, with 63% indicating they would consider expanding methadone, 63% buprenorphine, and 63% naltrexone. Overall, there were no significant differences between agencies with regards to types of MAT that might be possible to introduce or expand, or the likelihood of doing so in the next 2 years (Table 4).

Stepwise linear regression analysis was performed to examine the relationship between factors thought to influence agency use of MAT and the likelihood of expanding/introducing MAT in the next 2 years while controlling for agency type and current MAT use for maintenance. Only inadequate information about MAT in the agency ($\beta = .46$) was independently related to a higher likelihood of expanding or/introducing MAT ($R^2 = .35$, $F = 6.57$, $P = .001$).

DISCUSSION

Almost three quarters of the jails and prisons surveyed provide opioid pharmacotherapy for pregnant inmates and 60% use it for the management of opioid withdrawal. National surveys

TABLE 4. Possibility of Expanding or Introducing MAT, by Agency Type

	Jail (N = 18)	Prison or prison/jail unified system (N = 12)	Probation or parole (N = 12)	Drug court (N = 8)	P
% Agencies open to expansion/introduction of methadone	55.6%	83.3%	66.7%	62.5%	.49
% Agencies open to expansion/introduction of buprenorphine	55.6%	58.3%	83.3%	75.0%	.40
% Agencies open to expansion/introduction of naltrexone	50.0%	58.3%	83.3%	75.0%	.27
Mean likelihood of expanding/introducing in the next 2 years (SD)*	1.9(1.3)	2.3(1.6)	2.0(1.3)	2.9(1.8)	.47

*Likert-type scale where 0 represented "Not at all likely" and 5 indicated "Very likely."

of state and federal correctional systems have noted that approximately half use methadone, predominately for pregnant inmates, short-term detoxification, or chronic pain (2, 3). Based on this availability, infrastructure appears to exist in many jails and prisons that might be expanded to serve other alcohol- and opioid-dependent criminal justice populations (23). As in other studies (3), current findings suggest that negative attitudes about MAT, concerns about security, and local regulations that constrain the prescription of addiction pharmacotherapy would need to be addressed to facilitate such an expansion (19).

The barriers cited varied by the type of setting. Respondents for jails displayed more concerns about state or local regulations, security, and that community treatment programs offer MAT. For prisons, security concerns, treatment philosophy (i.e., agency favors drug-free treatment, and that MAT was inconsistent with their treatment philosophy) and the availability of MAT from community programs emerged as issues. Drug courts cited concerns about liability, lack of qualified medical staff, and the difficulties with reimbursement. In probation and parole, the major issue that emerged was the availability of MAT from community treatment programs.

Of the approximately 5 million adults under community supervision (20), over 15% are opioid dependent, and alcohol use disorders are ubiquitous (24, 25). In the current study, parole/probation respondents acknowledged opiate dependence in 17% of their clients and alcohol dependence in 35%. So why is the use of MAT

not more widespread in community corrections? One can speculate that the availability of MAT in some communities, inadequate information about the use of medication, negative attitudes toward MAT, and a preference for abstinence only approaches throughout criminal justice (23) together might render agencies passive about ensuring adequate access to MAT (19). Of note, agencies that reported inadequate information as an important factor in current MAT practices were more likely to be open to the possibility of introducing or expanding MAT than were those who reported inadequate information as less of a factor. This finding may signal that those who believe they have adequate knowledge in fact have a philosophical aversion based on common misperceptions and myths about MAT rather than valid evidence.

Community correctional agencies do not perceive a need to take on this service delivery role, as addiction pharmacotherapy could be obtained from local providers. Any expansion in community correctional settings would thus require increased collaboration with community MAT providers. Facilitating better linkages to community pharmacotherapy for appropriate individuals under community correctional supervision might overcome other issues, including security, liability, staffing, or regulatory concerns. On this basis, the CJ-DATS collaborative is in the process of designing a field study to increase knowledge, attitudes, and information about MAT and improve linkages to community MAT for opioid- and alcohol-dependent clients on probation or parole supervision.

This study has several limitations. It is a convenience sample of criminal justice agencies that have voluntarily associated with a multisite correctional drug abuse research initiative. Volunteer bias would suggest that these systems may have better developed infrastructure, attitudes, and readiness for MAT than would a representative sample of agencies. If so, the infrastructure, attitudes, and readiness for MAT among other criminal justice agencies in the United States are likely to be less promising. For example, the “universe” of criminal justice agencies probably has an even lower likelihood of introducing or expanding MAT for opiate dependence in the next 2 years than the low-moderate likelihood (mean of 2 on a scale from 0 to 5) in these partnering agencies. The survey items were developed based on the expertise of our working group; despite their face validity, the psychometrics of the survey items are unknown. Finally, the extent to which community corrections agencies informally refer clients to community-based MAT was not determined by the survey.

Medication-assisted treatment remains stigmatized and underresourced in correctional settings. Nonetheless, existing infrastructure to provide addiction pharmacotherapy for pregnant women and detoxification provide a platform for incremental increases in MAT implementation (19). Efforts to expand access to appropriate pharmacotherapy-assisted treatment need to (1) address inadequate information, philosophical aversion, and negative attitudes about MAT through education and training about its benefits for the individual and society; (2) improve linkage to MAT for opiate- and alcohol- dependent persons under criminal justice supervision; and (3) target funding and resources toward the preferential use of evidence-based treatment modalities such as MAT.

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