

# Einstein Expert Panel

## Medication-Assisted Treatment and the Criminal Justice System

October 6–7, 2011  
Report of Proceedings

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## Acknowledgements

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The Center for Health and Justice at TASC was asked to help convene and provide staff support for this meeting and to prepare a final report. Melody M. Heaps, president emeritus of TASC and consultant to the Center for Health and Justice, chaired the meeting.

## Disclaimer

The views, opinions, and content of this document are those of the individual authors and other referenced sources and do not necessarily reflect the views, opinions, or policies of SAMHSA, the Center for Substance Abuse Treatment, or any other part of HHS.

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## Background

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On October 6–7, 2011, 20 experts in the fields of substance abuse, mental health, and criminal justice gathered in Bethesda, Maryland, to discuss the use of medication-assisted treatment (MAT) for individuals with substance use disorders in the criminal justice system, and to brainstorm challenges and opportunities for the future of MAT in a rapidly changing policy and funding environment.

The Einstein Expert Panel, named to inspire the experts to challenge convention and “think big,” was convened by the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Substance Abuse Treatment, with the support of the Center for Health and Justice at Treatment Alternatives for Safe Communities (TASC). SAMHSA convened the panel as an important listening opportunity for Federal agencies concerned with improving systems and outcomes for people with substance use issues involved in the criminal justice system.

Through the Einstein process, SAMHSA convenes teams of experts to discuss and brainstorm the future of policy and practice on key topics at the intersection of behavioral health treatment and justice. The October 2011 panel was the second Einstein panel. The first was held in May 2011, when a similar group of experts kicked off the Einstein process by discussing the broad topic of integration of behavioral health treatment in criminal justice settings. The first meeting was designed to look at the big picture: the major dynamics, forces, and knowledge that have led to the current state of policy and practice. The October 2011 meeting was the first subject-specific panel. Subsequent meetings will be premised around specific topics or challenges that will shape the future of behavioral health care and criminal justice.

## Preparation

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The October 2011 Einstein panel consisted of substance abuse and mental health treatment providers, criminal justice practitioners, researchers, State justice policy administrators, and representatives of key constituent groups, each with decades of service in their respective fields. The group was facilitated by Melody M. Heaps, President Emeritus of Illinois TASC.

Prior to the meeting, the Center for Health and Justice at TASC, with the assistance of Dr. Robert Schwartz and Dr. Shannon Gwin Mitchell, disseminated background information to panel members, including the following:

- ▶ A summary of the research on MAT in justice settings, along with a listing of current but as yet unpublished research projects
- ▶ A summary of attitudinal surveys on the use of MAT in justice settings

- ▶ A listing of justice programs that currently have MAT programs using the medications Vivitrol or Suboxone
- ▶ A portfolio of key relevant articles

In preparation for the meeting, the group was asked to consider issues, challenges, and principles that arise around the adoption of MAT in justice settings. These topics would form the framework for the 2-day panel discussion.

This document presents the overarching issues discussed during the meeting. The broad and forward-thinking nature of the discussion and resulting consensus points are intended as themes for consideration by criminal justice officials, substance abuse treatment providers, clinical staff, policymakers, legislative bodies, budget authorities, and practitioners working with individuals with substance use and behavioral health disorders who are involved in the criminal justice system. Future issues to consider are highlighted throughout this document, indicating issues, examples, or perspectives the panel deemed relevant to the issue of MAT in justice settings but beyond the immediate purview of the panel or the limits of the panel process.

## Presentations

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To start the discussion, panel members heard presentations on the topics discussed below. As the presentations were given, panelists offered information and observations, which were incorporated in the sections that follow. Where a formal presentation was made, it has been included in the appendices to this report.

**Presentation 1: The Science of MAT.** Dr. Robert Schwartz, Medical Director, Friends Research Institute, provided an overview of medications currently approved by the Food and Drug Administration (FDA) for use in the United States for the treatment of alcohol dependence (e.g., acamprosate, Antabuse, oral and extended release naltrexone) and opioid addiction (e.g., buprenorphine, methadone, oral and extended release naltrexone). Highlights included the following:

- ▶ Pharmacological actions of and differences between the available medications (including comparison of opioid agonist versus antagonist effects)
- ▶ Relative effectiveness of different medications in reducing alcohol and drug use, HIV risk, and potentially associated criminal behaviors
- ▶ Typical settings in which these medications are used and the need to individualize the length of time used and the expected outcomes
- ▶ Characteristics of effective use of medications

**Presentation 2: MAT and Diversion.** Loren T. Miller, Chief of Liaison and Policy Section, Office of Diversion Control, Drug Enforcement Administration (DEA), and Denise Curry, Deputy Director, Office of Diversion Control, DEA, presented statistics on the prevalence and challenges of diversion of legitimately prescribed medications into illicit distribution channels. Highlights included the following:

- ▶ Overview of the Narcotic Treatment Program registration process, including a breakdown of the roughly 1.4 million current registrants, up from 480,000 in 1973
- ▶ Overview of security, recordkeeping, and inspection protocols
- ▶ Common recordkeeping challenges regarding inventories, dispensation, thefts or losses, and disposal
- ▶ Expansion in the prescription of buprenorphine and its related association with expansion in illicit diversion
- ▶ Overview of the potential factors that may lead to diversion of medications in justice settings, including the transient nature of patients and practitioners, guest dosing, disposal of unused medications, unauthorized access, security, and recordkeeping

**Presentation 3: Attitudes About MAT.** Mark Parrino, President of the American Association for the Treatment of Opioid Dependence, noted that the National Institutes of Health, the Office of National Drug Control Policy, and the World Health Organization support the use of medications in the treatment of opioid dependence in the criminal justice system. He and Dr. Josiah Rich of Miriam Hospital at Brown University Medical Center presented the preliminary results of a nationwide survey of attitudes toward agonist therapy in drug courts, including responses from drug court administrators and judges from 47 States. Highlights included the following:

- ▶ Prescription opioids were more likely than heroin to be cited as the primary opioid problem facing drug courts (61 percent versus 32 percent).
- ▶ In 50 percent of the drug courts, agonist therapies (methadone or buprenorphine) were not permitted under any circumstances.
- ▶ Responses demonstrated high levels of uncertainty about or knowledge of the positive and negative effects of both buprenorphine and methadone.

In most States, only one or two drug courts responded to the survey. Considering the wide variety in style, structure, and protocols in drug courts from State to State and jurisdiction to jurisdiction, the survey should be understood as an indicator of conditions that *may* exist within drug courts, but it is not statistically indicative of drug courts universally.

**Presentation 4: MAT and Legal Issues.** Sally Friedman, Legal Director of the Legal Action Center, provided an overview of a recently published paper examining the legality of criminal



justice agencies' denial of access to medications to treat opiate addiction. Highlights included the following:

- ▶ Overview of the two primary Federal statutes that could be used to challenge the denial of access to MAT: the Americans With Disabilities Act and the Rehabilitation Act of 1973
- ▶ Case law establishing that these laws apply to public entities such as courts, prisons and jails, and community corrections
- ▶ Case law establishing that opiate-addicted individuals who need or receive MAT are "individuals with a disability" and therefore protected under these laws
- ▶ Case law describing criteria for discriminatory denial of treatment
- ▶ Why prisons and jails that deny access to MAT could be violating the 8th and 14th amendments to the U.S. Constitution

**Presentation 5: MAT and National Policy.** Dr. Timothy Condon from the Center on Alcoholism, Substance Abuse, and Addiction at the University of New Mexico, formerly with the Office of National Drug Control Policy and the National Institute on Drug Abuse, described some of the key issues currently affecting the highest levels of drug policy. Highlights included the following:

- ▶ The economic crises faced by individual States, as exemplified by a recent conversation in which Dr. Condon was asked how many people one could "get out of jail" by investing money in treatment
- ▶ The pending impact of health care reform and the many unknowns regarding who will be eligible and what will be covered
- ▶ The reality that prescription drugs may be an even greater problem than heroin, and the need to train clinicians in the proper prescribing of opioids for pain

Dr. Condon stated that the 2010–2011 National Drug Control Strategy, published by the Office of National Drug Control Policy, endorses the increased use of MAT as clinically appropriate.

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## Historical and Current Context

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Before addressing the formal questions posed around MAT, the expert panel first looked at the historical and current context. Recognizing that larger dynamics are at play, the panel conveyed the importance of understanding those dynamics to fully realize the potential for MAT in justice settings.

**Historical Context.** The panel recognized that the substance abuse treatment field emerged out of a social model. While science and technology are helping to catalyze the medical model for the field, the personal/social/moral perspective toward individuals abusing drugs or alcohol is still prevalent in our society. Indeed, many existing drug laws emerged out of a public

perception of personal and moral failure, and attitudinal surveys reflect that some policymakers, justice practitioners, and even treatment providers may still attach a moral stigma to the problem of drug or alcohol use, despite the great advances made in neuroscience, genetics, and pharmacotherapy.

The panel also recognized that the medical model continues to evolve. The last decade has seen significant advancements and improvements in our understanding of how drugs and alcohol affect the brain; our understanding of the physiological, social, and behavioral aspects of treatment and recovery; and tools and treatment methodologies to aid in clinical assessment and treatment. This knowledge is continually expanding, and the treatment field is adopting new processes to measure, refine, and improve its effectiveness. However, the field is still maturing, and part of that maturation process is the commitment to science and research, and the dissemination and adoption of evidence-based practices as they develop.

The transition from a moral perspective to a scientific perspective may contribute to a “power to cure” mentality that panel members see in some justice practitioners and treatment providers. With other medical conditions, the treating clinician provides guidance, sets expectations, and where appropriate prescribes medication, but the onus of “success” is on the patient. In the justice context, the supervising justice authority or the treating professional may assume too much of the responsibility to “cure” the problem or the person, may assume that a cure is the only positive outcome, and may even attach consequences for outcomes that fall short of a cure.

Finally, the panel acknowledged that racial disproportionality remains rampant in justice systems, and that there is a racial and socioeconomic perspective on substance use, justice, and public safety that cannot be ignored but is beyond the purview of this panel discussion.

**Current Context.** The panel focused on two major dynamics driving behavioral health treatment policy and practice: recovery orientation and individualized care. *Recovery orientation*, exemplified by SAMHSA’s recovery-oriented system of care emphasis, indicates that available support resources could be aligned to the particular needs of the patient to best pursue recovery, including education, housing, family and life skills, case management, job training, peer mentoring, and others. The panel acknowledged, however, that “recovery” has different meanings to different people. Ultimately, how recovery is defined and how the role of recovery is indicated at different stages of justice involvement will dictate the level of buy-in and expectations for outcomes for the individual and for justice and community stakeholders.

*Individualized care* recognizes that patients’ circumstances and clinical needs are different, and that the best outcomes will be achieved when services are aligned with needs. Individualized care also includes a patient choice component, wherein the patient is presented with treatment options and expectations and has a voice in the course of treatment selected. The panel acknowledged that individualized care is not always consistent with the criminal justice process or philosophy; options may be limited by availability, funding, or the justice mandate. Some justice clients have antisocial disorders, and drug abuse treatment may not change the criminal

behavior. Effort must be made to define individualized care in justice settings, combining a proportionate justice response with the best opportunity for rehabilitation and a return to stability in the community.

**Implementation Challenges.** The panel discussed trends and challenges around implementation of new ideas or methodologies. While the field is maturing, there is a tendency to overrely on replication of new models. What works for one group of clients at one stage of justice involvement does not necessarily work (and in fact may even be contraindicated) for other clients at other stages of justice involvement. This challenge is compounded when the justice system overrelies on a specific treatment modality to achieve its public safety goals. The most obvious example is the reliance on residential treatment to best supervise and manage community corrections populations. Research is critical to overcoming these barriers, as it can be used to set appropriate expectations and inform the use or nonuse of specific treatment methodologies.

The panel noted that drug laws may not be keeping pace with changing attitudes and public policy. For example, a New Jersey law mandated 6 months of residential treatment for anyone wishing to avoid a mandatory minimum sentence for a school zone offense. Ten years of advocacy were required to change that law. Similarly, a Rhode Island law made syringe possession a felony offense, mandating 5 years of prison per syringe. The panel articulated the need for a deliberate review of, and amendments to, laws, administrative rules, and other policies that pose barriers to recovery-oriented, individualized care, and the use of MAT.

The panel spoke at length about the need to understand culture and context when communicating with justice system stakeholders about recovery. Some may be persuaded by research, while others may prefer a holistic approach. The panel discussed the need to seek the perspective of justice system stakeholders and use language that reflects a desire to achieve success for them and for the clients who come through the system.

Finally, the panel acknowledged the need to work with relevant Federal agencies as collaborative partners, not barriers, on both a programmatic and funding level. Funding, restrictions, and program requirements are all major factors in the development of local programs. Local stakeholders can be actively engaged with Federal agencies to help identify needs, set priorities, and discuss what is possible at given funding levels.

**Issues Specific to MAT.** The panel acknowledged that MAT should not be presented as a cure-all but rather as a tool to help achieve public safety and personal recovery goals. MAT is best understood as “treatment including medication where appropriate” and not a compartmentalized program. Medication can assist individuals in reducing or ceasing their alcohol or drug use, thereby achieving a level of normalcy and stability that allows them to consider and pursue recovery, including other services. At the same time, by reducing opioid

and/or alcohol use, drug-related criminal behavior will decrease.<sup>1</sup> However, many opioid-dependent individuals are polydrug users; while MAT may be useful in treating opiate or alcohol dependence, other drug use will still need to be treated appropriately with psychosocial approaches.

For justice systems, the panel identified the need to act as educators. As identified in the attitudinal surveys, there still are varying levels of acceptance of MAT in justice settings, and even where it has been accepted, appropriate expectations, goals, and planning need to be incorporated.

**Affordable Care Act.** As a separate consideration, the panel discussed the pending provisions of the Affordable Care Act that will be implemented beginning in 2014. Dr. Mady Chalk, Director of the Treatment Research Institute, Center for Policy Analysis and Research, said estimates suggest that 6–10 million new people with substance abuse or mental health disorders will be covered under the new laws, and up to 60 percent of individuals with criminal justice involvement will be newly covered. The extent of benefits covered under Medicaid expansion or the new health exchanges is unclear, as there is likely to be wide variability across States. There will be an essential benefits package that includes behavioral health treatment, but coverage for MAT is unclear. There will also be changes in service delivery structures and partners, as federally qualified health centers and health homes become active partners in care management. The overarching theme of this discussion was the need to be vigilant about and, where possible, involved in State-level conversations about these issues.

## Question 1: What are the biggest issues and challenges around adoption of MAT in the justice context?

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The panel identified the following issues and challenges:

**Communication and Messaging.** One fundamental challenge is articulating MAT's effectiveness at achieving both public safety and personal recovery goals. Pure reliance on research and science, no matter how valid, may not be convincing and may be viewed by some as opinion. There are also many pervading myths around medications, such as the inaccurate belief that FDA has never approved methadone for treatment of opiates. (A SAMHSA TIP on MAT indicates in a table that methadone was not approved by FDA; this should be corrected in the next printing.) Myths can be addressed through education about how medications work and their benefits and downsides. The panel suggested that any communication with stakeholders should

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<sup>1</sup> National Treatment Improvement Evaluation Study (NTIES) Findings on Changes in Criminal Behavior. United States Department of Health and Human Services. Substance Abuse and Mental Health Services Administration. Center for Substance Abuse Treatment. NTIES, 1992–1997. ICPSR02884-v4. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2009-02-18. doi:10.3886/ICPSR02884.v4. URL: <https://www.ncjrs.gov/nties97/crime.htm>

start by identifying mutual goals, engaging them about helping them to do their jobs more effectively, and helping to identify the medications that are most effective at achieving their mutual goals based on the target population.

There is a need to acknowledge that all medications have side effects, and there are problems such as diversion of medication from legitimate treatment programs to the black market. Some of the burden of solving these issues falls on prescribers. The challenges are not sufficient to reject medications entirely given their proven benefits. Furthermore, research has shown that the shortage of medication availability in the community for the treatment of opioid dependence contributes to diversion by creating a market for opioid users who wish to reduce or stop opioid use but cannot or will not access formal treatment. Thus, paradoxically, increasing access to treatment in the community and in jails and prisons could lead to a reduction in diversion by reducing market demand.

Finally, the current language around MAT may be counterproductive to the goals of pursuing broader adoption. Medications have been proven effective and are approved for use in the United States, and yet “MAT” implies that medication helps the treatment but is not the actual treatment itself and hence can be considered optional. As a comparison, people do not consider insulin to be medication-assisted diabetes treatment, but rather medication used in the treatment of diabetes. The implication is a much stronger corollary between the medication and the desired treatment outcome. Other examples include the phrase “behavioral health,” which implies personal responsibility, or inherently negative terms such as “dirty drug screen” or calling people “offenders” (or ex-offenders) even after their sentence has been served. Evolution of the language will be an essential aspect of advancing the field.

**Financing.** With significant changes in public and third-party funding associated with health care reform, there is a strong need for Federal agencies to facilitate communication with States to understand pending policy or appropriation changes in possible funding mechanisms (e.g., Medicaid, block grants), and particularly proposed benefits packages and eligibility for special populations (e.g., criminal justice) or specific modalities such as MAT.

**Workforce Issues.** Counseling staff will need training in the use of existing medications for the treatment of alcohol and drug dependence and in new medications and vaccines that may be approved in the future. When implemented in counseling programs, medications may increase treatment retention, provide stability, and help clients resist cravings. Counselors may therefore be able to spend less time in sessions dealing with “trigger management,” potentially freeing them to work with patients more directly on accessing recovery support services. This type of change is overwhelmingly positive, but it does suggest a need to retrain clinical staff to focus on areas they may not have had the capacity to address previously.

**Continuity of Care.** Transition into, through, and out of justice supervision may prove particularly problematic for individuals on medication. Some components of the system may elect to allow the continuation of prescribed medication while others may require the individual to stop treatment. Maintenance of prescribed medication from arrest to

incarceration, probation, prison, and community corrections requires an understanding of the use of medications, communication and coordination between agencies at each juncture, and a commitment to continuity of care. Movement from system dependence to independence in the community requires education, access, and in some instances enrollment in publicly funded care. Throughout the process, MAT must be seen as one of many tools in a recovery-oriented strategy that can be utilized in tandem with traditional behavioral health treatment.

**Standards.** Currently there are no set standards regarding MAT access and care in justice settings. Research, education, and best practices are needed to guide the development and implementation of MAT models for each juncture of justice involvement, considering their challenges and outcome expectations.

**Policy and Legal Barriers.** In many jurisdictions, statutory, administrative, and other policy and practice barriers may restrict or deny access to MAT. Examples have been described above, such as mandatory minimum penalties, disallowance of medication as a condition of supervision or participation, use of one medication but not another, and termination rather than suspension of public benefits.

## Question 2: What are the principles of incorporating MAT in justice settings?

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The panel focused on high-level strategic considerations rather than specific components of incorporating MAT within justice settings.

- ▶ **Clinical care and justice response driven by the circumstances and needs of the client and case:** Where possible, there should be a range of treatment options, including MAT, and the supervising justice entity and client should be informed about those options and their attendant expectations so the client and physician can make an informed choice about the most appropriate medication and care plan.
- ▶ **Clinical decisionmaking guided by the treating physician, in collaboration with justice stakeholders:** At no point should mandates for a client to consume or terminate medications be levied without the input of the client and treating physician, who can assess the benefits and/or detriments of doing so. Similarly, individuals already receiving MAT should not be ineligible for a particular program or service. At the same time, the treating physician must work with the

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### For Future Consideration

The panel acknowledged that the manufacturers of medications may position medications competitively, and that not all medications are available in all jurisdictions. Manufacturers, therefore, need to be active cooperative partners in the planning and implementation process to promote the greatest possible adoption of the largest number of medication choices appropriate for the target population.

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relevant justice stakeholders to ensure that clinical decisions don't frustrate the supervisory and public safety goals of the justice mandates.

- ▶ **Justice decisionmaking without advocating one medication over another:** Wherever possible, justice systems should have access to the full array of FDA-approved medications to meet the circumstances and needs of patients. Those circumstances and needs may change, so flexibility is crucial.
- ▶ **Clinical assessments and treatment recommendations made independently, based on the presenting needs of the individual:** These deliberations should not be influenced by the possibility of self-referral (assessing agents refer individuals to their employer for treatment, thereby creating a conflict of interest) or by the nature or tenor of justice supervision. When an independent assessment or recommendation agent is not available, the role must be performed by certified alcohol and drug abuse clinicians at minimum.
- ▶ **Continuity of care, with psychosocial treatment and especially with MAT, as people come into contact with and move through the justice system and reintegrate back into the community:** Recognizing that the justice system is not a true system but rather an amalgam of entities with different mandates, requirements, and funding streams, continuity of care requires deliberate coordination and partnership, identification of gaps, and alignment of resources to fill those gaps.
- ▶ **Recognition that illicit diversion of medications is an ongoing justice concern:** To minimize the potential illicit diversion of medications, there may be a need for changes in policies, rules, recordkeeping, and patient testing. It must also be recognized that continuity of care may help solve diversion issues by eliminating medication doses that go unused or missing during transitions from one stage of justice involvement to another, and by preventing demand, which in part drives the diversion market. Community corrections, jails, and prisons will likely have contracted medical providers to work closely with and monitor patients and keep the justice system informed as to compliance and progress in treatment. Probation or parole systems may *not* have contracted providers for MAT, which could yield a lack of communication, verification of care and compliance, testing, and continuity. It is important therefore that dedicated MAT providers work collaboratively with probation/parole and the psychosocial treatment provider. This will maintain fidelity of the individualized treatment plan. If there is no ability to contract with a provider, probation or parole systems might establish a

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#### For Future Consideration

The panel identified the following considerations as relevant but beyond its immediate charge and purview:

- ▶ **Multidrug use.** Many drug users are polydrug users, and medication may only be effective at dealing with opiate or alcohol dependence.
  - ▶ **Comorbidity.** Similarly, many drug users present for co-occurring mental illness. Medication may assist in stabilizing these individuals to more optimally pursue treatment.
  - ▶ **Legitimate acute pain.** Some individuals may present for acute pain for which opioid or other medications may be prescribed.
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collaborative relationship with a few selected physicians for referral, assessment, testing (to confirm consumption), and treatment.

### Question 3: What specific themes underlie the utilization of MAT in justice settings?

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The culmination of the expert panel was the development of key themes that underlie the utilization of MAT in criminal justice settings. The panel began by articulating the problem: the use of MAT for substance abuse and dependence is not fully accepted in the criminal justice system, compromising both clinical outcomes and public safety. The panel then articulated a vision: persons will have access to clinically appropriate treatment, including medications, across the justice system, thereby promoting and facilitating public health, retention in treatment, and recovery support with the promise of improvement in public safety. These persons will have ongoing access to treatment beyond their justice involvement.

The panel also identified the current opportunity: with many States facing unprecedented fiscal crises, MAT offers the potential for improved treatment and rehabilitative outcomes for opiate- and alcohol-involved offenders; improved public safety; and decreased reliance on costly enforcement, supervision, and incarceration. Health care reform, including Medicaid expansion, could dramatically increase the number of people with insurance coverage and the funding for treatment and recovery-oriented services, of which medications may be a significant component.

The panel grouped key themes into six categories.

#### Culture and Communication

Professionals in the treatment, justice, and government fields could—

- ▶ Foster efforts to bridge cultural gaps between treatment and justice, including differences in mandates, language, expertise, priorities, and philosophies, seeking instead to identify shared goals of recovery, rehabilitation, and public safety.
- ▶ Acknowledge that different points in the system require different approaches and protocols. What works at one point may be unsuitable at another point. For example, Antabuse is an antagonist for alcohol use, causing a negative reaction when a person drinks alcohol. For a person sentenced to a long prison term, it would be inappropriate for an alcoholism treatment plan to include Antabuse, but it would be appropriate for a reentry program.
- ▶ Provide education about medication, common misconceptions, evidence of benefit, and effectiveness for certain conditions and settings.



## Promoting Access

Professionals in the treatment, justice, and government fields could—

- ▶ Develop methodologies and structures to encourage independent, individualized clinical assessment, which will inform appropriate clinical and supervisory strategies.
- ▶ Encourage States to review health and justice legislation and administrative rules governing access to care and medication and take immediate steps to remove barriers.
- ▶ Identify and resolve practical challenges, such as the need to clearly articulate possible approaches for DEA approval for providing opioid agonist treatment in jails and prisons, and to disseminate information to interested parties.
- ▶ Educate individuals and families on the use of different types of medication, their benefits, and long-term considerations to engage the whole family in care decisionmaking and recovery.

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### For Future Consideration

Based on the paper and presentation from the Legal Action Center, the panel acknowledged that Americans With Disabilities Act issues and liability exist for structures that refuse medication to a class of people. While it was beyond the scope of the panel to recommend pursuit of remedies along legal lines, the panel acknowledged other situations where Federal case law and consent decrees have driven statutes, policy, and practice as a result of a jurisdiction's failure to accommodate the needs of its justice population.

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## Financing Models

Professionals in the treatment, justice, and government fields could—

- ▶ Identify existing and potential financing mechanisms and articulate them to States and to the treatment and justice fields.
- ▶ Incentivize continuity of care by recognizing and encouraging the use of financing models for seamless transition of medications and prescriptions into, through, and out of the justice system.
- ▶ Examine rate structures for medication-assisted therapies in current justice treatment settings and settings that may emerge under health care reform, such as health homes or federally qualified health centers.
- ▶ Advocate to health care reform planners at the Federal and State levels for the inclusion of MAT as part of the essential benefits package to cover criminal justice populations.
- ▶ Encourage States to analyze cost savings from MAT and the reinvestment of those savings in expansion of recovery supports.

## Information Technology

Professionals in the treatment, justice, and government fields can promote health information technology and its role in information sharing between criminal justice and substance use treatment systems.

## Implementation: Strategy, Structure, and Relationships

Professionals in the treatment, justice, and government fields could seek to promote and facilitate MAT implementation in the following ways:

- ▶ Promote continuity of care, especially in and through jails, by providing links and ready access to DEA's registration and medication management process, and by developing and disseminating guidelines for States regarding MAT within detention centers.
- ▶ Promote and facilitate local planning processes around MAT by providing training, cross-training, and technical assistance to States and local governments regarding MAT, including basic education, guidelines for service coordination, new partnerships under health care reform, information sharing and technology, best practices for continuity of care, education around tolerance and overdose prevention, and other core clinical and practical considerations.
- ▶ Identify and articulate treatment workforce issues and needs that will result from the implementation of MAT, such as basic education and mythbusting, changes in counseling strategy, setting of proper clinical expectations, and transition from justice system dependence.
- ▶ Federal registries of effective practices could include all FDA-approved medications for alcohol, tobacco, and opioid dependence and recommend that States include those medications in their formularies.

## Public Safety and Recovery

Public safety and health are overarching considerations. Recovery-oriented planning positions individuals for compliance with their justice mandates and ultimately for health, stability, and productivity in their communities. The criminal justice system has jurisdiction over the sanctions and supervision of the individual, and within that context, clinical recommendations can be made to the justice system that reinforce the individual's responsibility for his or her recovery.

## Participant List

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# SAMHSA Criminal Justice Expert Panel "EINSTEIN" Meeting

OCTOBER 6-7, 2011

WASHINGTON, DC



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# SAMHSA Criminal Justice Expert Panel "EINSTEIN" Meeting

OCTOBER 6-7, 2011

WASHINGTON, DC



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## Background Materials

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**SAMHSA Einstein Experts Meeting  
Medication Assisted Treatment and the Criminal Justice System**

October 6-7, 2011

**Meeting Background Materials**

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- MAT & Criminal Justice - Research Overview and Abstracts  
*Prepared by Robert Schwartz, M.D. and Shannon Gwin Mitchell, Ph.D.*
- Attitudes on MAT in the Criminal Justice System  
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*Inventories of programs using Vivitrol and Suboxone*
- Other Relevant Articles
- Links and Other Resources

MAT & Criminal Justice - Research Overview and Abstracts  
*Prepared by Robert Schwartz, M.D. and Shannon Gwin Mitchell, Ph.D.*

## **Introduction**

The fact that medications are seldom used to treat addictive disorders in the US criminal justice system is a lost opportunity for the individuals with these disorders and for public safety and public health (Chandler, Fletcher & Volkow, 2009). There are at present three medications approved by the FDA for the treatment of opiate dependence, including methadone, buprenorphine and naltrexone. Buprenorphine is approved in two formulations, a tablet containing only buprenorphine and a second in a tablet or in a film containing buprenorphine and naloxone (to induce opiate withdrawal if misused intravenously). Naltrexone is approved in two formulations, a tablet taken orally and an extended-release formulation taken intramuscularly which can be administered monthly. At present there are also three medications approved by the FDA for the treatment of alcohol dependence. These include disulfiram (antabuse), acamprosate, and naltrexone (the later in both tablet and extended release formulation).

The efficacy of these medications in reducing opiate and alcohol misuse, respectively, has been proven with the same rigor required by the FDA for approval of medications for the treatment of all other medical disorders including cancer, diabetes, and schizophrenia. Thus, randomized clinical trials of all of these medications (with the possible exception of antabuse) have shown superior reductions in alcohol or heroin use for the medication as compared to the placebo assigned groups.

The clinical trials research conducted with these medications for alcohol (except antabuse) or opiate dependence have also been subject to rigorous and standardized meta-analyses, which use statistic techniques to combine the results across clinical trials. Such an approach is widely used in evidence-based medicine across diseases and treatments. The most widely accepted of these metanalyses are conducted by the international Cochrane Collaboration. Medications for alcohol and opiate addiction have been the subject of several Cochrane reviews.

The Cochrane reviews of opiate medication treatments were conducted comparing methadone to placebo or no treatment (Mattick et al., 2009), buprenorphine compared to placebo or to methadone (Mattick et al., 2008); oral naltrexone (Minozzi et al., 2011) and sustained release naltrexone.

Methadone compared to placebo or no methadone examined 11 studies with 1,969 participants and concluded that methadone is effective and retains patients in treatment and decreases heroin use better than treatments without methadone or other opiate agonist treatment.

Buprenorphine compared to placebo or to methadone was examined in 24 studies with 4,497 participants. The review concluded that buprenorphine is an effective treatment in retaining patients in treatment and decreasing heroin use as compared to placebo but may not be as effective as methadone when the latter is used in adequate doses.

These reviews and other research has found that patient outcomes with opiate agonist treatment (methadone or buprenorphine) are dose and time dependent, in that higher doses are generally more effective in suppressing heroin use and that longer time in treatment also is associated with better outcomes.

In terms of opiate antagonist treatment, the review of oral naltrexone examined 13 studies with 1,158 participants and concluded that oral naltrexone is not superior to placebo or other treatments unless there was coercion to take the medication, in which case it was superior in terms of treatment retention and abstinence. Thus, oral naltrexone was not considered at that point a treatment proven superior to other types of treatment.

Finally, the Cochrane Review of sustained release naltrexone was conducted prior to the conclusion of the pivot trial conducted in Russia (Krupitsky et al., 2011) which led to its FDA-approval for the prevention of relapse to opiate dependence. Thus it was not possible to conduct a metanalysis of the effectiveness of sustained release naltrexone because of only one clinical trial had been concluded at the point of the report's publication.

In addition to efficacy studies (randomized trials), there are numerous research publications from large-scale, multi-site longitudinal studies conducted over the past 4 decades in typical community-based treatment programs which demonstrate that methadone treatment is highly effective in reducing drug use (Hubbard et al., 1997; Simpson & Sells, 1992; Sells et al., 1976) and criminal behavior (Simpson & Sells, 1992; Sells et al., 1976) criminal behavior during treatment.

The Cochrane reviews of medication treatments for alcohol dependence were conducted comparing acamprosate vs. placebo or other active treatments (Rosner et al., 2010) and naltrexone vs. placebo or other active treatments (Rosner et al., 2010). There were 24 randomized trials of acamprosate with 6,915 participants. The authors concluded that

acamprosate was a safe and effective treatment in supporting continuous abstinence. The review of opiate antagonists (oral and sustained release naltrexone) examined 50 studies with 7,793 participants and concluded that naltrexone is safe and effective treatment to reduce the amount and frequency of drinking.

The purpose of this report is to present abstracts of studies published in the scientific literature available on PUB MED of clinical research with medications to treat alcohol and opiate dependence that focused solely on individuals in the US criminal justice system. The abstracts are taken verbatim and were intentionally not subject to our interpretation. The report includes a reference list of cited studies for those who wish more information about the methodology and results of the individual papers. Since there are no FDA-approved medications for the treatment of cocaine and methamphetamine dependence, clinical research for those drugs is not included in this report. In addition, the report contains the investigators' abstracts of ongoing research studies in the US criminal justice system, which have not yet been subject to publication.

The report is divided into two distinct parts (A. Published Abstracts and B. Abstracts of Ongoing Research). Each of these two distinct parts is further divided by studies of (1) opiate dependence treatment and (2) alcohol dependence treatment. Finally, opiate and alcohol dependence are divided by locus of service in the criminal justice system: Community Supervision (probation, parole, work release and drug court), Jails and Prisons. In general, where there are multiple reports from the same study, only the final abstract is captured below.

## **A. Published Abstracts**

### **I .Opiate Dependence Treatment**

#### **a. Community Supervision**

**i. Brahen LS, Henderson RK, Capone T, Kordal N. (1984) Naltrexone treatment in a jail work-release program. *J Clin Psychiatry*, 45(9 Pt 2):49-52.**

Inmates with a history of opiate addiction have traditionally been excluded from jail work-release programs because of their high likelihood of returning to drug use. In 1972, a new jail work-release program was begun in the Nassau County (New York) Jail, to



which addicted inmates, who had formerly been excluded automatically, could request admission if they took the opiate blocking agent naltrexone. Inmates received naltrexone twice a week and had routine urine checks for drugs of abuse and an alcohol breath test when indicated. Psychological and vocational testing and weekly psychotherapy sessions were provided. For those no longer incarcerated, the adjacent hospital outpatient clinic was available for naltrexone treatment. Naltrexone has proved to be a completely effective opiate blocking agent with no major side effects in 691 patients over a 10-year period.

**ii. Brecht ML, Anglin MD, Wang JC. (1993) Treatment effectiveness for legally coerced versus voluntary methadone maintenance clients. *Am J Drug Alcohol Abuse*. 19(1):89-106.**

Analyses examined whether addicts reporting themselves coerced into drug abuse treatment by actions of the criminal justice system differed from voluntary admissions in their response to treatment, and whether such responsiveness varied across gender or ethnicity. Six hundred eighteen methadone maintenance clients admitted to programs in six southern California counties were categorized into high, moderate, and low legal coercion levels. Multivariate analysis of variance procedures for repeated measures (before, during, and after initial treatment episode) were used to test relevant hypotheses. Dependent variables included criminal justice system contact, criminal activities, drug and alcohol involvement, and measures of social functioning. Few differences within any measured domain were found among the three groups. All groups were similar in showing substantial improvement in levels of narcotics use, criminal activities, and most other behaviors during treatment with some regression in these behaviors posttreatment. Results support legal coercion as a valid motivation for treatment entry; those coerced into treatment respond in ways similar to voluntary admissions regardless of gender or ethnicity

**iii. Cornish JW, Metzger D, Woody GE, Wilson D, McLellan AT, Vandergrift B, O'Brien CP. (1997) Naltrexone pharmacotherapy for opioid dependent federal probationers. *JSAT*, 14(6):529-34.**

Federal probationers or parolees with a history of opioid addiction were referred by themselves or their probation/parole officer for a naltrexone treatment study. Participation was voluntary and subjects could drop out of the study at any time without adverse consequences. Following orientation and informed consent, 51 volunteers were randomly assigned in a 2:1 ratio to a 6-month program of probation plus naltrexone and brief drug counseling, or probation plus counseling alone. Naltrexone subjects received medication and counseling twice a week; controls received counseling at similar intervals. All therapy and medication were administered in an office located adjacent to the federal probation department. Fifty-two percent of subjects in the naltrexone group continued for 6 months and 33% remained in the control group. Opioid use was significantly lower in the naltrexone group. The overall mean percent of opioid positive urine tests among the naltrexone subjects was 8%, versus 30% for control subjects ( $p < .05$ ). Fifty-six percent of the controls and 26% of the naltrexone group ( $p < .05$ ) had their probation status revoked within the 6-month study period and returned to prison. Treatment with naltrexone and brief drug counseling can be integrated into the Federal Probation/Parole system with favorable results on both opioid use and re-arrest rates.

**iv. Coviello DM, Cornish JW, Lynch KG, Alterman AI, O'Brien CP (2010). A randomized trial of oral naltrexone for treating opioid-dependent offenders. *Am J Addiction*, 19(5):422-32.**

Offenders with a history of opioid dependence are a particularly difficult group to treat. A large proportion of offenders typically relapse shortly after release from prison, commit drug-related crimes, and then are arrested and eventually re-incarcerated. Previous research demonstrated that oral naltrexone was effective in reducing opioid use and preventing recidivism among offenders under federal supervision. The 111 opioid-dependent offenders in this study were under various levels of supervision that included county and federal probation/parole, a treatment court, an alternative disposition program, and an intermediate punishment program. Subjects were randomly assigned to receive 6 months of either 300 mg per week of oral naltrexone plus standard psychosocial treatment as usual ( $n = 56$ ) or standard psychosocial treatment as usual (TAU) without naltrexone ( $n = 55$ ). While the TAU subjects who remained in treatment used more

opioids than the naltrexone subjects who remained, the high dropout rate for both groups made it difficult to assess the effectiveness of naltrexone. The study provides limited support for the use of oral naltrexone for offenders who are not closely monitored by the criminal justice system.

**v. Desmond DP, Maddux JF. (1996) Compulsory supervision and methadone maintenance, *JSAT*, 13(1):79-83.**

Treatment outcomes of 296 subjects admitted to methadone maintenance while on probation or parole are compared to those of 314 subjects admitted without such compulsory supervision. Equivalent treatment services were offered to both groups. The pretreatment differences between groups were small except for time incarcerated. All subjects were followed for one year. The compulsory supervision group had worse outcomes with respect to retention, productive activity, and incarceration. The differences were small except for incarceration. The mean number of months incarcerated was 2.1 for the compulsory supervision group and 0.7 for the voluntary group. Of subjects discharged from treatment, a higher percentage of the compulsory supervision group was discharged because of incarceration, but a higher percentage of the voluntary group was discharged for noncompliance with program requirements. The findings do not support a policy of exclusion of opioid users from methadone maintenance because they are on probation or parole.

**vi. Gryczynski J, Kinlock TW, Kelly S, O'Grady K, Gordon M, Schwartz R (In press) Opioid Agonist Maintenance for Probationers: Patient-level predictors of treatment retention, drug use, and crime. *Substance Abuse*.**

This study examined outcomes and their predictors among 181 probationers enrolling in opioid agonist maintenance with methadone or LAAM. Participants were interviewed at treatment entry and 2-, 6-, and 12-month follow-ups. Treatment retention and frequency of heroin use, cocaine use, and income-generating criminal activity were examined using survival and longitudinal analyses. Participants reported marked reductions in drug use and crime relative to treatment entry. A number of patient characteristics associated with

various outcomes were identified. The findings support engaging probationers in treatment and highlight patient factors that might influence outcomes.

## **b. Jail-Based Treatment**

### **i. Dole V.P. Robinson J.W. Orraca J, Towns E. Searcy P. Caine E. (1969) Methadone Treatment of Randomly Selected Criminal Addicts. *NEJM*, 280:1372-1375.**

The potential motivation of criminal addicts for methadone treatment was tested in the New York City Correctional Institute for Men. Of 165 inmates seen, all with records of five or more jail sentences, 116 (70 per cent) applied for treatment after a single interview. None of them had previously made application to the methadone program. Of 18 randomly selected from all applicants with release dates between January 1 and April 30, 1968, 12 were started on methadone before they left jail and then referred to the program for aftercare. None of them became readdicted to heroin, and nine of 12 had no further convictions during the 50 weeks of follow-up study. All of an untreated control group became readdicted after release from jail, and 15 of 16 were convicted of new crimes during the same follow-up period.

### **ii. Magura S, Rosenblum A, Lewis C, Joseph H (1993) Effectiveness of In-Jail Methadone Maintenance. *Journal of Drug Issues*, 23(1):75-99.**

(abstract cited from: <https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=153290>)

The main study examined inmates who were not enrolled in methadone at arrest. Eighty percent were drug injectors (usually both heroin and cocaine) who admitted committing an average of 117 property crimes and 19 violent crimes in the 6 months before being jailed. Methadone program participants' postrelease outcomes were compared with outcomes for similar addicts who received 7-day heroin detoxification in jail.

Multivariate analyses indicated that program participants were more likely than controls to apply for methadone or other drug abuse treatment after release and to be in treatment at a 6.5-month followup. Moreover, being in treatment at follow-up was associated with lower drug use and crime, but rates of retention in community treatment after release

were modest. KEEP participants have more chronic and severe social and personal deficits than other addicts applying for treatment. The in-jail program was most effective in maintaining postrelease continuity of methadone treatment for inmates already enrolled in methadone at arrest. The process evaluation yielded several recommendations to help overcome client-centered, administrative, and systemic obstacles to improved outcomes for this difficult-to-treat population of criminally involved addicts.

**iii. Magura S, Lee JD, Hershberger J, Joseph H, Marsch L, Shropshire C, Rosenblum A. (2009) Buprenorphine and methadone maintenance in jail and post-release: a randomized clinical trial. *Drug Alcohol Depend*, 99(1-3):222-30.**

Buprenorphine has rarely been administered as an opioid agonist maintenance therapy in a correctional setting. This study introduced buprenorphine maintenance in a large urban jail, Rikers Island in New York City. Heroin-dependent men not enrolled in community methadone treatment and sentenced to 10-90 days in jail (N=116) were voluntarily randomly assigned either to buprenorphine or methadone maintenance, the latter being the standard of care for eligible inmates at Rikers. Buprenorphine and methadone maintenance completion rates in jail were equally high, but the buprenorphine group reported for their designated post-release treatment in the community significantly more often than did the methadone group (48% vs. 14%,  $p<.001$ ). Consistent with this result, prior to release from Rikers, buprenorphine patients stated an intention to continue treatment after release more often than did methadone patients (93% vs. 44%,  $p<.001$ ). Buprenorphine patients were also less likely than methadone patients to withdraw voluntarily from medication while in jail (3% vs. 16%,  $p<.05$ ). There were no post-release differences between the buprenorphine and methadone groups in self-reported relapse to illicit opioid use, self-reported re-arrests, self-reported severity of crime or re-incarceration in jail. After initiating opioid agonist treatment in jail, continuing buprenorphine maintenance in the community appears to be more acceptable to offenders than continuing methadone maintenance.

**iv. McMillan GP, Lapham S, Lackey M (2008). The effect of a jail methadone maintenance therapy (MMT) program on inmate recidivism. *Addiction*, 103(12):2017-23.**

The purpose of this study was evaluate the effects of a jail-based continuation of methadone maintenance therapy (MMT) on subsequent inmate recidivism risks. The study used a prospective, longitudinal, observational design and was conducted in a large, Southwestern United States jail that continued MMT for heroin-addicted inmates on MMT at the time of booking. The sample consisted of 589 inmates booked between November 22, 2005 (the start date for the MMT program) and October 31, 2006. The outcome measure was time from release to subsequent re-booking in the jail. Predictors included binary dosing with methadone in the jail, final dose received (mg), age, gender, race/ethnicity, previous bookings and days in jail. Random effects Weibull proportional hazards models were fit to the recidivism times to estimate the impact of treatment with MMT in the jail on re-booking risks. There was no statistically significant effect of receiving methadone in the jail or dosage on subsequent recidivism risks (hazard ratio = 1.16; 95% confidence interval = 0.8-1.68). Offering jail-based MMT does not increase recidivism risks by eliminating the deterrent effect of imposed withdrawal, nor does it reduce recidivism in this high-risk population.

**v. Tomasino V, Swanson AJ, Nolan J, Shuman HI. (2001) The Key Extended Entry Program (KEEP): a methadone treatment program for opiate-dependent inmates. *Mt Sinai J Med*, 68(1):14-20.**

The Key Extended Entry Program (KEEP) is the only known methadone treatment program for incarcerated opiate-dependent inmates in the United States. Initiated in 1987, KEEP performs approximately 18,000 detoxifications and 4,000 admissions for methadone treatment per year. Of those methadone treatment patients discharged to the community, mostly to outpatient KEEP programs, 74-80% report to their designated program. Recidivism rates reveal that 79% of KEEP patients were incarcerated again only once or twice during a recent 11-year period. Finally, KEEP data point to the importance of dedicating slots in the community for released inmates and maintaining

them on sufficient blocking doses to eliminate the craving for heroin. About 6% of KEEP patients, some with mental illness have a high incidence of recidivism.

### **c. Prison-Based Treatment**

**i. Garcia CA, Correa GC, Viver AD, Kinlock TW, Gordon MS, Avila CA, Reyes IC, Schwartz RP. (2007) Buprenorphine-naloxone Treatment for Pre-release Opioid-dependent Inmates in Puerto Rico. *J Addict Med, Sep;1(3):126-32.***

The following study, conducted in Puerto Rico, examined the feasibility of providing daily buprenorphine-naloxone (bup-nx) in prison and on release to 45 male inmates with histories of heroin addiction. Participants were assessed at study entry and at 1 month after release (N = 42; 93.3% follow-up rate). Treatment completers compared with noncompleters had significantly greater reductions in self-reported heroin use, cocaine use, and crime and were less likely to be opioid-positive according to urine drug testing. Despite study limitations, the short-term outcomes of this study suggest that bup-nx may contribute to reductions in readdiction to heroin and in criminal activities among re-entering male prisoners.

**ii. Heimer R, Catania H, Newman RG, Zambrano J, Brunet A, Ortiz AM. (2006) Methadone maintenance in prison: evaluation of a pilot program in Puerto Rico. *Drug Alcohol Depend, 28;83(2):122-9.***

OBJECTIVES: To describe and evaluate a pilot methadone maintenance program for heroin-dependent inmates of Las Malvinas men's prison in San Juan, Puerto Rico.

METHODS: Data from self-report of inmates' drug use before and during incarceration, attitudes about drug treatment in general and methadone maintenance in particular, and expectations about behaviors upon release from prison and from testing inmates' urine were analyzed comparing program patients (n=20) and inmates selected at random from the prison population (n=40). Qualitative data obtained by interviewing program staff, the correctional officers and superintendent, and commonwealth officials responsible for establishing and operating the program were analyzed to identify attitudes about methadone and program effectiveness. RESULTS: Heroin use among prisoners not in

treatment was common; 58% reported any use while incarcerated and 38% reported use in past 30 days. All patients in the treatment program had used heroin in prison in the 30 days prior to enrolling in treatment. While in treatment, the percentage of patients not using heroin was reduced, according to both self-report and urine testing, to one in 18 (94% reduction) and one in 20 (95% reduction), respectively. Participation in treatment was associated with an increased acceptance of methadone maintenance. Prison personnel and commonwealth officials were supportive of the program.

CONCLUSIONS: The program appears to be a success, and prison officials have begun an expansion from the current ceiling of 24 inmates to treat 300 or more inmates.

**iii. Kinlock TW, Battjes RJ, Schwartz RP; MTC Project Team. (2005) A novel opioid maintenance program for prisoners: report of post-release outcomes. *Am J Drug Alcohol Abuse*, 31(3):433-54.**

Because prisoners with pre-incarceration heroin dependence typically relapse following release, a pilot study examined a novel opioid agonist maintenance program whereby consenting males initiated levo-alpha-acetylmethadol (LAAM) treatment shortly before release from prison with opportunity to continue maintenance in the community. Treated prisoners (experimental group) were compared with controls who received community treatment referral information only and prisoners who withdrew from treatment prior to medication regarding treatment participation and community adjustment during nine months post-release. Nineteen of 20 (95%) prisoners who initiated maintenance in prison entered community treatment, compared with 3 of 31 (10%) controls, and 1 of 13 (8%) who withdrew. Moreover, 53% of experimental participants remained in community treatment at least six months, while no other participants did so. Differences in heroin use and criminal involvement between experimental participants and each of the other two groups, while not consistently statistically significant, uniformly favored the experimental group. Despite study limitations, robust findings regarding treatment attendance suggest that this intervention is highly promising.

Additional published outcome data from the same study:



- Kinlock, T. W., Battjes, R. J., & Schwartz, R. P. (2005). A novel opioid maintenance treatment program for prisoners: Report of post-release outcomes. *American Journal of Drug and Alcohol Abuse*, 31, 433-454

**iv. Kinlock TW, Gordon MS, Schwartz RP, Fitzgerald TT, O'Grady KE.(2009) A randomized clinical trial of methadone maintenance for prisoners: results at 12 months postrelease. *JSAT*, 37(3):277-85**

This study examined the impact of prison-initiated methadone maintenance at 12 months postrelease. Males with pre-incarceration heroin dependence (N = 204) were randomly assigned to (a) Counseling Only: counseling in prison, with passive referral to treatment upon release; (b) Counseling + Transfer: counseling in prison with transfer to methadone maintenance treatment upon release; and (c) Counseling + Methadone: counseling and methadone maintenance in prison, continued in the community upon release. The mean number of days in community-based drug abuse treatment were, respectively, Counseling Only, 23.1; Counseling + Transfer, 91.3; and Counseling + Methadone, 166.0 ( $p < .01$ ); all pairwise comparisons were statistically significant (all  $ps < .01$ ). Counseling + Methadone participants were also significantly less likely than participants in each of the other two groups to be opioid-positive or cocaine-positive according to urine drug testing. These results support the effectiveness of prison-initiated methadone for males in the United States. Further study is required to confirm the findings for women.

Additional outcome data published from the same study:

- Kinlock, T. W., Gordon, M. S., Schwartz, R. P., O'Grady, K., Fitzgerald, T. T., & Wilson, M. (2007). A randomized clinical trial of methadone maintenance for prisoners: results at 1-month post-release. *Drug Alcohol Depend*, 91(2-3), 220-227. PMCID: PMC2423344.
- Kinlock, T. W., Gordon, M. S., Schwartz, R. P., & O'Grady, K. E. (2008). A Study of Methadone Maintenance for Male Prisoners: 3-month Post-release Outcomes. *Criminal Justice and Behavior*, 35(1), 34- 47.
- Gordon, M. S., Kinlock, T. W., Schwartz, R. P., & O'Grady, K. E. (2008). A randomized clinical trial of methadone maintenance for prisoners: findings at 6 months post-release. *Addiction*, 103(8), 1333-1342. PMCID: PMC2582162

**v. Kinlock TW, Gordon MS, Schwartz RP, Fitzgerald TT. (2010) Developing and Implementing a New Prison-Based Buprenorphine Treatment Program. *J Offender Rehabilitation*, 49(2):91-109.**

Research suggests that buprenorphine treatment may be a promising intervention for incarcerated individuals with heroin addiction histories. However, its implementation varies from corrections-based methadone because of unique challenges regarding dosing, administration, and regulation. Describing the first randomized clinical trial of prison-initiated buprenorphine treatment in the United States, this manuscript focuses on how these obstacles were overcome through collaboration among correctional, treatment, and research personnel. Building on the present authors' work in developing prison-based methadone treatment, and considering the lack of experience in implementing corrections-based buprenorphine programs in the United States, this manuscript may serve as a guide for interested corrections officials, treatment providers, and researchers.

#### **d. Post-release from Jail**

**i. Cropsey KL, Lane PS, Hale GJ, Jackson DO, Clark CB, Ingersoll KS, Islam MA, Stitzer ML. (2011). Results of a pilot randomized controlled trial of buprenorphine for opioid dependent women in the criminal justice system. *Drug Alcohol Depend.* (in press).**

Recent studies have demonstrated the efficacy of both methadone and buprenorphine when used with opioid dependent men transitioning from prison to the community, but no studies have been conducted with women in the criminal justice (CJ) system. The aim of this study was to determine the efficacy of buprenorphine for relapse prevention among opioid dependent women in the CJ system transitioning back to the community.

**METHODS:** 36 women under CJ supervision were recruited from an inpatient drug treatment facility that treats CJ individuals returning back to the community. Nine were enrolled in an open label buprenorphine arm then 27 were randomized to buprenorphine (n=15) or placebo (n=12; double-blind). All women completed baseline measures and started study medication prior to release. Participants were followed weekly, provided urine drug screens (UDS), received study medication for 12 weeks, and returned for a 3-

month follow-up. Intent-to-treat analyses were performed for all time points through 3 month follow-up. RESULTS: The majority of participants were Caucasian (88.9%), young ( $M \pm SD = 31.8 \pm 8.4$  years), divorced/separated (59.2%) women with at least a high school/GED education ( $M \pm SD = 12 \pm 1.7$  years). GEE analyses showed that buprenorphine was efficacious in maintaining abstinence across time compared to placebo. At end of treatment, 92% of placebo and 33% of active medication participants were positive for opiates on urine drug screen (Chi-Square=10.9,  $df=1$ ;  $p < 0.001$ ). However, by the three month follow-up point, no differences were found between the two groups, with 83% of participants at follow-up positive for opiates. CONCLUSIONS: Women in the CJ system who received buprenorphine prior to release from a treatment facility had fewer opiate positive UDS through the 12 weeks of treatment compared to women receiving placebo. Initiating buprenorphine in a controlled environment prior to release appears to be a viable strategy to reduce opiate use when transitioning back to the community.

**ii. McKenzie M, Macalino G, McClung C, Shield DC, Rich JD. (2005) Opiate replacement therapy at time of release from incarceration: Project MOD, a pilot program. *J Opioid Manag*, 1(3):147-51.**

Approximately 7 million people in the United States are in jail, in prison, or on probation or parole, many as a result of drug-related offenses. Individuals who use opiates account for a significant minority of this population. Methadone maintenance treatment (MMT) of opiate addiction is highly effective in reducing drug use, drug-related criminal activity, and risk of human immunodeficiency virus transmission. Recently released inmates are at particularly high risk for overdose and disease transmission. Project MOD (Managing Opioid Dependency) provides services to eliminate logistical and financial barriers to MMT entry immediately on release from incarceration. Such programs provide a promising opportunity to facilitate reentry into the community, combat disease transmission, and reduce recidivism.

**e. Mention of international research**

There are reports of findings from a randomized trial of methadone in prison in Australia (Dolan et al., 1998; 2003; 2005), or methadone vs. naltrexone implants in prison in Norway

(Lobmaier et al, 2008; 2010) and methadone vs. oral naltrexone in prison in Australia (Shearer et al., 2007), and quasi-experimental longitudinal studies of buprenorphine in prison in France (Levasseur et al., 2002; Marzo et al., 2009). Importantly, a recently published randomized trial of sustained release naltrexone in Russia showed the superiority of naltrexone as compared to placebo in suppressing heroin use (Krupitsky et al., 2011).

#### **f. Structured literature review (international)**

##### **i. Larney S. (2010) Does opioid substitution treatment in prisons reduce injecting-related HIV risk behaviours? A systematic review. *Addiction*, 105(2):216-23.**

**OBJECTIVES:** To review systematically the evidence on opioid substitution treatment (OST) in prisons in reducing injecting-related human immunodeficiency virus (HIV) risk behaviours. **METHODS:** Systematic review in accordance with guidelines of the Cochrane Collaboration. Electronic databases were searched to identify studies of prison-based opioid substitution treatment programmes that included assessment of effects of prison OST on injecting drug use, sharing of needles and syringes and HIV incidence. Published data were used to calculate risk ratios for outcomes of interest. Risk ratios were not pooled due to the low number of studies and differences in study designs. **RESULTS:** Five studies were included in the review. Poor follow-up rates were reported in two studies, and representativeness of the sample was uncertain in the remaining three studies. Compared to inmates in control conditions, for treated inmates the risk of injecting drug use was reduced by 55-75% and risk of needle and syringe sharing was reduced by 47-73%. No study reported a direct effect of prison OST on HIV incidence. **CONCLUSIONS:** There may be a role for OST in preventing HIV transmission in prisons, but methodologically rigorous research addressing this question specifically is required. OST should be implemented in prisons as part of comprehensive HIV prevention programmes that also provide condoms and sterile injecting and tattooing equipment.

## II. Alcohol Dependence Treatment

### a. Community Supervision

**i. Finigan MW, Perkins T, Zold-Kilbourn P, Parks J, String M (2011) Preliminary evaluation of extended-release naltrexone in Michigan and Missouri drug courts. JSAT 41(3): 288-293.**

This pilot study, a retrospective case series analysis, examined the feasibility and effectiveness of treating alcohol dependence with extended-release naltrexone (XR-NTX) in the drug court setting. In two Michigan courts and in one Missouri court, 32 clients were treated with XR-NTX and were matched with 32 clients with standard care in an open-label, voluntary recruitment design. Treatment with XR-NTX was associated with relative risk reductions (RRRs;  $p = ns$ ) of 57% fewer missed drug court sessions, a 35% reduction in the monthly ratio of positive drug and alcohol tests to total tests, and 35% fewer individuals with greater than 25% overall positive alcohol or drug tests. In the principal end-point analysis of annualized number of new arrests, 26% of standard-care clients were rearrested versus 8% on XR-NTX (RRR = 69%;  $p < .05$ ). Treatment with XR-NTX appeared to be feasible and was associated with a consistently large treatment effect across multiple outcomes relevant to the drug court setting.

**ii. Haynes SN (1973). Contingency management in a municipally-administered antabuse program for alcoholics. *J of Behavior Therapy and Experimental Psychiatry*, 4(1):31-21.**

A municipally-administered Antabuse program involving contingency management for chronic alcoholics is described. Chronic “revolving door” alcoholics were given the option of the usual jail sentence or a 1 yr probation with continued Antabuse treatment. Participants in the program were required to visit the probation office twice a week to take their Antabuse; failure to appear resulted in immediate reinstatement of the suspended jail sentence. The Antabuse program in conjunction with contingency control was effective in reducing the rate of arrests.

**iii. Lapham SC, McMillan GP. (2011) Open-label pilot study of extended-release naltrexone to reduce drinking and driving among repeat offenders. *Addict Med, Sept 5(3):163-9.***

OBJECTIVES: A high proportion of persons convicted of driving while impaired repeat the offense. Many continue drinking and driving, even when faced with long jail terms. Hence, they pose a serious public health threat. This preliminary study evaluated extended-release, injectable naltrexone suspension (XR-NTX) and supportive therapy in reducing (1) drinking and (2) attempts to drive after drinking among repeat driving while impaired offenders with an ignition interlock device installed in their vehicles.

METHODS: Treatment-seeking volunteers received medical management therapy and 3 monthly injections of XR-NTX. We compared data on alcohol consumption, alcohol biomarkers, and interlock information before, during, and after treatment using summary measures and Sign tests. RESULTS: Of 12 consented subjects, 10 received at least 1 injection, and 7 received all 3 injections. All subjects receiving medication reported a decrease in average drinks per day ( $P < 0.01$ ) and abstinent days ( $P = 0.02$ ) while on treatment versus pretreatment levels. Average daily drinks decreased by 77%, from 3.0 to 0.69 ( $P < 0.01$ ), during treatment with XR-NTX. Average drinks per drinking day also declined by 39% during treatment, from 6.6 to 4.0 ( $P = 0.04$ ). Percent days abstinent increased by 31%, from 56.8 to 81.96 ( $P = 0.02$ ), which persisted after treatment completion. Biomarkers were consistent with reduced drinking. The percentage of vehicular failures to start due to elevated breath alcohol decreased from 3.1% of tests to 1.29% of tests. CONCLUSIONS: A randomized, controlled clinical trial is needed to demonstrate the efficacy of this promising treatment for repeat offenders.

**iv. Martin B, Clapp L, Bialkowski D, Bridgeford D, Amponsah A, Lyons L, Beresford TP. Compliance to supervised disulfiram therapy: A comparison of voluntary and court-ordered patients. *Am J on Addictions, 12(2):137-143. Am J Addict. 2003 Mar-Apr;12(2):137-43.***

We hypothesized that court mandate would significantly enhance compliance with supervised disulfiram therapy. We conducted a twelve-week prospective study of outpatient compliance with court-ordered, monitored disulfiram treatment as compared to

voluntary, monitored treatment. The court ordered group (n=19) was significantly more compliant than the voluntary group (n=22). Legally mandated subjects attended an average of 87% (+/-21%) of scheduled visits, versus 42% (+/-35%) for the group without court order. Court mandate roughly doubles the compliance rate of monitored disulfiram therapy, effectively enhancing clinic attendance during the first twelve weeks of treatment.

Additional outcome data published from the same study:

- Martin, Clapp, Alfors, & Beresford. (2004). Adherence to court-ordered disulfiram at fifteen months: A naturalistic study. *JSAT*, 26(3):233-236.

## **b. Jails and Prisons**

There is no research on naltrexone or other pharmacotherapies for treating alcohol dependence among incarcerated populations (Cropsey, Villalobos & St. Clair, 2005) and we found no such abstracts on Pub Med.

## **c. Mention of international research**

There is a report of a small longitudinal study of the use of probation mandated antabuse treatment for alcohol dependence in the UK (Brewer & Smith, 1983).

# **B. Abstracts of Ongoing Studies of Pharmacotherapy in the Criminal Justice System**

## **1. Opiate Dependence**

### **a. Community Supervision (Probation, Parole, and Drug Court Studies)**

#### **i. Altice, Frederick L.**

#### ***HIV, Buprenorphine, and the Criminal Justice System***

The criminal justice system (CJS) is disproportionately impacted by people with HIV and substance use disorders, such that one quarter of all HIV+ persons nationally cycle through the CJS annually. The CJS is therefore an important place to seek and

empirically test interventions that address the Seek, Test, Treat and Retain (STTR) strategy to reduce community-wide HIV transmission. STTR requires that HIV is maximally suppressed, thereby resulting in decreased infectiousness. HIV+ prisoners maximally suppress HIV replication during incarceration. Unfortunately, viral suppression is lost within 3 months post-release, mostly as a consequence of relapse to opioids. Opioid dependence (OD) is present in 50% of all HIV+ prisoners nationally and 70-85% in the Northeast - OD is therefore a significant co-morbid condition requiring effective treatment. Opioid relapse is associated with decreased HAART adherence, discontinuation of HAART and increased HIV risk behaviors in the setting of viral replication - the perfect storm for HIV transmission. Effectively treating OD interrupts this relationship and has great potential to improve HIV outcomes and reduce community-wide transmission. Our team has confirmed for the first time that treating OD with buprenorphine (BPN) results in sustained viral suppression over the vulnerable 3-month post-release period. Adoption of methadone, despite its confirmed benefit, is minimal within the CJS due to philosophical, safety, regulatory and staffing concerns. BPN, a partial opioid agonist, is a more attractive option due to its safer profile and reduced regulation. Generic formulation now makes it affordable. Therefore, strategies examining the efficacy of BPN to improve adherence and retention in care, has great appeal to benefit the individual, but also to reduce HIV transmission within the community. Our specific aims are: 1) to conduct a placebo-controlled RCT of BPN for HIV+ prisoners with OD who are transitioning to the community and 2) to model the impact of BPN treatment on reducing HIV transmission. In the RCT, HIV treatment (HIV-1 RNA levels, CD4 count, ART adherence, retention in care), substance abuse (time to relapse to opioid use, % opioid negative urines, opioid craving), and HIV risk behaviors (sexual and drug-related risks) outcomes will be compared in 152 released prisoners and followed for 12 months.

**ii. Brow, Randall T.**

***Treatment for Opioid Dependent Offenders***

This pilot study is examining the feasibility of a primary care (for suboxone treatment) and a specialist treatment (for methadone or suboxone treatment) model of treatment for



15 offenders who are part of two community supervision programs: Drug Court and the Treatment Alternative Program (TAP) in Dane County. The questions addressed by future larger studies based upon the current pilot-feasibility study will center around whether access to primary health care as opposed to more traditional methadone treatment services will improve the health and criminal justice outcomes for participants. The proposed study will (1) determine feasibility of monitoring Dane County Drug Treatment Court and Treatment Alternative Program participants in primary care as opposed to the usual standard of specialty care; (2) identify barriers to treatment initiation and retention; and (3) foster a multi-disciplinary collaborative treatment model.

**iii. Lee, Joshua D.**

***Extended-Release Naltrexone for Opioid Relapse Prevention Following Release from Jail***

This protocol randomizes persons soon-to-be-released from a large urban jail to treatment with extended-release naltrexone (XR-NTX), a full opioid antagonist that prevents the activity of heroin and other opioids. Investigators at NYUSOM and NYC DOHMH will recruit heroin dependent persons from NYC jails who are soon-to-be-released, not accessing opioid agonist pharmacotherapy, with lowered tolerance due to incarceration, and extremely likely to relapse and risk accidental overdose at release. All N=40 participants receive a two-session, individual psychosocial intervention, Motivational Interviewing. Half (n=20) will be randomized to pre-release treatment with XR-NTX. Immediately and one month following release, participants will be offered continued psychosocial and medication-assisted treatment (naltrexone, buprenorphine, or methadone) at Bellevue Hospital, including a second XR-NTX dose among XR-NTX arm participants. The primary outcome is relapse to sustained opioid use during the first 30 days post-release. We hypothesize an XR-NTX arm will report significantly lower rates of sustained opioid relapse following release.

**iv. O'Brien, Charles P. (PI)**

***Treatment Study Using Depot Naltrexone***

Opioid addiction has remained widespread throughout the United States since the 1960s and a large proportion of users are involved in crimes to support their habits. After release from incarceration, relapse to opioid addiction is very common and this leads to more crimes and re-incarceration. Treatment advances in the area of medications have not reached this population. Effective medications such as methadone and buprenorphine are not well accepted by prosecutors and judges. Permission to conduct research on the most effective treatment approaches is very difficult to obtain for patients under legal restraint because informed consent is problematic. Naltrexone, an opiate receptor antagonist, has demonstrated pharmacological efficacy in preventing relapse to opioid addiction and it has been reported to be clinically effective in parolee populations although it is rarely used. Recently a depot formulation with a one month duration has received FDA approval for the treatment of alcoholism. The purpose of this study is to determine whether a monthly injection of naltrexone is practical and useful in the prevention of relapse and when compared to treatment as usual. We will also monitor HIV risk behaviors to determine whether the intervention reduces risk of HIV and hepatitis C infections. This collaborative project will take place in six treatment sites where there is a large population of parolees with a history of opiate addiction.

**b. Jail or Prison**

**i. Kinlock, Timothy W.**

***Prison Buprenorphine***

This five-year study examines the effectiveness of buprenorphine treatment provided to previously-addicted inmates (N=320; 160 males, 160 females) initiated in prison and continued in the community. The study also examines the extent to which the setting of post-release buprenorphine is provided. It is expected that participants receiving in-prison buprenorphine will have superior outcomes compared to participants who did not receive in-prison buprenorphine. Participants will be randomly assigned, within gender,

to one of four treatment conditions: 1) buprenorphine and counseling in prison, with referral for continued treatment at an OTP upon release; 2) buprenorphine and counseling in prison, with referral for continued treatment at a CHC upon release; 3) counseling only in prison, with referral for buprenorphine and counseling at a OTP upon release; and 4) counseling only in prison, with referral for buprenorphine and counseling at a CHC upon release. Participants will be assessed at study entry and at 1, 3, 6, and 12 months following their release from prison. Outcome measures include: treatment entry and retention in the community, heroin use, cocaine use, HIV infection, HIV-risk behaviors, criminal activity, and employment.

**ii. Rich, Josiah D.**

***A Randomized Trial of Continued Methadone Maintenance vs. Detoxification in Jail***

Opiate addiction is a chronic, relapsing medical condition that can be effectively treated through long-term opiate replacement therapy (ORT). Methadone maintenance therapy (MMT) is the most widely used form of ORT and has been used to treat opiate addiction for over thirty years. MMT has been proven to reduce injection drug use, HIV risk behaviors and recidivism, yet inmates are routinely detoxified from methadone upon incarceration, thus causing an interruption in the treatment of their opiate dependence. Even if inmates are referred to community methadone programs upon release, there is a chance that they will delay or forgo re-entry or will engage in behaviors that put them at high risk for HIV infection or reincarceration before returning to methadone maintenance treatment. Maintaining inmates on methadone therapy during short-term incarceration may facilitate their prompt re-entry into community methadone maintenance programs after release, minimizing the risk of drug relapse, HIV risk behaviors and overdose. Thus, the purpose of this study is to examine the impact of interruption of methadone maintenance treatment (MMT) during short-term incarceration (jail) as this is the standard practice in nearly all correctional facilities in the United States. We will compare methadone detoxification with continued methadone maintenance treatment using a randomized trial and examine continuing treatment post release, relapse to drug use, HIV risk behaviors, reincarceration, and the costs associated with continued MMT vs. methadone detoxification. The targeted population will be 450 individuals who, while

enrolled in community methadone treatment, become incarcerated for less than 6 months. Follow-up interviews will occur 1 month post release from incarceration and 6, 12, and 18 months from baseline at an independent study site. Both groups will receive a risk behavior reduction counseling intervention and linkage to community methadone treatment upon release. If this project is able to demonstrate that maintaining inmates on methadone for short-term incarcerations is more beneficial and/or less costly than detoxification, then this can inform correctional policy to encourage collaboration with community substance use treatment providers and to minimize disruption of treatment during short term incarceration.

**iii. Springer, Sandra A.**

***Naltrexone for Opioid Dependent Released HIV+ Criminal Justice Populations***

The specific aim for this study is to conduct a placebo-controlled trial (RCT) of d-NTX among HIV+ persons in jails and prisons meeting DSM-IV criteria for opioid dependence who are transitioning to the community. HIV treatment outcomes (HIV-1 RNA levels, CD4 count, Highly Active Antiretroviral Therapy (HAART) adherence, retention in care), substance abuse (time to relapse to opioid use, % opioid negative urines, opioid craving), adverse side effects and HIV risk behavior (sexual and drug-related risks) outcomes will be compared in 150 recruited prisoners and jail detainees in Connecticut (CT) and Massachusetts (MA) who will be randomized 2:1 to either d-NTX or depot-placebo. The primary outcome of interest will be the proportion with a HIV-RNA <400 copies/mL at 6 months. Secondary outcomes include mean CD4 count, antiretroviral adherence, retention on HAART and in HIV care, HIV risk behaviors, time-to-relapse to opioid use, percent opioid negative urines, retention on d-NTX and HIV quality of life. Primary and secondary outcomes will be assessed for an additional 6 months after completion of the intervention. If this placebo-controlled trial of d-NTX among released HIV+ criminal justice system (CJS) persons with opioid dependence demonstrates efficacy and safety, it is likely to become an evidence-based intervention to intervene with this extremely marginalized population in a way that will meet Healthy People 2010's goals to increase the quality and years of life, decrease health disparities particularly among minorities, break the cycle of addiction, reduce the numbers of people

within the CJS and launch a number of new and innovative trials and second generation questions for future research. As such, the individual, our health care system and society have a high likelihood to benefit. This will not only be true for strategies here in the U.S., but may have even greater application for geographic areas where the interface between opioid disorders and HIV is even greater.

## **2. Alcohol Dependence**

### **a. Community Supervision (Probation, Parole, and Drug Court Studies)**

#### **i. Weaver, Michael F.**

##### ***The Use of Acamprosate for Preventing Alcohol Relapse Among Alcohol Dependent Drug Treatment Court Participants***

Acamprosate has been an available treatment for alcohol dependence outside the United States and has recently been approved by the U.S. Food and Drug Administration as an effective therapy for alcohol dependence. In the past ten years, drug court programs have been implemented as one possible solution to reduce the burden placed on state and federal correctional systems. These programs are generally focused on non-violent drug dependent offenders and are offered as an alternative to incarceration. However, the use of acamprosate has never been examined for alcohol relapse prevention among a drug court population, or among those on probation or parole. The purpose of this study is to test how tolerable and effective acamprosate is when used to prevent alcohol relapse in criminal justice supervisees (those on probation, parole, or in drug court).

### **b. Jail or Prison**

#### **i. Springer, Sandra A.**

##### ***Alcohol Pharmacotherapy for HIV+ Prisoners***

This is a randomized controlled trial of injectable intramuscular naltrexone (XR-NTX) versus intramuscular placebo among HIV-infected prisoners meeting Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria for alcohol

dependence or problem drinking, who are transitioning to the community and seeking treatment to prevent relapse to alcohol use. In this study, we conduct a placebo-controlled trial to determine if naltrexone has an effect in this group, which could be important in making the case for having naltrexone available to alcohol dependent or problem drinking HIV+ prisoners prior to release. We will compare their HIV treatment (HIV-1 RNA levels, CD4 count), alcohol treatment (time to relapse to heavy drinking, percent of days drinking, percent of days abstinent and alcohol craving) and HIV risk behavior (sexual and drug-related risks) outcomes. We hypothesize that extended release naltrexone (XR-NTX) will result in improved HIV outcomes (lower log10 HIV-1RNA levels and higher CD4 count) as well as improved alcohol treatment outcomes, and reduced drug/sex HIV related risk behaviors and decreased rates of reincarceration.

### **3. Drug and Alcohol Dependence**

#### **a. Community Supervision (Probation, Parole, and Drug Court Studies)**

##### **i. Friedmann, Peter D.**

##### ***Medication-Assisted Treatment Implementation in Community Correctional Environments***

The goal of this study is to see whether or not a strategic planning process is able to introduce and sustain improvements in the working relationship between probation/parole departments and community-based addiction treatment agencies that provide medication assisted therapy (MAT) for individuals with opioid or alcohol dependence. In addition, this study seeks to improve probation/parole agency personnel's knowledge and perceptions about MAT, and increase the number of appropriate referrals to community treatment agencies that provide MAT. There are three phases to this study. Phase 1 includes a pilot study to determine the quality and availability of client level records and the collection of baseline data (the pilot study protocol was previously submitted to TMH IRB). Phase 2 will consist of a Knowledge, Perceptions and Information (KPI) intervention during which probation/parole agencies will undergo training to increase knowledge about the effectiveness of MAT, and complete a post training assessment to

evaluate the effectiveness of the KPI intervention. During Phase 3, probation/parole agencies will be randomly assigned to a 12-month Organizational Linkage Intervention (OLI) condition or to control (no further intervention). Agencies assigned to the OLI will establish a Pharmacotherapy Exchange Council (PEC) that consists of staff from both the probation/parole and community treatment agencies. The PEC will undergo a strategic planning process to increase the availability of MAT for opiate and/or alcohol dependent individuals who are on probation/parole.

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## Ongoing Studies of Pharmacotherapy in the Criminal Justice System

Drug Abuse Studies		Acamprosate	Buprenorphine	Methadone	Naltrexone
Probation, Parole, and Drug Court	Primary Aim of Study				
Altice, Frederick L. <i>HIV, Buprenorphine and the Criminal Justice System</i>	The primary aims of this study are: 1) to conduct a placebo-controlled RCT of buprenorphine for HIV+ prisoners with opioid dependence who are transitioning to the community and 2) to model the impact of buprenorphine treatment on reducing HIV transmission.		✓		
Brown, Randall T. <i>Treatment for Opioid Dependent Offenders</i>	This pilot study is examining the feasibility of a primary care and a specialist treatment model for 15 offenders who are part of two community supervision programs: Drug Court and the Treatment Alternative Program in Dane County.		✓	✓	
Lee, Joshua D. <i>Extended-Release Naltrexone for Opioid Relapse Prevention Following Release from Jail</i>	This pilot study's primary aim is to compare rates of sustained opioid relapse during the first 30 days following release from jail, among persons treated with XR-NTX pre-release vs. controls not receiving XR-NTX.				✓
O'Brien, Charles P. <i>Treatment Study Using Depot Naltrexone (A Multi-Site Clinical Trial)</i>	The purpose of this study is to determine whether a monthly injection of naltrexone is practical and useful in the prevention of relapse and when compared to treatment as usual.				✓
Jail/Prison	Primary Aim of Study				
Kinlock, Timothy W. <i>Prison Buprenorphine</i>	This five-year study examines the effectiveness of buprenorphine treatment provided to previously-addicted inmates initiated in prison and continued in the community.		✓		
Rich, Josiah D. <i>A Randomized Trial of Continued Methadone Maintenance vs. Detoxification in Jail</i>	This study will compare methadone detoxification with continued methadone maintenance treatment using a randomized trial and examine continuing treatment post release, relapse to drug use, HIV risk behaviors, reincarceration, and the costs associated with continued MMT vs. methadone detoxification.			✓	
Springer, Sandra A. <i>Naltrexone for Opioid Dependent Released HIV+ Criminal Justice Populations</i>	The purpose of this study is to conduct a randomized, placebo-controlled trial of depot-naltrexone among HIV infected prisoners meeting DSM-IV criteria for opioid dependence who are transitioning from the structure of a correctional setting to the community.				✓

Alcohol Abuse Studies		Acamprosate	Bup- renorphine	Methadone	Naltrexone
Probation, Parole, and Drug Court	Primary Aim of Study				
Weaver, Michael F. <i>The Use of Acamprosate for Preventing Alcohol Relapse Among Alcohol Dependent Drug Treatment Court Participants</i>	The purpose of this study is to test how tolerable and effective acamprosate is when used to prevent alcohol relapse in criminal justice supervisees (those on probation, parole, or in drug court).	✓			
Jail/Prison	Primary Aim of Study				
Springer, Sandra A. <i>Alcohol Pharmacotherapy for HIV+ Prisoners</i>	This is a randomized controlled trial of injectable intramuscular naltrexone versus intramuscular placebo among HIV-infected prisoners meeting DSM-IV criteria for alcohol dependence or problem drinking, who are transitioning to the community and seeking treatment to prevent relapse to alcohol use.				✓
Drug and Alcohol Abuse Studies		Acamprosate	Bup- renorphine	Methadone	Naltrexone
Probation, Parole, and Drug Court	Primary Aim of Study				
Friedmann, Peter D. <i>Medication-Assisted Treatment Implementation in Community Correctional Environments (MATICCE)</i>	The purpose of this study is to see whether a strategic planning process is able to introduce and sustain improvements in the working relationship between probation/parole departments and community-based treatment agencies that provide MAT for opioid or alcohol dependence. In addition, this study seeks to improve probation/parole agency personnel's knowledge and perceptions about MAT, and increase the number of appropriate MAT referrals.	✓	✓	✓	✓

Attitudes on MAT in the Criminal Justice System  
*Selected articles and research*



Results from Survey on Medication Assisted Treatment in the Criminal Justice System:  
A Nationally Representative Survey of Drug Courts

Prepared by Harlan Matusow, Andrew Rosenblum (National Development and Research Institutes) and Josiah Rich, Samuel Dickman (Miriam Hospital, Brown University Medical School), September 30, 2011.

## Medication Assisted Treatment (MAT) in the Drug Courts

Respondent Demographics (tables 1-5): The majority of respondents (67%) were drug-court coordinators followed by administrators (18%). Percentages for other drug court roles were less than five percent. Four-fifths (81%) of respondents had worked in their respective profession for more than 5 years; 20% for more than 20 years. More than half (57%) of the respondents had worked in drug courts for at least 5 years. The most frequently endorsed professional disciplines (within the drug court) were drug treatment professional (39%), social worker (30%) and counselor (12%); 10% described their discipline as lawyer or judge. Almost two-fifths (38%) had a bachelor's degree and 52% had an advanced degree (40% Masters, 9% JD, 3% PhD).

Drug Court Statistics (tables 6, 7): Aside from South Dakota, Montana, and New Jersey surveys were received from every state plus Puerto Rico and Washington D.C. Thirty-two percent of our respondents were urban courts, 37% suburban, and 31% rural. Twenty-nine percent of the courts have 25 or fewer clients, 27% have 26-50, 14% have 51 to 100, and 29% have more than 100 clients.

Characteristics of Drug Court Participants (tables 8,9): Almost half (45%) of the drug courts estimated that more than 20% of their clients were addicted to opioids; 20% estimated that 10-20% of their clients were addicted to opioids, and 30% estimated that 1-10% of their clients were addicted to opioids; Only 1% reported that none of their clients were addicted to opioids. Prescription opioids were more likely than heroin to be cited as the primary opioid problem (61% vs. 32%; 6% endorsed "don't know").

Prevalence of MAT (table 10): We asked the courts to estimate the percentage of opioid-addicted clients that received specific medications. Answer choices ranged from 0 to 100% with a "don't know" option. For the purposes of this analysis, we interpreted "don't know" as not zero, meaning that at least 1 or more drug court clients had received the indicated medication (although the respondent was unable to estimate the percent of clients using the indicated medication). Using this convention, the percentage of drug courts providing medications for the treatment of opioid dependence were: some type of MAT 67%; methadone and/or buprenorphine maintenance 52%; oral naltrexone 23%; monthly naltrexone injection (Vivitrol) 18%; methadone maintenance 32%; and buprenorphine 44%.

Circumstances under which agonist therapy is offered (table 11): Circumstances under which agonist therapy (buprenorphine or methadone) was available varied widely. Across all categories buprenorphine was more widely available than methadone. For example, for clients who were already maintained on agonist therapy 22% of drug courts offered methadone and 32% offered buprenorphine (a total of 40% offered any agonist medication). For opioid-addicted pregnant clients not already receiving agonist medication, approximately three-quarters do not receive either buprenorphine or methadone. Fifty percent of courts surveyed did not permit agonist medication under any circumstances, 47% methadone and 42% buprenorphine.

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Attitudes about MAT (table 12): While drug court personnel were generally more likely to endorse favorable/accurate views toward agonist therapy than disagree with such views, the most widely selected choice for the large majority of attitudinal questions – more so for buprenorphine than for methadone - was “uncertain.” For example, while 47% of respondents agree that “buprenorphine helps reduce relapse,” 48% answered “uncertain.” By comparison, 44% agree that methadone helps reduce relapse, and 35% were uncertain. Seventeen and 9% of respondents agree that the use of methadone and buprenorphine, respectively, “rewards criminals for being drug users;” 51% of respondents disagreed with this item (for both drugs). Examples where respondents were more likely to endorse an inaccurate or biased view toward agonist therapy included the item that methadone “prolongs addiction” (36% agree and 23% disagree) and that it should be used as a maintenance therapy (30% agree and 36% disagree). Respondents were also more likely to disagree than agree with the item that agonist therapy was more likely to retain patients in treatment than non-pharmacological approaches.

Reasons Buprenorphine or Methadone might not be offered (table 13): Frequently endorsed obstacles to agonist medication were drug court policy (buprenorphine 38%; methadone 56%), cost (buprenorphine 43%; methadone 27%), lack of recommendation or availability from the treatment provider (buprenorphine 32%; methadone 52%), and that clients were detoxed before they enter supervision (buprenorphine 40%; methadone 43%). “Don’t know” comprised a sizeable minority of answers for many questions in both the buprenorphine and methadone sections.

Introducing or Expanding the use of Agonist Therapy (tables 14, 15): Fifty-four percent of respondents answered that it would be possible to introduce or expand the use of agonist medication in their courts “if evidence were available that methadone or buprenorphine improved outcomes for drug court clients.”

Medications for Alcoholism (table 16): Fifty percent of the surveyed courts offered MAT for their alcohol-addicted participants; disulfiram (Antabuse) 42%, oral naltrexone 40%, injectable naltrexone (Vivitrol) 29%, and acamprosate (Campral) 33%.

## Buprenorphine and Methadone in the Criminal Justice System

### 1. Professional role in the drug court? N=93

	Response Percent
Administrator	18%
Coordinator	67%
Prosecutor	0%
Judge	4%
Defense	0%
Probation	5%
Treatment	4%
Other	1%

### 2. Years of experience in this field? N=93

	Response Percent
0-1 year	1%
1-5 years	17%
5-10 years	30%
10-20 years	31%
More than 20 years	20%

### 3. Years of experience in drug courts? N=93

	Response Percent
0-1 year	2%
1-5 years	41%
5-10 years	38%
10-20 years	19%
More than 20 years	0%

### 4. Professional discipline. N=93

	Response Percent
Social Worker	30%
Counselor	12%
Lawyer	6%
Drug treatment professional	39%
Judge	4%
Other	9%

### 5. Highest academic degree attained? N=93

	Response Percent
G.E.D.	1%
High School Diploma	5%
Associate's Degree	4%
Bachelor's Degree	38%
Master's Degree	40%
J.D.	9%
Ph.D.	3%

6. In what state is your program?\* N=93

Answer Options	Response Percent	Response Count	Answer Options	Response Percent	Response Count
AL	1%	1	MT	0%	0
AK	2%	2	NE	1%	1
AZ	2%	2	NV	2%	2
AR	2%	2	NH	1%	1
CA	2%	2	NJ	0%	0
CO	1%	1	NM	2%	2
CT	2%	2	NY	4%	4
DC	1%	1	NC	6%	6
DE	2%	2	ND	1%	1
FL	1%	1	OH	1%	1
GA	1%	1	OK	1%	1
HI	1%	1	OR	2%	2
ID	2%	2	PA	4%	4
IL	1%	1	PR	1%	1
IN	3%	3	RI	1%	1
IA	1%	1	SC	2%	2
KS	2%	2	SD	0%	0
KY	6%	6	TN	1%	1
LA	1%	1	TX	2%	2
ME	2%	2	UT	3%	3
MD	2%	2	VT	2%	2
MA	1%	1	VA	4%	4
MI	1%	1	WA	1%	1
MN	3%	3	WV	1%	1
MS	2%	2	WI	1%	1
MO	3%	3	WY	1%	1

**\*New Jersey declined to participate in this survey. No responses were recorded from South Dakota or Montana**

**7. Please estimate the total number of drug court participants currently enrolled in your program. N=93**

	Response Percent
0-10	6%
11-25	23%
26-50	27%
51-100	14%
101-200	18%
201-300	4%
301-400	4%
Greater than 400	3%

**8. Please estimate the proportion of people in your program who were addicted to opioids in calendar year 2010 (1/1/2010 - 12/31/2010). N=93**

	Response Percent
None	1%
1% to 5%	18%
5% to 10%	12%
10% to 20%	20%
More than 20%	45%
Don't Know	3%

**9. Primary opioid problem seen among your drug court participants? N=93**

	Response Percent
Heroin	32%
OxyContin, Vicodin, or other prescription	61%
Don't Know	6%

**10. Please estimate the percentage of your opioid addicted participants that received the following medications in 2010: N=93**

<b>Percentage</b>	<b>Any</b>	<b>None</b>	<b>5%</b>	<b>10%</b>	<b>15 to 95%*</b>	<b>100%</b>	<b>Don't know**</b>
Naltrexone as a pill	23%	77	9	1	2	0	11
Naltrexone as a monthly injection (Vivitrol)	18%	82	4	0	2	1	11
Methadone maintenance	32%	68	13	5	9	0	5
Buprenorphine maintenance	44%	56	19	3	12	2	8
Counseling	95%	5	7	3	12	68	5
Opioid detox services (with or without use of medications)	60%	40	19	4	22	3	12
Other type of medication	46%	54	9	3	9	1	25
Any MAT	67%						
Agonist MAT	52%						

\*Respondents were offered the opportunity to choose the percentage in 5% increments from 0 to 100%. Because there were few responses between 15 and 95% we collapsed these columns for ease of reading.

\*\*\*"Don't know" is interpreted to mean that the medication is available to an unknown number of recipients.

**11. Under what circumstances are methadone or buprenorphine offered for drug court participants in your program? (Check all that apply.) N=90**

	<b>Methadone</b>	<b>Buprenorphine</b>	<b>Any agonist</b>
Tapered detox for clients who are currently in treatment with methadone or buprenorphine.	29%	36%	42%
For all clients who are already on methadone or buprenorphine.	22%	32%	40%
For induction and maintenance for clients who have been using illicit opioids.	18%	30%	34%
For pregnant clients currently in treatment with methadone or buprenorphine.	18%	24%	28%
For pregnant clients who have been using illicit opioids.	14%	22%	26%
Other circumstances	3%	3%	3%
Not permitted under any circumstances	47%	42%	50%



12. Please indicate if you agree, disagree, or are uncertain about the following statements:	Buprenorphine N=90			Methadone N=88		
	Agree	Uncertain	Disagree	Agree	Uncertain	Disagree
Reduces relapse	47%	48%	6%	44%	35%	20%
Can help reduce crime and re-incarceration.	41%	51%	8%	41%	40%	19%
Rewards criminals for being drug users.	9%	40%	51%	17%	32%	51%
Prolongs addiction.	22%	48%	30%	36%	41%	23%
Should be used to maintain clients who are already opioid addicted.	33%	44%	22%	30%	34%	36%
More effective than non-pharmacological approaches in retaining patients in treatment.	18%	60%	22%	12%	56%	32%
Interferes with the ability to drive a car.	4%	61%	34%	12%	61%	26%
Reduces or blocks the effects of heroin.	43%	53%	3%	47%	41%	12%

13. Please help us understand why buprenorphine or methadone may not be offered, or may be offered in a limited way in your program.	Buprenorphine N=90			Methadone N=88		
	Yes	No	Don't Know	Yes	No	Don't Know
Cost is prohibitive/insufficient funding	43%	21%	36%	27%	40%	33%
Risk of diversion	29%	30%	41%	36%	30%	34%
Drug court policy not to permit its use	38%	47%	16%	56%	34%	10%
Drug treatment provider does not recommend or provide it	32%	46%	22%	52%	33%	15%
Clients are detoxed before they enter supervision	40%	49%	11%	43%	50%	7%
Not beneficial to clients	14%	46%	40%	23%	41%	36%
Opposition from prosecutor	21%	43%	36%	30%	40%	31%
Opposition from judge	21%	53%	26%	32%	44%	24%
Opposition from state/county/municipal government	6%	53%	41%	15%	48%	38%
Lack of local providers	33%	34%	32%	28%	54%	17%
Opioid addiction is not a common problem among drug court clients	17%	72%	11%	12%	78%	9%
Not familiar with this medication	26%	67%	8%	16%	75%	9%

**14. If evidence were available that methadone or buprenorphine improved outcomes for drug court participants, would it be possible to introduce or expand their use in your program? N=88**

	Response Percent
Yes	54%
No	14%
Don't know	32%

**15. How much of a decrease in re-incarceration and/or relapse for opioid users would have to be demonstrated in order to introduce or expand the use of methadone or buprenorphine in your program? N=86**

	Response Percent
1%-5%	2%
5%-10%	7%
10%-20%	8%
20%-40%	12%
Greater than 40%	22%
I don't know	49%

**16. What medications are available for your participants for alcoholism? N=86**

	Yes
Naltrexone as a pill	40%
Naltrexone as a monthly injection (Vivitrol)	29%
Disulfiram (Antabuse)	42%
Acomprosate (Campral)	33%
ANY Medication for alcoholism	50%



## Attitudes and Practices Regarding the Use of Methadone in US State and Federal Prisons

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and Peter D. Friedmann

**ABSTRACT** *In the United States, vigorous enforcement of drug laws and stricter sentencing guidelines over the past 20 years have contributed to an expanded incarcerated population with a high rate of drug use. One in five state prisoners reports a history of injection drug use, and many are opiate dependent. For over 35 years, methadone maintenance therapy has been an effective treatment for opiate dependence; however, its use among opiate-dependent inmates in the United States is limited. In June 2003, we conducted a survey of the medical directors of all 50 US states and the federal prison system to describe their attitudes and practices regarding methadone. Of the 40 respondents, having jurisdiction over 88% (n=1,266,759) of US prisoners, 48% use methadone, predominately for pregnant inmates or for short-term detoxification. Only 8% of respondents refer opiate-dependent inmates to methadone programs upon release. The results highlight the need to destigmatize the use of methadone in the incarcerated setting, expand access to methadone during incarceration, and to improve linkage to methadone treatment for opiate-dependent offenders who return to the community.*

**KEYWORDS** *Hepatitis B, Hepatitis C, HIV, Incarceration, Methadone, Opiate dependence, Overdose, Prison, Prisoners, Recidivism.*

### INTRODUCTION

The incarcerated population in the United States has increased dramatically over the past two decades, rising 239% in the 1990s alone and passing the two million mark for the first time in 2002.<sup>1,2</sup> The United States now has the highest per capita incarceration rate in the world. This phenomenon has been fueled in large part by the so-called "war on drugs": an increase in drug-related arrests coupled with strict mandatory sentencing requirements.<sup>3</sup> Over the past 20 years, the number of people incarcerated annually for drug-related offenses has grown from 40,000 to 450,000,<sup>1</sup> resulting in an incarcerated population with high rates of reported drug use. An estimated 80% of incarcerated individuals have a history of substance abuse,<sup>4,5</sup> whereas as many as 20% of state prisoners report a history of injection drug use.<sup>6</sup>

Incarcerated populations, especially injection drug users, suffer a disproportionate burden of chemical dependency, mental illness, and infectious diseases, including

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HIV, hepatitis, and tuberculosis.<sup>7-9</sup> Annual turnover rates of up to 40% in prison mean that the diseases affecting incarcerated populations also affect the communities to which they return.<sup>10,11</sup> Many incarcerated individuals with a history of substance abuse return to drug use upon release from prison and continue in a cycle of criminality,<sup>12-14</sup> HIV risk behaviors,<sup>15</sup> fatal and nonfatal overdose,<sup>16-20</sup> and, ultimately, reincarceration.<sup>21</sup>

Methadone has been widely used for over 35 years to treat opiate-dependent individuals.<sup>22-24</sup> Short-term detoxification with methadone is rarely successful and often is followed by a rapid relapse to heroin use.<sup>25,26</sup> Methadone maintenance treatment (MMT) aims to stabilize opiate-dependent individuals in the long-term and has been shown to significantly reduce opiate use and its associated risks.<sup>27-31</sup> This long term stabilization and continuous contact with medical care<sup>15,19</sup> help to reduce post-release relapse to opiate use.<sup>13</sup>

Given the risk of relapse following release from incarceration, the Centers for Disease Control and the World Health Organization emphasize the importance of prevention programs that provide prisoners with continuity of care during the transition to the community.<sup>9,32,33</sup> Indeed, the incarcerated setting provides a unique opportunity to intervene and disrupt the cycle of relapse and recidivism by linking opiate-dependent ex-offenders to MMT in the community upon release. In addition to transitional and post-release care, the potential benefits of implementing drug treatment programs during incarceration include reduced high-risk behaviors and improved post-release outcomes.<sup>32,34-36</sup> Several prison-based methadone programs have been implemented, both in the United States and internationally, with promising results.<sup>37-41</sup>

- In this study, we surveyed the medical directors of United States federal and state prisons to understand and describe current attitudes and practices regarding the use of methadone with prisoners.

## METHODS

A one page self-administered survey was mailed to the Medical Director or institutional equivalent in the 50 state departments of corrections plus the Federal Bureau of Prisons between June and September, 2003. Surveys were re-sent to nonrespondents with follow-up phone calls. The survey included questions about the prison population, procedures used to identify illicit opiate use at prison reception, and practices regarding methadone use in prisons. Respondents who indicated that methadone is used in their prison system were asked to provide information about the circumstances under which it is used and the specific licensing arrangements. If methadone is not used in their prison system, respondents were asked to identify barriers to the use of methadone in their facility. The final section of the survey assessed attitudes toward the usefulness of methadone for prisoners, practices of referring inmates to methadone treatment programs upon release, and awareness of the use of methadone in correctional facilities.

Data was managed in Microsoft Excel. Chi-square statistics tested the association between variables; statistical significance was defined at the  $P < .05$  level. We calculated the number of prison inmates under the jurisdiction of the responding medical directors using a current census of 1.44 million US prison inmates at year-end 2002.<sup>1</sup>

## RESULTS

Of 51 officials surveyed, 40 individuals from 39 states and the Federal Bureau of Prisons responded, yielding a response rate of 78%. The 40 responding departments have jurisdiction over 88% ( $n=1,266,759$ ) of the total number of prison inmates in the United States.

Nineteen respondents (48%) reported providing methadone to inmates, either as detoxification or maintenance treatment. Of those, 13 (68%) provide MMT to opiate-dependent pregnant women; no departments offer MMT to other opiate-dependent populations (Table 1).

Respondents indicated that methadone is used in prison systems for detoxification: 8 departments use methadone to detoxify inmates who were on community-based MMT, 6 use methadone to detoxify prisoners with opiate withdrawal symptoms, and 6 use methadone to detoxify opiate-dependent pregnant inmates. Of the 19 departments that provide methadone to prisoners, slightly more than half ( $n=11$ ) arrange for methadone provision by coordinating with outside agencies, and six have their own license to administer methadone; two respondents did not answer the question.

When asked to identify barriers to administering methadone to inmates, the reason most cited by respondents ( $n=10$ ) was the existence of logistical obstacles to implementation of a methadone program, including security concerns. Seven respondents indicated administrative opposition to the use of methadone, including the adoption of an abstinence model to addressing chemical dependency and questioning the need for methadone in prison. Two respondents reported that methadone was not necessary in the facility as inmates were detoxified in jail prior to arrival.

- Respondents were asked whether they refer opiate-dependent inmates to methadone programs in the community upon release; less than 10% ( $n=3$ ) of respondents indicated they do so (Table 2).

**TABLE 1. Uses of methadone treatment in prisons**

	Yes	No
Do you ever provide methadone to inmates?	19	21
If yes, in what circumstances?		
Methadone maintenance treatment for pregnant women	13	
Detox for pregnant women	6	
Methadone maintenance treatment for others	0	
Detox for those on methadone maintenance treatment	8	
Treat withdrawal from opiates	6	
If yes, how do you administer methadone?		
Own license to administer methadone	6	
Coordinate with outside methadone clinic(s)	11	
No response	2	

**TABLE 2. Practices and attitudes regarding methadone in prisons**

	Yes	No	Unknown/no answer
Do you refer inmates to methadone programs upon release?	3	31	6
Does methadone maintenance benefit opiate-dependent inmates?	12	14	14

When asked whether they believe that methadone benefits opiate-dependent inmates, 12 (30%) said yes, 14 (35%) said no, and 14 (35%) were unsure or did not answer the question. Of the 12 who responded that methadone can benefit opiate-dependent inmates, 2 specified that it only benefits pregnant inmates, and another 2 specified that it is not beneficial in the long term.

We examined the association between attitudes toward methadone (the belief that methadone benefits opiate-dependent inmates) and practices (providing methadone onsite or referring to methadone programs upon release). We found a statistically significant association between attitudes and practices. Those who do not believe that methadone is beneficial are less likely to provide methadone in their facilities ( $P < .001$ ).

## DISCUSSION

This national survey is the first to document attitudes and practices of US state and federal prison medical directors regarding the use of methadone in prison populations. Most of the prison medical directors do not provide methadone to inmates. Nearly half of respondents provide methadone in some situations, but such practices are confined to treatment for pregnant individuals, treatment for methadone withdrawal (for those in community MMT), and detoxification for opiate-dependent inmates. The results indicate an association between the attitude that methadone is not beneficial to opiate-dependent inmates and the lack of methadone provision to inmates. This association suggests that provision of methadone would increase if attitudes about methadone became more positive. Furthermore, we found that over one third of the respondents are unsure of the benefits of methadone or provided no answer to the question. This amount of uncertainty represents an opportunity to provide more information regarding the benefits of methadone use in opiate-dependent inmates to prison medical directors.

Only three respondents indicated that they refer opiate-dependent inmates to methadone programs upon release. This finding highlights an important area for programmatic improvement and expansion of services. Numerous studies document the high risk of relapse to drug use and overdose in the period immediately following release from correctional facilities.<sup>16-18,25</sup> An immediate policy response for those departments of corrections who contract with outside providers to provide methadone detoxification for prison inmates ( $n=11$ , 28% of respondents) may be to arrange for consistent referral and linkage to care in the immediate post-release period. Providing effective linkage to methadone programs upon release will reduce criminality and decrease recidivism, as opiate-dependent individuals maintained on methadone treatment evidence improved social functioning and can sustain employment.<sup>42</sup> Additionally, methadone maintenance therapy is considered to be a cost-effective alternative to incarceration.<sup>43,44</sup>

Distinction should be made between the use of methadone among inmates who are incarcerated for lengthy sentences versus initiating MMT in those who will soon be released. Methadone treatment that is initiated shortly prior to release aims to link inmates to effective community treatment. Although it is clear that high-risk behaviors occur in incarcerated settings<sup>38,45-47</sup> and that reduction in risk behavior can occur with the use of methadone,<sup>39</sup> variability of prison systems and settings in different regions may imply that optimal methadone treatment policies should be tailored to local conditions.

Providing MMT for inmates who were treated in community clinics prior to incarceration or initiating MMT in the incarcerated setting may also be an effective strategy to prevent HIV and hepatitis transmission in settings where high-risk behaviors are prevalent<sup>46-48</sup> and where effective linkage to community-based treatment exists for the post-release period. Two considerations in deciding the political feasibility and advisability of initiating prison-based MMT are whether high-risk behaviors or intraprisson disease transmission is evident<sup>48,49</sup> and whether effective linkage to community MMT is present.

Given the risks of disease transmission and relapse to drug use and criminality in the immediate post-release period, the transition phase is ripe for a public health response to reduce risks. Programs in the United States have successfully initiated MMT prior to release. The Key Extended Entry Program (KEEP) on Rikers Island, New York, has shown that jailed inmates can initiate MMT prior to release; however, linkage to MMT in the community remains a challenge.<sup>40,41,50</sup> Our Substance Abuse and Mental Health Services Administration funded program in Rhode Island has successfully linked transitioning offenders to MMT in the community upon release. Preliminary findings demonstrate improved engagement in MMT when financial and logistic barriers are minimized.<sup>51</sup> These programs show that transitional linkage to MMT is feasible. Such programs provide models for other states interested in combating the cycle of drug relapse, related risk behavior, and criminality among the incarcerated, opiate-dependent population.

## LIMITATIONS

This survey was designed to be brief and was conducted in a short period. Although we received 40 out of a possible 51 responses (78%), states more active in identifying and treating opiate-dependent inmates may have been more likely to respond. Response selection bias may thus have led to an overestimate of the percentage of systems that use methadone. Furthermore, we did not ask for specific numbers of inmates treated with methadone or the details of treatment, but clearly very few inmates are receiving methadone while imprisoned. Also, we are unable to draw conclusions about the extent to which methadone treatment in prisons conforms to federal guidelines.<sup>52</sup> Additionally, the attitudes of the medical directors of state and federal prison systems might not represent their institutions. Other parties, such as administrators or drug treatment coordinators, might make decisions regarding the use of methadone for inmates although the opinions of the medical directors are likely to influence these policies.

Finally, this survey focused on state and federal prisons, facilities that incarcerated roughly 1.4 million individuals in 2003. However, an estimated 8 million individuals are incarcerated each year,<sup>1</sup> most of whom are jailed. This survey did not evaluate methadone treatment practices in jails. Evaluating the use of methadone in jails either for continuing MMT during short stays or for detoxification would highlight opportunities for public health intervention.

## CONCLUSIONS AND FUTURE DIRECTIONS

Recommendations for action are indicated by the results of this study. One third of respondents were not sure if methadone could benefit inmates, which indicates an opportunity for training and education. Entering dialogues and providing



information regarding the benefits of methadone and why an opiate replacement therapy is the most effective treatment for many opiate-dependent individuals can happen at all levels of the prison system. Buy-in by managers, counselors, medical staff, and so on, is crucial for the effective implementation of programs. Advocacy suggestions are available on the website of American Association for the Treatment of Opioid Dependence (<http://www.aatod.org>). A very useful resource is a booklet entitled "About Methadone" that discusses dependence, why methadone works, and what to expect while being on methadone. Information regarding the booklet can be found on Drug Policy Alliance's website (<http://www.drugpolicy.org>).

Another practical measure indicated by the results is linking with MMT providers in the community. The basis already exists for many prisons that contract with community providers to oversee methadone administration in prison. MMT providers in the community are crucial partners in linking recently released ex-offenders with methadone treatment. Coordination of release dates to clinic intake, necessary clinic admission documents, and facilitated transportation are necessary to increase the likelihood of linkage.

Finally, from practical, political, and efficacious points of view, linkage to a community MMT provider upon release is most feasible. This option does not require the same amount of resources from the prison as prison-based treatment, and the benefits of this intervention are considerable as discussed earlier. Also, given that jails have much higher turnover rates and shorter periods of incarceration than do prisons,<sup>7</sup> MMT patients who are jailed may benefit more from continuance of methadone treatment than their imprisoned counterparts. Continuing methadone treatment in the jail setting could greatly improve continuity of care for the post-release opiate-dependent population.

Because of two decades of increasing incarceration rates for drug-related offenses, prison populations have high rates of opiate-dependent individuals. In the absence of effective linkage to appropriate treatment, including MMT, many ex-offenders continue in a cycle of relapse to drug use and recidivism upon release. This survey demonstrates that a very small number of prison systems refer ex-offenders to MMT upon release into the community. Correctional institutions that have existing partnerships with community-based methadone providers should coordinate efforts to provide linkage to opiate treatment upon release. Such collaboration could substantially reduce the risks of recidivism, relapse to drug use, disease transmission, and overdose during the post-release period.

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## Jail Management of Arrestees/Inmates Enrolled in Community Methadone Maintenance Programs

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**ABSTRACT** *Anecdotal evidence suggests that many jails fail to adequately detoxify arrestees/inmates who are enrolled in methadone programs, but there are few empirical data. The objective of this study was to assess how jails manage arrestees/inmates enrolled in methadone programs. A national survey of 500 jails in the United States was conducted. Surveys were mailed to the 200 largest jails in the country in addition to a random sample of 300 of the remaining jails (10% sample). Jails were specifically asked about management of opiate dependency among arrestees/inmates enrolled in methadone programs. Weighted logistic regression analyses were conducted to assess predictors of continuing methadone during incarceration and use of recommended detoxification protocols. Among the 245 (49%) jails that responded, only 1 in 4 (27%) reported they contacted the methadone programs regarding dose, and only 1 in 8 (12%) continued methadone during the incarceration. Very few (2%) jails used methadone or other opiates for detoxification. Most used clonidine. However, half (48%) of jails failed to use clonidine, methadone, or other opiates to detoxify inmates from methadone. Weighted logistic regression models showed that moderately large jails and those located in the South and Midwest were significantly more likely to continue methadone. Very large jails, those with an estimated prevalence of opiate dependence of 6%–10% among arrestees/inmates, and those located in the Northeast were significantly more likely to use recommended detoxification protocols. Very few jails provided continuous treatment to arrested persons on methadone, and half failed to detoxify arrestees/inmates using recommended protocols. These practices jeopardize the health and well-being of persons enrolled in methadone programs and underscore the need for uniform national policies within jails.*

**KEYWORDS** *Delivery of health care, Heroin dependence, Methadone, Prisoners, Substance withdrawal syndrome.*

There are approximately 140,000 to 170,000 patients enrolled in methadone maintenance programs across the country.<sup>1</sup> Based on an annual arrest rate of 10% among persons enrolled in methadone maintenance programs, approximately 14,000 to 17,000 annual arrests in the United States involve persons enrolled in methadone maintenance programs.<sup>2</sup> Despite this number, little is known regarding the management

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of patients enrolled in methadone maintenance programs who are arrested and detained in US jails or who are sentenced following trial.

The primary aim of this study was to assess how jails manage methadone among arrestees/inmates enrolled in methadone programs. Specifically, do most jails continue methadone for detained persons enrolled in methadone maintenance programs? If methadone is not continued, what detoxification protocols are followed? What factors predict continuation of methadone? What factors predict use of recommended detoxification protocols? To address these questions, we administered mailed surveys to jails across the country.

## **METHODS**

### **Sample**

The study was approved by the University of Rochester School of Medicine and Dentistry Human Subjects Review Board. The contents of the survey were approved by the American Jail Association. The names and addresses of 500 US jails were obtained from the American Jail Association through a list company. The sample included the 200 largest jails in the United States in addition to a 10% random sample of the remaining jails nationally. In all, we mailed surveys to 500 of 3,200 adult jails in the country.

### **Procedures for Survey Administration**

Following the approach suggested by Dillman,<sup>3</sup> beginning in July 2002 we mailed a survey with an initial cover letter addressed to the director of health services of each jail. Four weeks later, we sent out a second cover letter and duplicate survey to nonresponders. Eight weeks following the first survey, we sent out a third and final cover letter and duplicate survey to nonresponders.

### **Measures**

The survey included questions regarding the title of the person completing the survey (health care provider, administrator, other); jail size based on daily inmate census (<250, 250–499, 500–999, 1000–2000, >2000); estimated percentage of arrestees/inmates who were opiate dependent (0%–1%, 2%–5%, 6%–10%, >10%); whether there was a methadone program in the surrounding community (yes or no); whether opiate dependence was routinely assessed on admission to the jail (yes or no); whether a specific standardized treatment protocol was used to detoxify arrestees/inmates on methadone (yes or no); whether the jail routinely contacted the methadone program regarding methadone dose (yes or no); whether methadone was routinely continued during incarceration; whether clonidine was routinely used to treat withdrawal (yes or no); whether methadone was routinely used to treat withdrawal (yes or no); and whether any other opiates were used to treat withdrawal (yes or no). In addition, we created a measure for use of recommended detoxification protocols by combining responses to several items. We defined recommended detoxification as one that used methadone, other opiates, or clonidine.

### **Statistical Analysis**

The data were analyzed using SAS (Version 8.2, Cary, NC). We conducted univariate and bivariate analyses to assess the prevalence of various management strategies. To account for oversampling of larger jails, we weighted the results using published

data on the national distribution of jails by size.<sup>4</sup> We used weighted logistic regression models to assess predictors of continuing methadone during incarceration or use of recommended detoxification protocols.

## RESULTS

There were 245 jails that responded, for an overall response rate of 49%. Of the surveys, 79% were completed by a health care provider (physician, physician's assistant, or nurse), 16% by a jail administrator, and 4% by another jail official. Both unweighted and weighted results are presented in the tables; only weighted results are referred to in the text or were used in the multivariate analyses. Table 1 shows the characteristics of the jails that responded. No data were available regarding jails that did not respond. However, comparisons with the national distribution of jails by size showed that jails with fewer than 250 inmates were underrepresented among responders even after accounting for oversampling of large jails.

Estimates of opiate dependence were fairly evenly split between the four categories of opiate prevalence among arrestees/inmates and approximate estimates from the Arrestee Drug Abuse Monitoring Program (ADAM). These data approximate estimates of opiate dependence from ADAM.<sup>5</sup> Nearly two thirds (62%) of jails

**TABLE 1. Characteristics of the jails (N = 246) surveyed**

	N	Percentage	
		Unweighted	Weighted
Average daily census of jail			
<250	17	7	78
250–499	72	30	7
500–999	77	31	6
1,000–2,000	46	19	4
>2000	33	13	5
Missing	1		
Region of the country			
Northeast	33	13	12
South	118	48	47
Midwest	36	15	17
West	59	24	24
Missing	0		
Estimated percentage of opiate dependent arrestees/inmates in own jail by respondent			
0%–1%	32	14	27
2%–5%	82	35	37
6%–10%	47	20	14
>10%	72	31	22
Missing	13		
Methadone maintenance program in the community			
Yes	161	67	62
No	78	33	38
Missing	7		

reported there was a methadone maintenance program in their community. Most (56%) jails reported they asked inmates/arrestees/inmates about opiate dependency.

Jail management practices are summarized in Table 2. Only about one in four jails (27%) contacted methadone maintenance programs regarding arrestees/inmates enrolled in those programs. Jails located in communities with such programs were

**TABLE 2. Management of arrestees/inmates enrolled in methadone maintenance programs by jails (N = 246)**

		Percentage	
	N	Unweighted	Weighted
Inmates/arrestees are asked about opiate dependence on entry to jail			
Yes	206	86	56
No	34	14	44
Missing	6		
Use a specific standardized treatment protocol for opiate detoxification for arrestees/inmates already enrolled in methadone programs			
Yes	96	41	23
No	140	59	77
Missing	10		
Routinely contact methadone maintenance programs about dose			
Yes	99	42	27
No	136	58	73
Missing	11		
Methadone is continued during incarceration			
Yes	33	14	12
No	179	76	85
During pregnancy only	25	11	3
Missing	9		
Clonidine is routinely used to treat withdrawal*			
Yes	127	62	50
No	77	38	50
Methadone routinely used to treat withdrawal*			
Yes	3	1	<1
No	201	99	99
Analgesics routinely used to treat withdrawal*			
Yes	133	65	66
No	71	35	34
Primary drug used to treat withdrawal*			
Methadone	3	1	<1
Other opiates	13	6	1
Clonidine	121	59	50
Analgesics alone	42	21	30
No treatment	25	12	18

\*Includes only the 204 jails that did not continue methadone maintenance for methadone-dependent arrestees/inmates.



significantly more likely to do so (odds ratio [OR] 3.42, 95% confidence interval [CI] 2.92–4.01). Specific protocols were used by 23% for detoxifying arrestees/inmates on methadone. With the exception of pregnant arrestees/inmates, only 1 in 8 jails (12%) reported they continued methadone. Among jails that did not continue methadone, only half (52%) reported using a recommended detoxification protocol for patients on methadone.

We examined predictors of continuing methadone maintenance among new arrestees/inmates; we used a weighted logistic regression model that included jail size, prevalence of opiate dependence among arrestees/inmates estimated by the respondent, region of the country, whether the jail had established protocols to manage methadone-dependent inmates, and whether methadone maintenance programs existed in the surrounding community (Table 3). The estimated prevalence of opiate dependency in the community was collapsed into two categories, less than 5% and 5% or more, because the sample contained no jails from the Northeast (estimated prevalence 0%–1% and the Midwest (estimated prevalence above 10%) that continued methadone. The results showed that moderately large jails (1,000–2,000 inmates) and jails from the South and Midwest were significantly more likely than others to continue methadone treatment among arrestees/inmates. Use of written protocols for methadone management and presence of methadone maintenance programs in the communities served by the jails were not significantly associated with continuation of methadone.

We also examined predictors of appropriate methadone detoxification among arrestees/inmates at the 204 jails that did not continue methadone maintenance;

**TABLE 3. Weighted odds ratios and 95% confidence intervals for continuation of methadone among arrestees/inmates enrolled in methadone maintenance programs**

	OR	95% CI
<b>Inmate census</b>		
<250	0.96	(0.44–2.06)
250–499	1.18	(0.51–2.71)
500–999	1.99	(0.85–4.66)
1,000–2,000	2.83	(1.12–7.20)
>2,000	1.00	—
<b>Estimated prevalence of opiate dependency rate in own jail</b>		
0%–5%	7.93	(5.08–12.39)
>5%	1.00	—
<b>Location of jail by region</b>		
South	4.69	(2.28–9.64)
West	0.60	(0.26–1.39)
Midwest	13.72	(6.54–28.76)
Northeast	1.00	—
<b>Methadone maintenance program in local community</b>		
Yes	0.70	(0.47–1.1)
No	1.00	—
<b>Established protocol to manage methadone-dependent arrestees/inmates</b>		
Yes	1.12	(0.47–1.06)
No	1.00	—

**TABLE 4. Weighted odds ratios and 95% confidence interval for appropriate detoxification of dependent arrestees/inmates at jails that do not continue methadone maintenance (N = 204)**

	OR	95% CI
Inmate census		
<250	0.24	(0.15–0.41)
250–499	0.56	(0.30–1.06)
500–999	0.33	(0.17–0.62)
1,000–2,000	0.42	(0.21–0.81)
>2,000	1.00	—
Estimated prevalence of opiate dependency in own jail		
0%–1%	0.25	(0.16–0.40)
2%–5%	0.37	(0.26–0.53)
6%–10%	5.04	(3.30–7.69)
>10%	1.00	—
Region		
South	0.06	(0.03–0.10)
West	0.08	(0.04–0.14)
Midwest	0.06	(0.03–0.12)
Northeast	1.00	—
Established protocol to detoxify methadone-dependent arrestees/inmates		
Yes	4.12	(3.18–5.36)
No	1.00	—
Methadone maintenance program in local community		
Yes	1.02	(0.77–1.35)
No	1.00	—

we used a weighted logistic regression that included jail size, estimated prevalence of opiate dependence among arrestees/inmates, region of the country, and use of established protocols for detoxification of opiate-dependent arrestees/inmates (Table 4). *Appropriate detoxification* was defined as detoxification using methadone, other opioids, or clonidine. Results showed that jails with fewer than 2,000 inmates; those for which the estimated prevalence of dependency was less than 6%; and jails from the South, West, or Midwest were all significantly less likely to report using appropriate detoxification methods. The presence of a methadone-specific protocol, but not the existence of a methadone program in the community, was significantly associated with use of recommended detoxification.

## DISCUSSION

These findings, based on a national survey of jails, are notable in several respects. First, they demonstrated that persons enrolled in methadone maintenance programs are likely to experience discontinuity in their methadone maintenance. Very few jails elected to continue methadone following arrest. Pregnancy was a notable exception. Surprisingly, jails in the South and Midwest were more likely to continue methadone than those in the Northeast, but were less likely to use appropriate detoxification protocols. The reasons for this are unclear, but may reflect expediency.

of jails used only acetaminophen or other nonnarcotic analgesics. These findings highlight the need for uniform jail policies regarding management of arrestees/inmates on methadone, closer coordination between jails and programs, improved education of health professionals working in jails, as well less-restrictive regulations governing use of methadone in jails.

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## **Staff perspectives on methadone maintenance therapy (MMT) in a large southwestern jail**

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### **Abstract**

The purpose of the study was to develop and test an instrument to measure knowledge about methadone maintenance treatment, attitudes towards drug addiction, readiness to adopt a methadone maintenance program, and to determine how the staff at a large metropolitan detention center score on these domains. We developed a 45-item "Knowledge, Attitudes, and Readiness to Adopt" survey and administered it to 114 jail staff. The anonymous survey was psychometrically sound. Younger and non-medical staff generally had low knowledge scores on the survey and had negative attitudes towards methadone as a treatment for heroin addiction. Written comments indicated that many staff members have strong and often polarized opinions about drug treatment in a correctional setting. Results of this study suggest several steps towards improving the staff support for methadone maintenance therapy, which includes better education regarding opiate replacement therapy as an effective treatment for heroin addiction.

**Keywords:** *Survey, jail, methadone maintenance, opinions, staff*

### **Introduction**

Increasingly the medical community has come to regard drug addiction as a chronic illness. Long-term care and monitoring protocols that allow addicted persons to maintain a normal and productive lifestyle are preferred to short-term treatment dedicated only to relieving symptoms of acute withdrawal syndrome (McLellan, Lewis, O'Brien & Kleber 2000). Peters and May (1992), among others, extend this perspective to

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include incarcerated populations, where the cycle of drugs, crime and re-incarceration has been well-documented (Tims & Leukefeld, 1992). Breaking this cycle requires a policy that incorporates drug treatment into jail and prison policy, so that long-term care is not just restricted to the public sphere, but is also maintained during incarceration. Despite considering both, the most effective treatment for heroin addiction, methadone maintenance is often held in low esteem by heroin addicts – even those in treatment (Stancliff, Myers, Steiner & Drucker, 2002).

Jail populations consist of individuals awaiting trial, serving time for minor offenses, or awaiting transfer to prison. Jail time, which serves as a transition from public life to prison or a return to society, can last up to a year, depending on the circumstances of the case. Current treatment for drug-addicted jail inmates, for the vast majority of U.S. jails, is detoxification. A recent sample of 1737 U.S. jails revealed that only 19% have any funded drug treatment program other than detoxification (Peters & May, 1992), and only 7% of this sample had a comprehensive treatment plan that included referral to outside treatment agencies upon release.

Every jail in the U.S., except Rikers Island in New York, forces the inmate (other than pregnant women) to abruptly discontinue treatment for opiate addiction, even those who are on Methadone Maintenance Therapy (MMT) at booking. Symptoms of opiate withdrawal syndrome typically are treated only when the inmate complains. Behavioural infractions are punished, and then the inmate is either released to the community or is transferred to a prison.

This nearly ubiquitous policy of dealing with inmates enrolled in MMT is consistent with the perspective that opiate addiction be treated as an acute disorder, yet fails to recognize that this policy is not consistent with achieving long-term abstinence from opiates, or breaking the cycle of criminal behaviours and drug use. This failure can have a marked impact on the health and security of the general public. Thus, policy regarding the treatment of jailed inmates has relevance to society as a whole.

MMT has been proven to benefit incarcerated individuals. At New York City's Rikers Island jail 3000 heroin addicts are maintained yearly on stable doses of methadone, through a program named Key Extended Entry Program (KEEP) (Tomasoni Swanson, Nolan & Human, 2001). The Rikers Island methadone program is considered a success. Almost all (95%) of the addicts eligible for methadone treatment enter, and remain in, the program, and 78% of those who participate in the methadone program report to community-based treatments programs upon release. Likewise, a study of 185 injecting drug users who were inmates of New South Wales, Australia, prisons found that methadone treatment was associated with reduced injecting risk behaviour with adequate dose and duration of treatment (Dolan, Wodak & Hall, 1998).

Despite evidence that MMT would benefit inmates as a long-term opiate addiction treatment protocol, few judges and prison and jail administrators have embraced providing MMT to incarcerated addicts (Tims & Leukefeld, 1992). Magura and colleagues (1992) state, "The main reasons appear to be political and philosophical oppositions to this treatment modality (an opinion not limited to correctional personnel) and concerns about the feasibility of providing methadone in a prison or jail setting (e.g. diversion of medication, violence, security breaches)". In fact, too little research has examined the reasons why administrators resist providing MMT to prisoners and the extent to which this resistance can be overcome. Moreover, few published studies have demonstrated the safety, efficacy, and possible disadvantages and benefits of such programs among the incarcerated populations.

In a recent development in one state in the Southwestern United States, Department of Public Safety officials and the state's Department of Health have agreed to establish and staff a public health clinic in a newly constructed jail facility. The new clinic will identify and administer MMT to all the inmates booked into the jail who are enrolled in a methadone maintenance program at the time of booking. The goals of the in-jail MMT program include: (1) educate the inmates and staff about the role of MMT in treating opiate addiction; (2) administer methadone or other MMT to all inmates currently enrolled in MMT programs; and (3) reduce the need for medical intervention resulting from methadone withdrawal. The education component of the public health program requires a thorough understanding of variability in receptiveness and attitudes towards drug treatment in general and MMT in particular, among the jail staff. The effectiveness with which this new in-jail MMT program is established will require that attitudinal barriers to the program implementation be overcome through effective training.

This study has two objectives. The first is to develop and test a survey instrument that measures knowledge about MMT, attitudes towards drug addiction in general, and MMT in particular, and readiness to adopt MMT as a public health policy and a jail program. The second objective is to determine how respondents score on these domains and how these scores vary by job class and select demographic characteristics. The goal of this research is to help policymakers develop effective training strategies for MMT programs in jail, prison, and juvenile detention correctional environments. Furthermore, we will be able to determine whether misconceptions about MMT abound, and where there might exist serious barriers to MMT implementation in the corrections system.

## **Methods**

### *Survey design*

We developed a "Knowledge, Attitudes, and Readiness to Adopt" (KAR) survey, a 45-item questionnaire addressing a variety of issues regarding MMT and the corrections program (See appendix 1). Responses are on a 7-point Likert scale (1 = "Strongly Agree", 7 = "Strongly Disagree"). The survey also includes questions on job classification, ethnicity, age class, and education, and a blank section within which respondents could enter additional comments.

*Knowledge.* Many people harbor misconceptions regarding heroin addiction and MMT. Eleven questions were used to construct a 77-point scale regarding knowledge of MMT and heroin addiction. These also query the respondent about the euphoric and sedative effects of methadone, side effects, other uses of methadone, and appropriate treatment for pregnant women. These questions have clear correct or incorrect answers to which one can either agree or disagree, thus demonstrating the level of knowledge regarding methadone.

*Attitudes.* Fifteen questions were used to construct a summated attitudes score that measures expectancies regarding the jail MMT program and the effectiveness

of MMT for heroin addiction. There is no obvious correct or incorrect attitudes score, since these are value judgments, but questions are scored such that higher scores indicate a positive attitude towards MMT.

*Readiness to adopt.* The jail MMT program will be implemented in the study jail, regardless of the wishes of jail health services and the security personnel. The goal is to determine the extent to which the jail staff adopts the policy simply because it is imposed upon them, versus adopting it as a useful and effective strategy for treating heroin addicts in the jail system. It is imperative that the staff is prepared to implement the MMT program when put into place so that costly and potentially dangerous logistical barriers are not introduced by resistant staff. A series of fifteen questions were asked to determine the receptiveness to MMT in the jail and as a public health policy.

#### *Survey methods*

The survey was administered in a large, urban jail located in the Southwestern United States over a two-week period in the spring of 2003. The total jail system, comprising three jails, employs approximately 8000 men and women, including volunteers, and has an approximate annual intake of 40,000 bookings. The largest of the three jails was selected for the survey administration. Jail administrators estimate that approximately 10% of inmates are enrolled in MMT at the time of booking. Staff rotate among the three jails, which precludes any estimate of response rates. The demographic characteristics of the survey respondents could not be compared to the jail staff population, since the jail administration does not maintain any information on the staff demographics.

Initial discussions with the jail administration and staff indicated apprehension among staff, if identifiers are included in the survey that could allow someone to link attitudes about jail policy to each respondent. Jail staff was also concerned that the survey would be used to evaluate them in their jobs. This was particularly the case among women, who are relatively under-represented among the jail security staff. To address this no names, gender information, or other potentially identifying information was included in the survey.

Blank surveys were deposited in the staff lunchroom, used by all jail staff, one week prior to collection. A research assistant participated in five shift-change staff meetings, mandatory for all staff, to explain the purpose of the survey, anonymity, and compensation. Shift changes occurred from 6–8 a.m., 2–4 p.m., and 11 p.m. to 1 a.m. Holiday and illness-related absenteeism was not adjusted for in this survey. Although the staff were told that only jail security and health services personnel are eligible to complete the survey, some additional staff also chose to complete the survey. This 'other' staff comprised administration, clerical, maintenance, and the food services staff. Surveys were collected one week after the initial promotion.

Two research assistants paid each respondent who provided a valid ID, \$5 for a completed survey. Each respondent's name was crossed off a staff list provided by the administrators, to avoid duplicate submissions, but names were not indicated on the completed surveys.



### Data analysis

The psychometric properties of the KAR survey were determined using Cronbach's alpha (Cronbach, 1951). An item-total correlation cutoff of 0.7 was used for each question within each domain. Survey questions that showed poor item-total correlations (i.e., less than 0.7) were eliminated due to poor consistency with the domain in question. This insured that the Knowledge, Attitudes, and Readiness to Adopt domains had acceptable internal consistency. MANOVA models were fit to the scores on each domain with job class, age category, ethnicity, and education included as factors. The generalized likelihood ratio test, also known as Wilks' Lambda (Wilks, 1932), was used to test the null hypothesis that the mean vectors, with elements Knowledge, Attitudes, and Readiness to Adopt, are identical across groups. Finally, a path-analytic model was fit to the data to determine the correlations among the job class and the demographic factors as well as among each domain. The path model was reduced by backward elimination as long as adequate model fit was sustained as measured by the Pearson's Chi-Square statistic, Comparative Fit Index (CFI), the Normed Fit Index (NFI), and Non-Normed Fit Index (NNFI) (Hatcher & Stepanski, 1994). All database management and data analysis was conducted using the SAS® software.

### Results

#### The sample

One hundred and fourteen jail staff provided complete surveys that were used in this analysis (Table I). Each job class was approximately equally represented across age groups, with most employees who completed the survey in the 25 to 44 year age range. Non-Hispanic whites were much more highly represented among the health services staff (60%) than among the security (20.6%) personnel ( $p < 0.01$ ). College

Table I. Demographic properties of the sample by job class.  $N = 114$ .

		Job class		
		Health services	Security	Other
Age category (years)		<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)
	< 24	4 (16.0)	8 (11.0)	5 (31.2)
	25-34	7 (28.0)	31 (42.5)	4 (25.0)
	35-44	6 (24.0)	24 (32.9)	2 (12.5)
	45-54	6 (24.0)	7 (9.6)	4 (25.0)
	55+	2 (8.0)	3 (4.11)	1 (6.25)
Ethnicity*				
	Non-Hispanic white	16 (64.0)	17 (23.3)	7 (43.8)
	Hispanic	9 (36.0)	50 (68.5)	8 (50.0)
	Other	0 (0.0)	6 (8.2)	1 (6.2)
Education*				
	High School / GED	1 (4.0)	30 (41.1)	4 (25.0)
	Some College	6 (24.0)	36 (49.3)	7 (43.8)
	College Graduate	8 (32.0)	3 (4.1)	1 (6.2)
	At least some Graduate school	10 (40.0)	4 (5.5)	4 (25.0)
Total <i>N</i>		25	73	16

Table II. Means, standard deviations, inter-correlations, and coefficient alpha reliability estimates for the domains of Knowledge, Attitudes, and Readiness to Adopt. Alpha coefficients are shown in parentheses.  $N=114$ .

Domain	Mean	SD	Knowledge	Domain attitudes	Readiness to adopt
Knowledge	52.5%	10.8	N/A	0.44 *	0.29*
Attitudes	40.7	12.0	-	(0.73)	0.66*
Readiness to adopt	35.7	13.7	-	-	(0.85)

\* $P < 0.01$ .

graduates and those with at least some graduate school were also much more heavily represented in the health services staff than the security or any 'other' staff ( $p < 0.01$ ).

#### *Psychometric properties of the KAR scales*

Table II shows results of the item analysis of the survey results. No item analysis was performed on the Knowledge scale, since questions are clearly correct or incorrect, although Q32 was removed, as there is no clearly correct answer. The Attitudes and Readiness to Adopt domains showed high levels of internal consistency (Cronbach's alpha = 0.73 and 0.85) after eliminating three (Q3, Q7, Q16) and four (Q38, Q2, Q1, Q15) questions, respectively. Pearson's correlation coefficients between all pairs of summated scores were positive and highly statistically significantly different from zero. The highest correlations were found between the Attitudes and the Readiness to Adopt scales. This is not surprising, since each domain addresses the extent to which the respondent is positive and enthusiastic about MMT for the treatment of heroin addicts.

#### *Results of selected questions*

Responses to several questions are particularly revealing regarding how jail staff perceive MMT. Question 5 "My tax dollars should support methadone treatment for heroin addiction" had 58.8% saying that they "Strongly disagree". This contrasts with Question 15: "I want my community leaders to do something to decrease heroin problems", about which 60.2% "Strongly agree." Responses to Question 9, "People who overdose on heroin get what they deserve," were highly polarized between those who agreed and those who disagreed; 54.8% of security personnel agreed with this statement compared to only 12% of the health services staff (Pearson's chi-square  $P < 0.01$ ).

#### *Qualitative analysis*

Table III shows mean responses on each of the domains used in this study. Also shown are MANOVA results testing the null hypothesis that mean vectors are the same among levels of each factor, after adjusting for the other factors included in the analysis. Health services staff score higher than security staff on each domain (Wilks' Lambda,  $P < 0.05$ ), indicating an overall more positive perspective on jail MMT among health care professionals. Scores on each domain also increase with age.

Table III. Mean Knowledge, Attitudes, and Readiness to Adopt responses and MANOVA results by job class, age category, ethnicity, and education.  $N=114$ .

Factor	Level	Knowledge	Domain attitudes	Readiness to adopt
		Mean % (SD)	Mean (SD)	Mean (SD)
Job class*				
	Health services ( $n=25$ )	61.5 (12.0)	45.6 (12.7)	38.9 (14.3)
	Security ( $n=73$ )	49.3 (8.4)	38.3 (11.8)	33.9 (13.6)
	Other ( $n=16$ )	53.2 (10.9)	44.4 (8.4)	39.0 (12.0)
Age category (year)**				
	< 24 ( $n=17$ )	50.3 (9.8)	41.9 (6.9)	37.6 (10.7)
	25-34 ( $n=42$ )	51.5 (10.4)	36.6 (11.9)	32.4 (9.9)
	35-44 ( $n=32$ )	50.5 (10.2)	39.3 (10.8)	31.8 (14.2)
	45-54 ( $n=17$ )	57.9 (10.9)	49.6 (11.5)	47.4 (15.9)
	55+ ( $n=6$ )	61.0 (13.8)	48.5 (16.5)	41.2 (17.2)
Ethnicity				
	Non-Hispanic White ( $n=40$ )	55.3 (12.6)	43.5 (12.5)	39.0 (15.1)
	Hispanic ( $n=67$ )	51.3 (9.5)	39.3 (11.3)	33.9 (12.3)
	Other ( $n=7$ )	48.4 (9.8)	38.3 (14.1)	34.6 (15.9)
Education**				
	High school ( $n=35$ )	49.3 (9.0)	36.2 (11.1)	33.8 (12.8)
	Some college ( $n=49$ )	50.3 (8.9)	39.9 (11.5)	31.9 (11.9)
	College graduate ( $n=12$ )	61.0 (12.7)	44.4 (13.9)	36.9 (15.3)
	At least some graduate school ( $n=18$ )	59.1 (12.3)	49.2 (9.0)	48.9 (11.2)

MANOVA Wilks' Lambda test.

\* $P<0.05$ .\*\* $P<0.01$ .

Respondents in the 45 years or older categories show markedly higher scores than younger individuals (Wilks' Lambda,  $P<0.001$ ). Mean vectors were higher among college graduates and those with at least some graduate school, compared to other education levels (Wilks' Lambda,  $P<0.001$ ). There were no statistically significant ethnic differences among the mean vectors.

A path model relating job class and demographic factors to each domain of the KAR, as well as inter-relationships among the KAR domains was fit to the survey data. Based on the results shown in Table III, age was converted to a binary variable (0 = younger than 45 years, 1 = 45 years and older), as was education (0 = no college degree, 1 = college degree or graduate school). Members of the "Other" job class ( $N=16$ ) were eliminated from the path analysis and the job class was converted to a binary variable (0 = Security staff, 1 = Health services staff).

The final path model was chosen by backward elimination (Figure 1). This model shows adequate goodness-of-fit to the data (Chi-Square = 8.1, 6 d.f.,  $p=0.23$ ; CFI = 0.99; NFI = 0.96; NNFI = 0.97). Health care services staff scored on average 0.46 standard deviations higher than security staff on the Knowledge scale. The older individuals ( $\geq 45$  years of age) had more positive attitudes and displayed on average greater knowledge than the younger subjects. Higher knowledge scores was associated with more positive attitudes among respondents. Scores on the Attitudes and Readiness to Adopt scales were positively associated with one another. On an average, for each unit increase on the Attitudes scale, there was an associated increase of 0.64 standard deviations on the Readiness to Adopt scale. The respondents with a

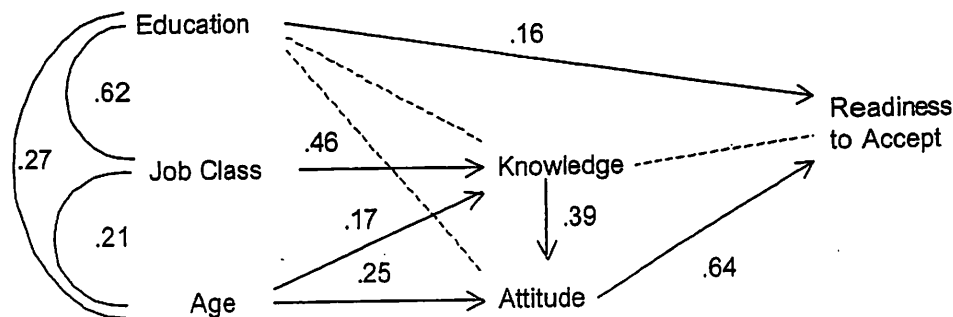


Figure 1. Reduced path model. Curved lines indicate correlations among exogenous variables. Straight lines indicate exogenous-endogenous and endogenous-endogenous variable correlations. Dashed lines indicate hypothesized paths that were not statistically significant.

college degree or even higher were found to score 0.16 standard deviations higher on the Readiness to Adopt scale.

Twenty-six of the 114 survey respondents added written comments to the survey. Several themes underlie these comments, and a few are worth describing. Several respondents displayed a poor understanding of MMT and how the MMT program would be implemented in the jail. Among these respondents, several asked to be educated on heroin addiction and on MMT. Others believed that the MMT program would include all heroin addicts upon entry into the jail, and described anecdotes of heroin addicts attempting to deceive medical staff, so that they could begin MMT in jail. One respondent opined that after this program is implemented, heroin addicts will purposely get themselves arrested when they cannot sustain their heroin habit, just so that they can avoid withdrawal symptoms.

Many respondents described a tremendous amount of animosity towards drug addicts and lumped MMT recipients together with heroin addicts and criminals. This animosity translates directly into heavy opposition to jail MMT, or any other such program that might ease the symptoms of methadone withdrawal syndrome. A security staff member said, "They are weak (mentally, emotionally, and even physically). They carry around that, 'poor me' attitude. ... Whether they are rich or poor or anywhere in between they are all the same 'weak!'" Another security staff member agreed with this sentiment: "I feel if you are a drug addict and require methadone it should be a law [to require them to be sterilized]. Babies should not pay for their parents drug addiction".

Respondents showing this animosity generally believe that the inmates should be forced to suffer through withdrawal symptoms as a punishment for the choice of using heroin. "They put themselves in the situation (stealing for the habit). Let them go through the pain of withdrawal". "The inmates made a choice to do heroin, so I think they should have to deal with getting sick".

Other respondents were concerned about the abuse potential of methadone as a euphoria-inducing narcotic, and of security concerns that might follow. "Methadone is just another crutch, another way to stay numb". Another respondent sees diverted methadone as another cash source for trade in contraband. Several respondents shared distasteful anecdotes of methods of diverting methadone, including inducing and consuming vomit or saliva, or selling urine samples to make false claims of being on MMT at booking. Several respondents were concerned that jail MMT

would actually increase recidivism rates since MMT recipients would no longer fear withdrawal symptoms, once MMT was in place in the jail.

## Discussion

A revised version of the anonymous KAR survey administered in this study containing 37 questions was found to be psychometrically sound, and collected much useful information regarding staff knowledge, attitudes, and readiness to adopt an in-jail MMT. According to a recent National Institutes of Justice report, new, as well as established, residential substance abuse treatment programs are most effective when implemented with a high level of administrative support and with well-trained staff (Harrison & Martin, 2003). It is clear from the analysis of the individual survey questions as well as the open-ended comments that jail staff members have strong opinions about drug treatment in the correction setting. Results of this study suggest several steps towards improving staff support for MMT. These results suggest that the jail staff need to be better educated regarding methadone and other opiate replacement therapy as effective treatments for heroin addiction. Several employees actually requested this.

The path analysis indicates that attitudes (as measured by the Attitudes scale) directly influences the readiness to adopt MMT as a solution for addicts, and that knowledge has a similar effect, via its influence on Attitudes. Education has a direct effect on Readiness to Adopt that is independent of Knowledge and Attitudes. Knowledge is not restricted to the mechanics of treating heroin addicts with methadone, but includes the rationale for treating heroin addicts with methadone with the goal of developing an understanding drug addiction as a chronic illness (Harrison & Martin, 2003). Education programs should target the younger staff, since they generally showed lower knowledge scores on the KAR survey. Improving knowledge of the MMT among the jail staff will serve the secondary purpose of improving attitudes towards MMT, which our analysis shows directly, influences Readiness to Adopt MMT in the jail.

Negative Attitudes towards MMT appear to be related to negative judgments about the clients the program serves. The survey results indicate that people don't object to MMT *per se*, but they object to drug users in general, and heroin users in particular, getting any kind of treatment that might seem to condone their behaviour. An unexpected finding was that the older jail staff were much more sympathetic to MMT, than the younger staff. Since the survey did not collect information on the length of time on the job, it was not possible to determine whether longer experience dealing with inmates may alter attitudes regarding their treatment. While unexplained, the finding that older staff members appear to have more positive attitudes towards MMT and heroin addiction provides an opportunity to enlist more experienced and respected staff persons to serve as "champions" for MMT programs in corrections settings. This would be accomplished by social learning from older to younger staff.

These results may be generalized to other corrections settings in the United States. There is a very high prevalence of heroin use in New Mexico (New Mexico Dept. of Health, 2000) and it is likely that all the jail staff have had some contact with MMT patients and heroin addicts. Therefore, the staff members are likely to have strong opinions about in-jail MMT programs. There is no reason to expect that the

jail staff in other states, who have regular encounters with opiate addicts, would have different views regarding opiate addiction and MMT.

This study has some limitations. The assignment of individual questions to different domains on the KAR survey is open to interpretation. This could be addressed as subsequent jail staff surveys are developed. The sample size ( $n=114$ ) is small, due to a relatively narrow window of opportunity for administering the survey, and may also be attributed to lingering concerns about the confidentiality of the survey results. Un-opinionated jail staff, or those uninformed about the intended MMT program in the jail, may be less likely to participate in the survey, but there is no reason to expect that this self-selection process biases the survey results for or against MMT in the jail.

In conclusion, the jail staff must fully understand and appreciate the rationale for implementing MMT. A positive attitude, which is directly influenced by knowledge of MMT, is most strongly associated with the readiness to accept an MMT program. the Improving attitudes among the jail staff is anticipated to reduce staff resistance to in-jail MMT and enhance the effectiveness of in-jail MMT programs, so that the social and public health benefits of drug treatment can be fully realized. ✓

#### Appendix 1:

Survey content. K="Knowledge", A="Attitudes", R="Readiness to adopt" domains.

1*	R	Heroin use is a problem in [city].
2*	R	Heroin use is a problem in my neighbourhood.
3*	A	Methadone treatment substitutes one addictive drug for another.
4	K	Methadone is the best treatment for heroin addiction.
5	R	My tax dollars should support methadone treatment for heroin addiction.
6	R	All heroin addicts who want methadone should be able to get it.
7*	A	The final goal of methadone treatment should be abstinence from all drugs.
8	K	Methadone is a drug that can be used for getting high.
9	A	People who overdose on heroin get what they deserve.
10	R	Methadone should be made more available.
11	K	People on methadone are too "zoned out" to work.
12	K	When a woman on methadone becomes pregnant she should quit using it.
13	R	I personally want to do something to decrease heroin problems.
14	K	A methadone dose should be high enough to prevent withdrawal symptoms.
15*	R	I want my community leaders to do something to decrease heroin problems.
16*	A	I admire people who kick their heroin habit.
17	R	Heroin addicts who enter methadone treatment are healthier than those who do not.
18	K	Heroin addiction is a disease.
19	R	Methadone should be used to treat heroin addiction.
20	K	Heroin addiction is a moral weakness.
21	K	Methadone can only be used safely for a short time.
22	A	I admire people who join a methadone program to kick their heroin habit.
23	K	A maintenance dose of methadone gets people high.
24	K	Methadone can treat alcohol and cocaine as well as heroin addiction.
25	R	Heroin addicts on methadone are less likely to develop HIV/ AIDS.
26	K	Heroin addicts on methadone die at a younger age than people on heroin.
27	K	Methadone causes bone and tooth decay.
28	K	Longer periods of methadone maintenance are better than shorter periods for preventing relapse.
29	K	Methadone clients should not be allowed to operate heavy machinery or to drive a car.
30	A	Heroin addicts should just quit. It doesn't make much sense to use methadone.
31	A	The way methadone is dispensed is so restricted that it's not worth using.

(continued)

32*	K	Methadone withdrawal is worse than heroin withdrawal.
33	R	Methadone should be advertised to heroin addicts as a treatment.
34	R	This methadone program can transition successfully into a jail setting.
35	R	Heroin overdoses will decrease after the methadone program is underway.
36	A	The potential for inmate abuse outweighs the potential benefit of the methadone program.
37	A	The methadone program will increase security risks.
38*	R	I support the methadone program only because I am required to.
39	A	The methadone program will increase medical problems.
40	A	The methadone program will lead to fewer inmate infractions.
41	A	Inmates in the methadone program will re-offend at the same rate as those who withdraw cold turkey.
42	R	In the long run, the methadone program will benefit inmates.
43	A	Staff will restrict access to methadone to control inmates.
44	A	No matter how many safeguards there are, inmates who aren't supposed to receive methadone will get it.
45	A	The safeguards built into the methadone program are adequate to prevent illicit use.

\*Questions eliminated from analysis.

### Acknowledgements

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**Journal id: GART: 41042**

Query number	Query
1	"Each respondent's name was crossed off a staff list provided by the administrators, so that duplicate submissions could be prohibited, but names were not indicated on the completed surveys" changed to "Each respondent's name was crossed off a staff list provided by the administrators, to avoid duplicate submissions, but names were not indicated on the completed surveys" — Please check whether the change is okay?



MAT in Justice Settings  
*Inventory of programs using Vivitrol and Suboxone*

# Inventory of Criminal Justice Programs Using Suboxone

Organization/Affiliation	State	Payment Source
Brunswick County, NC	NC	State, County
Hillsborough County Drug Court	FL	SAMHSA Drug Court Grant
Miami Drug Court	FL	County, City, Foundation and Self Pay
Armor Corrections Health Services	FL	County, City
Probation Clinical Supervisor, Maricopa County	AZ	County
North County Drug Court	CA	County
Vista Drug Court	CA	County
Superior Court of California, San Diego County	CA	County
Central Valley Prison System	CA	County
Denver Drug Courts	CO	ATR grant
Boulder Drug Court	CO	ATR grant
Colorado Springs Drug Court	CO	ATR grant
Bernalillo Jail and Detention Center	NM	County
Las Cruces Jail and Detention Center-Prison Health Services	NM	State, county, private pay
Marion County Drug Court	OR	State, county, private pay
Drug Court Case Manager for CODA	OR	County, City
Multnomah County Health Dept.	OR	ATR grant
Washington County Drug Court	OR	County, Self-Pay
Harris County Divert Program	TX	Private pay, Ins, Medicaid
Tarrant County CSCD	TX	County funds, private pay
King Couty Drug Diversion Court	WA	State funding, ins, private pay
Framingham District Court	MA	State funding, ins, private pay
Concord District Court	MA	State funding, ins, private pay
Somerset Court	MA	State funding, ins, private pay
Somerville Court	MA	State funding, ins, private pay
State of Maine Dept. of Corrections	ME	ATR grant
Loyola Diversion Program	NY	State funding, ins, private pay
Suffolk County Jail	NY	County funds, private pay
Tompkins County Jail	NY	County, Self-Pay
Health Masters, Inc	PA	County, Self Pay
Franklin County Day Reporting Center	PA	County
Erie County D&A	PA	County, Self Pay
RI MHRH	RI	ATR grant
Bergen County Jail	NJ	
Boston Superior Court	MA	County, State and Self Pay
Sheridan Correctional Facility	IL	Medicaid, Self Pay
Frontline Foundations	IN	ATR Grant
Cass County Probate Court	MI	County and Self Pay
Oakland Count 52 Dist. Court	MI	County and Self Pay
28th District Court	MI	
Franklin County Common Pleas Court	OH	State, County and Self-Pay
Union county Criminal Court	OH	
Delaware County Juvenile Court	OH	
Fairfield County Municipal Court	OH	
Pickaway County Juvenile Court	OH	
Circleville Municipal Court	OH	
Hocking County Municipal Drug Court	OH	
Mahoning County D&A	OH	
HRS Inc.	OH	
Mental Health and Recovery Services Board of Delaware and Morrow Counties	OH	
Franklin County ADAMH Board	OH	
Cuyahoga County Family Drug Court	OH	
Fairfield County ADAMH Board Dir.	OH	
Alcohol and Drug Addiction Services of Cuyahoga County		
Geauga County Board of Mental Health and Recovery Services		
Lake County ADAMH Board		
Cleveland Municipal Drug Court		

<b>State-led VIVITROL Initiatives</b>			
<b>Affiliation</b>	<b>Role</b>	<b>State</b>	<b>Project/s Description</b>
Missouri Department of Mental Health, Division of Alcohol and Drug Abuse	Funding; Administrator	MO	Statewide implementation of VIVITROL for both alcohol and opioid dependence. VIVITROL is paid for by the state for those under probation and parole supervision and for the uninsured. Program began in July 2008
Florida Department of Children and Families, Substance Abuse Program Office	Funding; Administrator	FL	VIVITROL offered in multiple centers in FL for high-risk, uninsured high-need alcohol dependent patients. Will expand to criminal justice and veterans populations with recently-awarded ATR grant. Program began in 2007
New Jersey Department of Human Services, Division of Addiction Services	Funding; Administrator	NJ	VIVITROL for 100 DUI offenders for a six month period
Division of Mental Health, Developmental Disabilities and Substance Abuse	Funding; Administrator	NC	VIVITROL for the treatment of alcohol dependence
Division of Mental Health and Substance Abuse Services	Funding; Administrator	WI	Will make funding available during 2011 to counties to provide VIVITROL as part of enhanced treatment
<b>County-level VIVITROL Initiatives</b>			
Los Angeles County Department of Public Health, Substance Abuse Prevention and Control	Research; Administrator	CA	VIVITROL and case management for repeat detox population. As a separate initiative, planning to use VIVITROL to treat 75 opioid dependent offenders as part of a demonstration program in 12 drug courts
Montgomery County	Funding; Administrator	MD	VIVITROL provided for high-risk/high need alcohol dependent patients including drug court clients
Carroll County	Funding; Administrator	MD	VIVITROL provided for high-risk/high need alcohol dependent patients
Washington County, Division of Addiction and Mental Health Services	Funding; Administrator	MD	VIVITROL to be provided to reentering offenders leaving the county detention center, with the first injection planned prior to release. Continuing care with VIVITROL to occur in the community
Blair County Drug and Alcohol Bureau	Funding; Administrator	PA	VIVITROL for alcohol dependent offenders in Drug Court. PA Commission on Crime and Delinquency pays for Vivitrol
Fayette County Drug and Alcohol Bureau	Funding; Administrator	PA	VIVITROL for opioid dependent patients. PA Bureau of Drug and Alcohol pays for Vivitrol.
Franklin/Fulton Drug and Alcohol Bureau	Funding; Administrator	PA	Vivitrol for alcohol and opioid dependent parolees. Act 198 funds and PA Bureau of Drug and Alcohol pays for Vivitrol.
Pennington County Sheriff's Department, City/County Alcohol and Drug Programs	Funding; Administrator	SD	VIVITROL for high-risk/high need alcohol dependent patients; Medication provided at Federally Qualified Health Center (FQHC)
Milwaukee County Behavioral Health	Funding; Administrator	WI	VIVITROL for clients in Milwaukee County Drug Courts

Warren County, OH, Mental Health Recovery Centers	Clinic Administrator	OH	VIVITROL to be provided to reentering offenders leaving the county detention center, with the first injection planned prior to release. Continuing care with VIVITROL to occur in the community
Corssroads Behavioral Healthcare	Clinic Administrator	NC	VIVITROL for the treatment of alcohol dependence; Medication provided at a Federally Qualified Halth Center (FQHC)

### Drug Courts and other VIVITROL Initiatives

Missouri Department of Corrections	Justice System Funding & Administrator	MO	Provides funding for VIVITROL treatment program to the Missouri Department of Mental Health via Inmate Revolving Fund
Banyan Health Systems	Clinic Administrator	FL	Program provides treatment with VIVITROL through the Florida Indigent Drug Program
Banyan Health Systems	Research & Clinical Expert	FL	Program provides treatment with VIVITROL through the Florida Indigent Drug Program
Missouri Supreme Court; National Association of Drug Court Professionals; Office of State Court Administrator	Drug Court Judge	MO	Statewide implementation of VIVITROL for both alcohol and opioid dependence. VIVITROL is paid for by the state for those under probation and parole supervision and for the uninsured. Program began in July 2008
St Louis Drug Court	Drug Court Judge	MO	VIVITROL for Drug Court Offenders; Judge Sullivan's court participated in an evaluation of VIVITROL in Drug Courts
St Louis Drug Court	Drug Court Administrator	MO	VIVITROL for Drug Court Offenders; Ms. Williams' court participated in an evaluation of VIVITROL in Drug Courts
St Charles DWI Court	Drug Court Judge	MO	VIVITROL for DWI Court Offenders
Green County DWI Court	Drug Court Judge	MO	VIVITROL for DWI Court Offenders; Judge Davis' court participated in an evaluation of VIVITROL in Drug Courts
Green County DWI Court	Drug Court Administrator	MO	VIVITROL for Drug DWI Offenders; Ms. Gibson's court participated in an evaluation of VIVITROL in Drug Courts
Southgate Drug Court	Drug Court	MI	VIVITROL for Drug Court Offenders; Judge Kandreas' court participated in an evaluation of VIVITROL in Drug Courts
Southgate Drug Court	Drug Court	MI	VIVITROL for Drug Court Offenders; Mr. Gibbs' court participated in an evaluation of VIVITROL in Drug Courts
Warren Felony Drug Court	Drug Court	MI	VIVITROL for Drug Court Offenders; Judge Gruenburg's court participated in an evaluation of VIVITROL in Drug Courts
Eaton County DWI Court	DWI Court Judge	MI	VIVITROL for DWI Court Offenders; Judge Hoffman's court participated in an evaluation of VIVITROL in Drug Courts
St Louis Drug Court	Drug Court	MO	VIVITROL for DWI Court Offenders; Judge Noble's court participated in an evaluation of VIVITROL in Drug Courts
Stoddard County Drug Court	Drug Court	MO	VIVITROL for DWI Offenders
Stone County Drug Court	Drug Court	MO	VIVITROL for Drug Court Offenders
Dane County OWI Court	Drug Court	WI	Vivitrol for 3rd time OWI offenders
Milwaukee Drug Court	Drug Court	WI	Vivitrol for Drug Court Offenders

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Bennett W. Fletcher, PhD

Nora D. Volkow, MD

**T**HE PAST 20 YEARS HAVE SEEN significant increases in the numbers of individuals incarcerated or under other forms of criminal justice supervision in the United States. These numbers are staggering—approximately 7.1 million adults in the United States are under some form of criminal justice supervision.<sup>1</sup> The large increase in the criminal justice population reflects in part tougher laws and penalties for drug offenses.<sup>2</sup> An estimated one-half of all prisoners (including some sentenced for other than drug offenses) meet the criteria for diagnosis of drug abuse or dependence (TABLE 1).<sup>3,4</sup>

During the past 20 years, fundamental advances in the neurobiology of addiction have been made. Molecular and imaging studies have revealed addiction as a brain disorder with a strong genetic component, and this has galvanized research on new pharmacological treatments. However, a large disconnect remains between addiction research and the treatment of addiction in general, particularly within the criminal justice system. This is evidenced in that most prisoners (80%-85%) who could benefit from drug abuse treatment do not receive it.<sup>3,4</sup> In addition, drug-using offenders are at high risk for infectious diseases such as human immunodeficiency virus (HIV)

Despite increasing evidence that addiction is a treatable disease of the brain, most individuals do not receive treatment. Involvement in the criminal justice system often results from illegal drug-seeking behavior and participation in illegal activities that reflect, in part, disrupted behavior ensuing from brain changes triggered by repeated drug use. Treating drug-involved offenders provides a unique opportunity to decrease substance abuse and reduce associated criminal behavior. Emerging neuroscience has the potential to transform traditional sanction-oriented public safety approaches by providing new therapeutic strategies against addiction that could be used in the criminal justice system. We summarize relevant neuroscientific findings and evidence-based principles of addiction treatment that, if implemented in the criminal justice system, could help improve public health and reduce criminal behavior.

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and hepatitis C<sup>5</sup> and frequently have comorbid psychiatric disorders,<sup>6,7</sup> which further highlights the dire treatment needs of this population.

Not treating a drug-abusing offender is a missed opportunity to simultaneously improve both public health and safety. Integrating treatment into the criminal justice system would provide treatment to individuals who otherwise would not receive it, improving their medical outcomes and decreasing their rates of reincarceration.<sup>8</sup>

### Recidivism in the Drug-Abusing Offender

The inadequacy of incarceration by itself in addressing drug abuse or addiction is evident in the statistics. A review of recidivism in 15 states found that one-quarter of individuals re-

leased returned to prison within 3 years for technical violations that included, among other things, testing positive for drug use.<sup>9</sup> Illicit drugs are used in jails and prisons despite their highly structured, controlled environments,<sup>10</sup> but even enforced abstinence can mislead criminal justice professionals as well as addicted persons to underestimate the vulnerability to relapse postincarceration. On release from prison or jail, addicted persons will experience challenges to their sobriety through multiple stressors that increase their risk of re-

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**Table 1. Inmate Drug Use, Abuse/Dependence, and Treatment**

Inmate Type	No. (%)			
	Drug Use		Drug Abuse or Dependence	
	At Time of Offense	In Month Prior to Offense	Met Criteria	Received Treatment While Incarcerated
Local jail inmates <sup>a,b</sup>	128 030 (29)	242 720 (55)	245 830 (55)	16 520 (7)
State inmates <sup>c</sup>	393 610 (32)	686 670 (56)	642 500 (53)	95 090 (15)
Federal inmates <sup>c</sup>	84 140 (26)	64 910 (50)	57 200 (46)	9950 (17)

<sup>a</sup>Convicted jail inmates only. If all jail inmates are included, 50% were under the influence of drugs at the time of the offense, and about two-thirds were regular users.

<sup>b</sup>Weighted estimates derived from the US Bureau of Justice Statistics Survey of Inmates in Local Jails, 2002.<sup>3</sup> A stratified sample of 6982 inmates were interviewed (9.9% refusal rate) in 417 jails (of 465 selected). Survey methodology is described in Karberg and James.<sup>3</sup>

<sup>c</sup>Weighted estimates derived from the US Bureau of Justice Statistics Survey of Inmates in State and Federal Correctional Facilities, 2004.<sup>4</sup> In the state prison sample, a total of 14 499 inmates were interviewed (10.2% refusal rate) in 287 state prisons (of 301 selected). In the federal prison sample, a total of 3686 inmates were interviewed (13.3% refusal rate) in 39 federal prisons (of 40 selected). Survey methodology is described in Munoz and Karberg.<sup>4</sup>

lapsing to drug use. These include the stigma associated with being labeled an ex-offender, the need for housing and legitimate employment, stresses in reunifying with family, and multiple requirements for criminal justice supervision.<sup>11,12</sup>

Returning to neighborhoods associated with preincarceration drug use places the addicted individual in an environment rich in drug cues. As discussed below, these conditioned cues automatically activate the reward/motivational neurocircuitry and can trigger an intense desire to consume drugs (craving).<sup>13</sup> The molecular and neurobiological adaptations resulting from chronic drug use persist for months after drug discontinuation,<sup>14</sup> and evidence exists that compulsive seeking of drugs when addicted individuals are reexposed to drug cues progressively increases after drug withdrawal.<sup>15</sup> This could explain why many drug-addicted individuals rapidly return to drug use following long periods of abstinence during incarceration and highlights the need for ongoing treatment following release.

### Drug Abuse Treatment Effectiveness in the Criminal Justice System

Research over the last 2 decades has consistently reported the beneficial effects of treatment for the drug abuser in the criminal justice system.<sup>16,17</sup> These interventions include therapeutic alternatives to incarceration, treatment merged with judicial oversight in drug

courts, prison- and jail-based treatments, and reentry programs intended to help offenders transition from incarceration back into the community.<sup>8,18</sup> Through monitoring, supervision, and threat of legal sanctions, the justice system can provide leverage to encourage drug abusers to enter and remain in treatment.

Behavioral treatments are the most commonly used interventions for addressing substance use disorders. Evidence-based behavioral interventions include cognitive therapies that teach coping and decision-making skills, contingency management therapies that reinforce behavioral changes associated with abstinence, and motivational therapies that enhance the motivation to participate in treatment and in non-drug-related activities.<sup>19,20</sup> Many residential treatment programs rely on the creation of a "therapeutic community" based on a social learning model.<sup>21</sup> Medications such as methadone, buprenorphine, and naltrexone are beneficial for the treatment of heroin addiction and naltrexone and topiramate for the treatment of alcoholism.<sup>22-24</sup> Self-help programs such as Alcoholics Anonymous or SMART Recovery can be valuable adjuncts to formal drug treatment.<sup>25</sup>

Research has consistently shown that community-based drug abuse treatment can reduce drug use and drug-related criminal behavior.<sup>26</sup> A meta-analysis of 78 comparison-group community-based drug treatment studies found treatment to be up to 1.8 times

better in reducing drug use than the usual alternatives.<sup>20</sup> In a meta-analysis of 66 incarceration-based treatment evaluations, therapeutic community and counseling approaches were respectively 1.4 and 1.5 times more likely to reduce reoffending.<sup>27</sup> Drug courts combine judicial supervision with drug treatment as an alternative to incarceration; their graduates have rearrest rates about half those of matched comparison samples and much lower than those of drug court dropouts.<sup>28</sup> Individuals who participated in prison-based treatment followed by a community-based program postincarceration were 7 times more likely to be drug free and 3 times less likely to be arrested for criminal behavior than those not receiving treatment.<sup>29,30</sup>

The benefits of medications for drug treatment were shown in a recent randomized trial in which heroin-dependent inmates began methadone treatment in prison prior to release and continued in the community postrelease. At 1-, 3-, and 6-month follow-up, patients who received methadone plus counseling were significantly less likely to use heroin or engage in criminal activity than those who received only counseling.<sup>31-33</sup> The potential exists for immediate adoption of methadone maintenance for incarcerated persons with opioid addictions, but most prison systems have not been receptive to this approach.<sup>34</sup>

Economic analyses highlight the cost-effectiveness of treating drug-involved offenders.<sup>35</sup> On average, in-

carceration in the United States costs approximately \$22 000 per month,<sup>36</sup> and there is little evidence that this strategy reduces drug use or drug-related reincarceration rates for nonviolent drug offenders. By contrast, the average cost of methadone is \$4000 per month,<sup>37</sup> and treatment with methadone has demonstrated effectiveness in reducing drug use and criminal activity following release.<sup>31</sup> Alternatives to incarceration can also defray job productivity losses and the separation from family and social support systems.

The cost of integrating volunteer-led self-help organizations such as Alcoholics Anonymous and Narcotics Anonymous into criminal justice settings is nominal and could provide support to the recovery efforts of addicted persons in the criminal justice system. One dollar spent on drug courts is estimated to save approximately \$4 in avoided costs of incarceration and health care,<sup>38</sup> and prison-based treatment saves between \$2 to \$6.<sup>39</sup> These economic benefits in part reflect reductions in criminal behavior.<sup>40,41</sup>

### Access to Treatment

Drug education—not drug treatment—is the most common service provided to prisoners with drug abuse or addiction problems.<sup>4,42</sup> More than one-quarter of state inmates and 1 in 5 federal inmates meeting abuse/dependence criteria participate in self-help groups such as Alcoholics Anonymous while in prison.<sup>4</sup> However, though treatment during and after incarceration has been shown to significantly reduce drug use and drug-related crime, less than 20% of inmates with drug abuse or dependence receive formal treatment (Table 1).<sup>3,4</sup>

In a recent survey of correctional programs and organizations across the United States,<sup>42</sup> most correctional agencies reported providing some type of drug abuse treatment services; however, the median percentage of offenders who had access to those services at any given time was low, usually less than 10% (TABLE 2).<sup>42</sup> Even if a correctional institution does provide treatment, the continuity of treatment postincarceration, which is essential to recovery,<sup>16</sup> is often lacking when the drug-involved offender transitions from incar-

ceration to community supervision.<sup>43</sup> Failure to receive treatment on release increases the risk not only of relapse but also of mortality from drug overdose and other causes.<sup>44</sup>

Infectious diseases such as HIV and hepatitis C are associated with illicit drug use and occur at higher rates in correctional populations than in the general population,<sup>5</sup> but treatment for these conditions appears to fall short of need.<sup>45,46</sup> It is feasible to implement screening and treatment in correctional settings for HIV<sup>47,48</sup> and hepatitis C.<sup>49,50</sup> Continuity of treatment for released offenders with infectious disease is crucial not only for the individual's health<sup>51,52</sup> but also for the health of the community.<sup>43,53</sup>

There are many barriers to treatment for the drug-involved offender, including lack of the resources, infrastructure, and treatment staff (including physicians knowledgeable about addiction medicine) required to meet the drug treatment needs of individuals under their supervision. Addiction remains a stigmatized disease not often regarded by the criminal justice sys-

**Table 2. Access to Health, Mental Health, and Substance Abuse Treatment Services in Correctional Facilities<sup>a</sup>**

Service Type	Prisons (n = 98)		Jails (n = 57)		Community Corrections (n = 134)	
	Offer Services, % <sup>b</sup>	Access to Services, Median % <sup>c</sup>	Offer Services, % <sup>b</sup>	Access to Services, Median % <sup>c</sup>	Offer Services, % <sup>b</sup>	Access to Services, Median % <sup>c</sup>
Physical/mental health services						
HIV testing	89.1	68.7	73.4	22.0	42.0	12.1
HIV/AIDS counseling	80.6	50.1	80.3	27.6	45.2	12.9
Hepatitis C testing	98.2	79.6	74.1	23.3	39.0	11.5
Mental health assessment	99.8	86.5	94.6	39.8	63.6	19.7
Mental health counseling	98.3	58.9	94.5	31.1	63.9	18.6
Pharmacological treatment						
Methadone	8.9	<1.0	54.5	1.7	1.7	<1.0
Other medications for substance use disorder	12.4	NA	36.8	NA	2.4	NA
Medication for mental illness	80.3	NA	85.4	NA	7.8	NA
Substance abuse services						
Detoxification	12.2	<1.0	26.0	1.5	3.2	<1.0
Alcohol/drug education	74.1	8.3	61.3	4.5	53.1	8.8
Outpatient counseling						
≤4 h/wk	54.6	3.4	59.8	7.4	47.1	10.0
≥5 h/wk	47.1	2.7	22.5	10.8	21.6	8.8
Therapeutic community	26.9	6.6	26.3	3.0	5.7	11.1

Abbreviations: HIV, human immunodeficiency virus; NA, not applicable.

<sup>a</sup>Data provided from analyses of the National Criminal Justice Treatment Practices Survey of the Criminal Justice Drug Abuse Treatment Studies (F.S. Taaman, PhD, and M. Perdoni, MS, George Mason University, written communication, November 2008).<sup>42</sup>

<sup>b</sup>Percentage of facilities that indicated that the service or treatment was available.

<sup>c</sup>Median percentage of facility's average daily population who were provided the service or treatment.



enhanced sensitivity to drugs as rewards and the conditioning to associated drug cues increase the interoceptive awareness of discomfort (anxiety and tension) that occurs when the individual is exposed to drug cues and increase the desire to consume the drug.<sup>64</sup> Additionally, repeated drug use also affects brain regions implicated in mood and anxiety, which could explain the high rate of addiction comorbid with dysphoria, depression, or both and the vulnerability of the addicted person to relapse when exposed to social stressors.<sup>65,66</sup>

Impairment of the neural substrates affected by addiction—particularly those concerned with behavioral inhibition, control of emotions and desires, and decision-making—increases the likelihood that addicted individuals will make choices that appear impulsive.<sup>67,68</sup> This idea is supported by research in the emerging area of behavioral economics, which has found that addicted individuals differ from those who do not use drugs in how they make decisions. Addicted individuals tend to have higher levels of temporal discounting than those who do not use drugs; ie, they tend to choose immediate, smaller rewards over future, larger rewards.<sup>69</sup> High temporal discounting is also associated with impulsivity—the inability to delay immediate gratification and to recognize the potential for negative consequences.<sup>70</sup>

Many of the neurobiological changes associated with repeated drug use persist for long periods after drug discontinuation.<sup>71</sup> This helps explain why addicted individuals who have ceased drug use are at high risk of relapse and provides neurobiological support for the recognition of addiction as a chronic relapsing disease.<sup>72</sup>

What are the implications of neuroscience research for how society and clinicians might regard the addicted offender? There are at least 3 implications for how this emerging knowledge about the neurologic basis of addictive behavior is important.

First, of most importance, neuroscience's uncovering of new molecular targets implicated in the responses to drugs and of new knowledge on the function

#### **Box. NIDA Principles of Drug Abuse Treatment for Criminal Justice Populations**

Drug addiction is a chronic brain disease that affects behavior

Recovery from drug addiction requires effective treatment, followed by continued care

Duration of treatment should be sufficiently long to produce stable behavioral changes

Assessment is the first step in treatment

Tailoring services to fit the needs of the individual is an important part of effective drug abuse treatment for criminal justice populations

Drug use during treatment should be carefully monitored

Treatment should target factors associated with criminal behavior

Criminal justice supervision should incorporate treatment planning for drug-abusing offenders, and treatment providers should be aware of correctional supervision requirements

Continuity of care is essential for drug abusers reentering the community

A balance of rewards and sanctions encourages prosocial behavior and treatment participation

Offenders with co-occurring drug abuse and mental health problems often require an integrated treatment approach

Medications are an important part of treatment for many drug-abusing offenders

Treatment planning for drug-abusing offenders living in or reentering the community should include strategies to prevent and treat serious, chronic medical conditions such as human immunodeficiency virus/AIDS, hepatitis B and C, and tuberculosis

NIDA indicates National Institute on Drug Abuse. Principles adapted from Fletcher and Chandler.<sup>73</sup>

of the human brain provides new targets for medication development and behavioral interventions in addiction. Although many of the neurobiological changes associated with repeated drug use persist for long periods after drug discontinuation,<sup>71</sup> research suggests that the impaired brain can regain some of the functions damaged by use of illicit drugs over time.<sup>73</sup>

Second, neuroscience establishes a biological framework for understanding aspects of addictive behavior that otherwise seem to defy rational explanation. In the absence of known biological determinants, these behaviors often have been attributed to "moral weakness."<sup>74</sup> Identifying the neurologic factors underlying addictive behavior can place these moral arguments into a more reasoned context. Addiction does not absolve one of responsibility for use of illicit drugs or for

criminal behavior, but understanding how addictive drugs affect behavior through brain mechanisms can inform decisions to provide treatment to addicted individuals. For example, mandated treatment may be useful for drug-involved offenders who would otherwise not engage in the treatment process or make progress toward recovery. The persistence of neurologic deficits provides support for the recognition of addiction as a chronic disease and highlights the need for the same continuity of care so important in treatment of other chronic diseases (eg, asthma, hypertension).<sup>72</sup> It also suggests that agonist medications such as methadone are important treatments for addiction, even for individuals who have been under enforced abstinence during incarceration.

Third, neuroscience may help addicted individuals to better under-

search to help improve substance abuse treatment and to assist in the successful transition of the substance abuser to the community. To facilitate research in this area, the National Institute on Drug Abuse created the Criminal Justice Drug Abuse Treatment Studies research cooperative,<sup>78</sup> a network of correctional agencies linked with treatment research centers and community treatment programs.

Opiate agonist medications used for the treatment of heroin addiction such as methadone and buprenorphine are underused in correctional populations. Naltrexone, an opiate antagonist, was developed to treat heroin addiction but also has been approved for treating alcoholism. Naltrexone is likely to be more acceptable in the criminal justice setting than agonist medications. However, the poor compliance with naltrexone has limited its use in the treatment of heroin addiction. The recent development of a long-lasting depot formulation for naltrexone<sup>79,80</sup> obviates this limitation, and a multisite clinical trial (NCT00781898) is currently evaluating its effectiveness in heroin-addicted probationers. Another area of research intended to reduce relapse in addicted offenders is the development of vaccines against cocaine, methamphetamine, or heroin.

Several avenues currently exist for providing drug abuse treatment as an alternative to incarceration. Drug courts were intended to provide a bridge between drug treatment and adjudication; from the first drug court established in Miami in 1989, drug courts have increased in number to nearly 2000 today. States such as Arizona, California, and New York have created treatment alternatives to incarceration for first-time drug offenders, juvenile offenders, and others. Many states are coming under political pressure to reduce the costs associated with incarceration by diverting nonviolent drug offenders to treatment.

## Conclusions

Punishment alone is a futile and ineffective response to drug abuse,<sup>2</sup> fail-

ing as a public safety intervention for offenders whose criminal behavior is directly related to drug use.<sup>81</sup> Addiction is a chronic brain disease with a strong genetic component that in most instances requires treatment. The increase in the number of drug-abusing offenders highlights the urgency to institute treatments for populations involved in the criminal justice system. It also provides a unique opportunity to intervene for individuals who would otherwise not seek treatment.

The challenge of delivering treatment in a criminal setting requires the cooperation and coordination of 2 disparate cultures: the criminal justice system organized to punish the offender and protect society and the drug abuse treatment systems organized to help the addicted individual. Addressing addiction as a disease does not remove the responsibility of the individual, which is the argument frequently used to resist recognizing and treating addiction as an illness. Rather it highlights the personal responsibility of the addicted person to seek and adhere to drug treatment and that of society to ensure that such treatment is available and based on scientific evidence. Only a small percentage of those requiring treatment for drug addiction seek help voluntarily; in light of this, the criminal justice system provides a unique opportunity to intervene and disrupt the cycle of drug use and crime in a cost-effective manner.

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## Providing Access to Treatment for Opioid Addiction in Jails and Prisons in the United States

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The National Institutes of Health convened a consensus development panel in 1997, "Effective Medical Treatment of Opiate Addiction," which issued a statement indicating that addiction to opioids is not a matter of will power but a medical, brain-related disorder that should be treated like any other disease. The statement held: "For decades, opioid dependence was viewed as a problem of motivation, willpower, or strength of character. Through careful study of its natural history and through research at the genetic, molecular, neuronal, and epidemiological levels, it has been proven that opiate addiction is a medical disorder characterized by predictable signs and symptoms" (National Institutes of Health, 1997).

It has been scientifically established that opioid addiction can be effectively treated through a number of interventions, including the use of maintenance pharmacotherapy using methadone and buprenorphine. Methadone has been used to effectively treat opioid addiction in the United States for the past 40 years and buprenorphine was recently approved by the Food and Drug Administration for use in treating opioid addiction as well.

It has also been well documented that addiction to drugs in general and to heroin in particular carries an enormous social stigma. This stigma is all encompassing and affects society's view of any individual who uses, misuses, and becomes addicted to opioids. In spite of proven and replicable scientific research to support the fact that opioid addic-

tion is a medical disorder and is treatable, the stigma that surrounds addiction has interfered in providing access to care both for the general public and for incarcerated individuals.

In a recent survey of U.S. jails, Fiscella and associates examined how inmates who had been enrolled in methadone maintenance programs at the time of incarceration gained access to continued care following incarceration (Fiscella et al., 2004). They found that "very few jails elected to continue methadone following arrest." This study collected information from 246 jails and found that analgesics were routinely used to treat opioid withdrawal in 133 of the jails. Clonidine was routinely used to treat opioid withdrawal in 127 of the jails while methadone was used in 33 jails during the inmates' period of incarceration. These findings indicated "the need for the establishment of national standards for management of arrestees/inmates in methadone programs in U.S. jails as well as the need to provide improved education to help professionals working in correctional facilities regarding appropriate management of persons enrolled in methadone programs" (Fiscella et al., 2004).

In view of the fact that opioid addiction has been found to be a treatable medical disease, one might question why so few jails in the U.S. provide access to such medications for opioid-addicted inmates. The stigma already alluded to has had an overwhelming effect that has subverted the implementation of sound public policy responses to resolve clearly understood problems.

Based on their 2004 survey of corrections staff perspectives on methadone maintenance therapy in a large Southwestern jail, McMillan and associates concluded that "negative attitudes toward methadone maintenance treatment appear to be related to negative judgments about the clients the program serves. The survey results indicate that people don't object to methadone maintenance treatment per se, but they object to drug users in general, and heroin users in particular, getting any kind of treatment that might seem to condone their behavior. An unexpected finding was that the older jail staff was much more sympathetic to methadone maintenance treatment, than the younger staff" (McMillan and Lapham, 2005). McMillan's study holds out promise for educating both policymakers and corrections staff who are involved in responding to the health care needs of an inmate population.

## Programs for Methadone Treatment of Opioid-Addicted Inmates

There has been considerable experience in providing access to methadone maintenance treatment through an incarcerated population in a major U.S. jail in New York City. The Rikers Island KEEP (Key Extended Entry Program) program has been part of the Rikers Island Health Services System since 1987. This service combines pharmacotherapy and comprehensive therapeutic treatment for heroin addiction.

The KEEP program treats approximately 4,000 inmates with methadone each year, with an average treatment duration of 35 days. Approximately 70 percent of these inmates are men; among women participating in the program, 10 percent are pregnant (Parrino, 2000). To qualify for the KEEP program, an inmate must have been diagnosed as being opioid addicted by medical staff, been charged with either a misdemeanor or low-grade felony, and be serving a misdemeanor sentence. What is most important about this program is that approximately 75 percent of all program participants reported to their assigned outpatient methadone program for continued substance abuse treatment services following their release from jail. This finding, which has been consistent throughout the course of the Rikers Island program, demonstrates clearly that providing treatment to opioid-addicted inmates while they are incarcerated significantly reduces the likelihood of a return to the criminal lifestyle that accompanies illicit heroin use. The KEEP program also demonstrates the value of a tightly coordinated service delivery system between a jail-based program and outpatient methadone treatment programs.

The Rikers Island experience supports both the conclusion of the 1997 NIH Consensus Panel and the National Institute on Drug Abuse's October 1999 *Principles of Drug Addiction Treatment*, which asserts that "research is demonstrating that treatment for drug addicted offenders during and after incarceration can have a significant beneficial effect on future drug use, criminal behavior and social functioning. The case for integrating drug addiction treatment approaches within the criminal justice system is compelling. Combining prison and community-based treatment for drug addiction offenders reduces the risks of both recidivism to drug-related criminal behavior and relapse to drug use" (National Institute on Drug Abuse, 1999).

In spite of growing knowledge that this kind of program should be replicated in jails throughout the U.S. to reduce recidivism at a low cost, the movement to institute such reform has been extremely slow to develop. There is greater likelihood that, in view of their shorter sentences, jail inmates will gain access to continued methadone treatment than will prison inmates. In addition, jails are generally located in communities and counties while prisons tend to be more geographically isolated from the general public. Accordingly, county and municipal jails tend to be more responsive to local political interests.

At the time of this writing, methadone maintenance treatment is offered as a continued form of care in few jails in the U.S. The Orange County Jail in Orlando, Florida, began to provide access to methadone treatment for inmates who were already enrolled in methadone treatment programs at the time of their incarceration following two lawsuits that were very costly to the county. Two of the jail's inmates died from causes medically related to withdrawal symptoms when their methadone treatment was abruptly stopped. Families of the decedents brought the county to court and won significant financial damages. A local methadone treatment program, the Center for Drug-Free Living, now delivers methadone to the Orange County Jail under an agreement between the jail and the treatment program. This arrangement represents an extremely practical solution to a terrible medical crisis for those inmates who are enrolled in a methadone treatment program at time of incarceration and cannot gain access to any effective medical treatment. Several other jail-based methadone treatment programs also provide access to such care, including those in the Philadelphia corrections system, correctional facilities in Rhode Island, and scattered jurisdictions throughout the U.S. New jail-based methadone/buprenorphine-based treatment programs are under consideration in Washington, New Mexico, Maryland, and Vermont.

## Emerging Case Law

Legal precedents and case law are limited in this area but are developing. One significant case is that of Keith Griggs, who brought suit against the Vermont Department of Corrections when the department refused to permit access to continued methadone treatment while he was incarcerated. Although the trial judge directed the Vermont Department of Corrections to administer Mr. Griggs's methadone imme-

diately, the department did not do so, instead requesting an emergency stay of the order from the Vermont Supreme Court. The Supreme Court upheld the lower court's ruling. The Vermont Department of Corrections continued to refuse to allow Keith Griggs access to his methadone treatment, and rather than comply with the court order, released Griggs from prison before his sentence had been completed (Boucher, 2003). Boucher's analysis of this and a second similar case from Vermont led her to conclude, "Denying methadone to inmates can no longer pass constitutional muster because it offends the evolving standard of decency that marks the progress of a maturing society, in which scientists have declared opioid dependence a medical disorder treatable with methadone" (Boucher, 2003).

### Serving the Needs of Opioid-Addicted Inmates and Society

Several arguments can be made for providing access to methadone/buprenorphine treatment for opioid-addicted inmates in U.S. jails. First, as the NIH Consensus Panel made clear, heroin addiction is a disease for which effective therapy exists. If inmates who suffer from other medical diseases have access to medical care during their incarceration, opioid-addicted inmates should be treated no differently.

Second, methadone/buprenorphine treatment is a low-cost medical intervention. In most outpatient programs, the cost for providing access to this treatment generally amounts to \$5,000 per patient per year. This is much lower than the roughly \$22,000 per inmate per year cost of incarceration (Boucher, 2003), especially in view of the fact that a large number of methadone patients pay for their own treatment and public costs of correctional systems are steadily rising.

Funding will be needed for jail-based treatment programs, especially as more inmate health care programs are provided under contract with entities in the private sector. The Rikers Island KEEP program has demonstrated that providing access to methadone treatment for inmates is extremely cost effective. The funding needed for jail-based programs, and to support continued access to treatment for opioid-addicted inmates as they leave jail or prison and return to society, could come from federal, state, or county sources.

As McMillan's study shows, attitudes need to be changed in order to increase access to methadone treatment for incarcerated addicts.

But his findings also suggest that attitudes can be changed. And the KEEP program demonstrates that both opioid-addicted individuals and society benefit when inmates have access to treatment for their addiction.

There is no question that society's interests are served by providing opioid-addicted inmates access to methadone and buprenorphine, which are the federally approved medications for treating chronic opioid addiction. In view of the established science in this area of medicine and in view of the cost savings to society, there are no sound arguments against the recommendation to provide access to medications to treat the disease of opioid addiction during the period of an inmate's incarceration.

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## Methadone and buprenorphine prescribing and referral practices in US prison systems: Results from a Nationwide Survey

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## ABSTRACT

**Background:** More than 50% of incarcerated individuals have a history of substance use, and over 200,000 individuals with heroin addiction pass through American correctional facilities annually. Opiate replacement therapy (ORT) with methadone or buprenorphine is an effective treatment for opiate dependence and can reduce drug-related disease and recidivism for inmates. Provision of ORT is nevertheless a frequently neglected intervention in the correctional setting.

**Objective and methods:** We surveyed the 50 state; Washington, District of Columbia (DC); and Federal Department of Corrections' medical directors or their equivalents about their facilities' ORT prescribing policies and referral programs for inmates leaving prison.

**Results:** We received responses from 51 of 52 prison systems nationwide. Twenty-eight prison systems (55%) offer methadone to inmates in some situations. Methadone use varies widely across states: over 50% of correctional facilities that offer methadone do so exclusively for pregnant women or for chronic pain management. Seven states' prison systems (14%) offer buprenorphine to some inmates. The most common reason cited for not offering ORT was that facilities "prefer drug-free detoxification over providing methadone or buprenorphine." Twenty-three states' prison systems (45%) provide referrals for some inmates to methadone maintenance programs after release, which increased from 8% in 2003; 15 states' prison systems (29%) provide some referrals to community buprenorphine providers.

**Conclusion:** Despite demonstrated social, medical, and economic benefits of providing ORT to inmates during incarceration and linkage to ORT upon release, many prison systems nationwide still do not offer pharmacological treatment for opiate addiction or referrals for ORT upon release.

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## 1. Introduction

The United States has the world's highest incarceration rate, with approximately 10 million individuals incarcerated each year (Sabol and Couture, 2008; Walmsley, 2008). In 2007, over 2.2 million individuals were imprisoned at any given time, and an estimated seven to eight million others cycled through the country's prisons (facilities designated for long-term confinement upon conviction of crimes) and jails (facilities that house individuals detained for short periods of time, usually 6 months or less, often while they await trial) (Sabol and Couture, 2008). The number of incarcerated individuals has grown steadily since 1980, and in 2007, the number of incarcerated individuals rose 1.8% over 2006 (Sabol and

Couture, 2008; Walmsley, 2008). Growth in incarceration rates can be largely attributed to the "war on drugs," which has resulted in harsher penalties for drug offenses and has led to a threefold increase in drug-related arrests; over half of all sentences in federal prisons are for federal drug-related offenses (Drucker, 1999; Greifinger, 2007). Studies have found that between 50% and 84% of prison inmates have a history of substance use (Drucker, 1999; Greifinger, 2007; Mumola and Karberg, 2006), most in the year prior to incarceration (Mumola and Karberg, 2006). An estimated 20% of state inmates have a history of injection drug use (Mumola and Karberg, 2006), and approximately 24–36% of all heroin addicts, or over 200,000 individuals, pass through the US criminal justice system each year (Rich et al., 2005a). Moreover, prisoners often engage in substance use during incarceration (Clarke et al., 2001; Kang et al., 2005; Krebs and Simmons, 2002; Seal et al., 2008).

Inmates face disproportionately higher burdens of disease with mental illness, substance use and infectious diseases, including

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HIV/AIDS, hepatitis, other sexually transmitted infections, tuberculosis and others (Greifinger, 2007; Hammett, 2006). Many inmates are uninsured, lack adequate access to health services, and come from medically underserved communities (Freudenberg, 2001). Because correctional systems have high turnover rates and reincarceration rates, inmate health also profoundly affects the health of the communities to which they return (Greifinger, 2007; Nurco et al., 1991). Providing inmates with comprehensive health services, including treatment for chemical dependency with pharmacological therapy and counselling services, therefore offers a unique public health opportunity (Bick, 2007; Rich et al., 2005b).

Inmates' transitions back to their communities are often associated with increased health risks, particularly increased sexual and drug-related risks (Visher and Mallik-Cane, 2007). Approximately 55% of individuals with a history of substance use will relapse to substance use within 1 month of release from incarceration (Nurco et al., 1991). Relapse to substance use is also associated with increased criminal activity (Hanlon et al., 1990; Nurco et al., 1991), risk of HIV and HCV infection (Inciardi and Needle, 1998), drug overdose (Binswanger et al., 2007; Bird and Hutchinson, 2003), death from drug-related overdose (Krinsky et al., 2009) and reincarceration (Gore et al., 1995; Lipton, 1992). Offering inmates pharmacological treatment and counselling for opiate dependence prior to release decreases the likelihood of drug relapse (Gordon et al., 2008; Kinlock et al., 2008a; Martin, 1999), overdose (Gordon et al., 2008; Martin, 1999), recidivism, and HIV risk behaviors (Springer and Altice, 2007) and increases the likelihood of remaining in long-term drug treatment upon release (Gordon et al., 2008; Kinlock et al., 2002, 2008a; Martin, 1999). Incarceration also offers an opportunity to intervene and break the cycle of addiction, health risks, criminal behavior, and reincarceration.

Methadone maintenance therapy (MMT) is an opiate replacement therapy (ORT) that has been used in the United States for nearly 50 years to treat chronic heroin addiction (Dole et al., 1969; McLellan et al., 1993). Methadone prevents withdrawal symptoms and drug cravings, blocks the euphoric effects of other opiates, and reduces the risk of relapse to illicit use of opiates, infectious disease transmission, and overdose death (Gerra et al., 2003; Kreek, 1992, 2000). MMT use among prisoners, particularly around the time of release, is associated with reduced drug injection, HIV and HCV transmission (Marsch, 1998; Springer and Altice, 2007), drug-related criminal activities (Gordon et al., 2008; Kinlock et al., 2008b), recidivism, and increased participation in drug treatment programs (Gordon et al., 2008; Kinlock et al., 2002, 2008b).

Buprenorphine is an ORT that acts as a partial opioid agonist (Fiellin and O'Connor, 2002). Buprenorphine was approved by the FDA in 2002 for the management of opioid addiction by community and correctional physicians (Comer and Collins, 2002). Buprenorphine is often combined with naloxone and administered sublingually as Suboxone® to reduce the likelihood of diversion (Comer and Collins, 2002). Since its 1996 approval in France, buprenorphine has been prescribed widely for ORT and is associated with improved stability in housing and employment; reduced self-reported heroin use; and decreased risk of HIV, HBV, and HCV infection; and mortality decline attributable to overdose (Auriacombe et al., 2004, 2001; Carrieri et al., 2006; Fhima et al., 2001). Compared with methadone, buprenorphine has fewer regulations governing its use, lower likelihood of fatal overdose, and is associated with less social stigma. Because buprenorphine must be prescribed by a physician, it also provides opportunities for more routine medical care. Although the cost of Suboxone® has been a barrier to its widespread use, its orphan drug status expires in October 2009, which will allow generic manufacturing of the medication and anticipated concomitant decreased cost.

Given the health and social risks associated with opiate use, both the Center for Disease Control and Prevention (CDC) and the World

Health Organization (WHO) recommend that correctional systems offer health programs to prevent substance use relapse upon community transition (CDC, 2002; WHO, 2007). In addition, WHO includes both methadone and suboxone in the essential medicines list (EML) (Møller et al., 2007). The EML is a list of pharmaceutical products that WHO recommends that all health systems or governments should make available to their populations. WHO guidelines also hold that drugs made available in the community should also be made available in prison (Møller et al., 2007). The Commission of the European Communities reports that numerous European Union member states have adopted these recommendations: 17 provide methadone maintenance and 10 provide buprenorphine treatment in prisons, although coverage varies widely (CEC, 2007). However, most prison systems in the rest of the world do not offer MMT and buprenorphine in the correctional setting (WHO, 2005, 2007).

Our 2003 survey examining the attitudes and practices of medical directors of state and federal prisons regarding methadone treatment found that just under 50% of US prison systems used methadone; when used, methadone is limited primarily to the treatment of pregnant inmates or for acute detoxification (Rich et al., 2005b). Only 8% of prison systems referred inmates with a history of opiate dependence to community-based methadone programs upon release; approximately 30% reported that they believed that methadone benefits opiate-dependent prisoners. To assess changes in attitudes and practices during the last 5 years, and to learn more about buprenorphine prescribing and referral practices since its approval, we surveyed the medical directors, their equivalents, or appointed designees of state prisons and the District of Columbia and federal prison systems about their opinions and prescribing practices for methadone and buprenorphine. Our survey also included questions about prison policies related to referring prisoners to community-based ORT programs upon release.

## 2. Methods

We emailed or faxed a 17-question survey to the medical directors, equivalent health authorities, or their designees of the 50 state Departments of Corrections. The 50 state Departments of Corrections collectively house approximately 1.4 million prisoners. We also surveyed the Federal Bureau of Prisons and the District of Columbia prison, which collectively house approximately 200,000 prisoners (Sabol and Couture, 2008). We subsequently contacted several respondents by email and telephone to remind them to complete the survey. Survey questions addressed opiate screening practices, methadone and buprenorphine provision within the prison setting; attitudes about the utility of buprenorphine and methadone; and prison ORT referral practices for inmates leaving prison. Some questions allowed respondents to provide open-ended responses to complement close-ended survey questions. The survey concluded with a free response question encouraging respondents to provide any additional comments related to prescribing and referral practices. Respondents did not receive any compensation or incentives for responding to the survey. The survey is available online at the Center for Prisoner Health and Human Rights: <http://www.prisonerhealth.org/>.

Respondents who indicated their facilities provided methadone or buprenorphine were asked to provide information about the circumstances in which each is prescribed, how the medications are provided, and how many patients were using the medication. If the respondent indicated that methadone and/or buprenorphine were not used, they were asked why the medications were not offered to inmates. All respondents were asked to rate the utility of both medications, and whether they referred opiate-dependent inmates to community-based ORT providers upon release.

Respondents submitted the completed survey either by fax or through an online survey service. In nine cases, surveys were administered over the telephone when respondents did not answer emails and fax requests. Data were entered into Microsoft Excel. Summary statistics and cross-tabulations were created in Microsoft Excel.

## 3. Results

We received a total of 51 of 52 responses; only one Midwestern state, which houses only approximately 1400 prisoners (or less than 0.1% of all prisoners nationwide) (Sabol and Couture, 2008), declined to complete the survey. Table 1 and Fig. 1 highlight regional and aggregate findings regarding methadone and

**Table 1**Availability of methadone and buprenorphine in state prisons and referrals for released inmates by region<sup>a</sup> (N = 51).

	Northeast N (%)	South N (%)	Midwest N (%)	West N (%)	Federal N	Total N (%)
Any methadone is offered in state prison system						
Yes	6 (67)	6 (35)	7 (64)	8 (62)	1	28 (55)
No	3 (33)	11 (65)	4 (36)	5 (38)	0	23 (45)
Any buprenorphine is offered in state prison system						
Yes	3 (33)	2 (12)	1 (9)	1 (8)	0	7 (14)
No	6 (67)	15 (88)	10 (91)	12 (92)	1	44 (86)
Any referrals to community-based methadone clinics offered upon release						
Yes	7 (78)	7 (41)	5 (45)	4 (31)	0	23 (45)
No	2 (22)	10 (59)	6 (55)	9 (69)	1	28 (55)
Any referrals to community-based buprenorphine providers offered upon release						
Yes	6 (67)	4 (24)	2 (18)	3 (23)	0	15 (29)
No	3 (33)	13 (76)	9 (82)	10 (77)	1	36 (71)

<sup>a</sup>Geographic regions, as defined by the Centers for Disease Control and Prevention (CDC), are as follows:**Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.**South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, N. Carolina, Oklahoma, S. Carolina, Tennessee, Texas, Virginia, and W. Virginia.**Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, S. Dakota, Wisconsin, and N. Dakota (no response).**West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

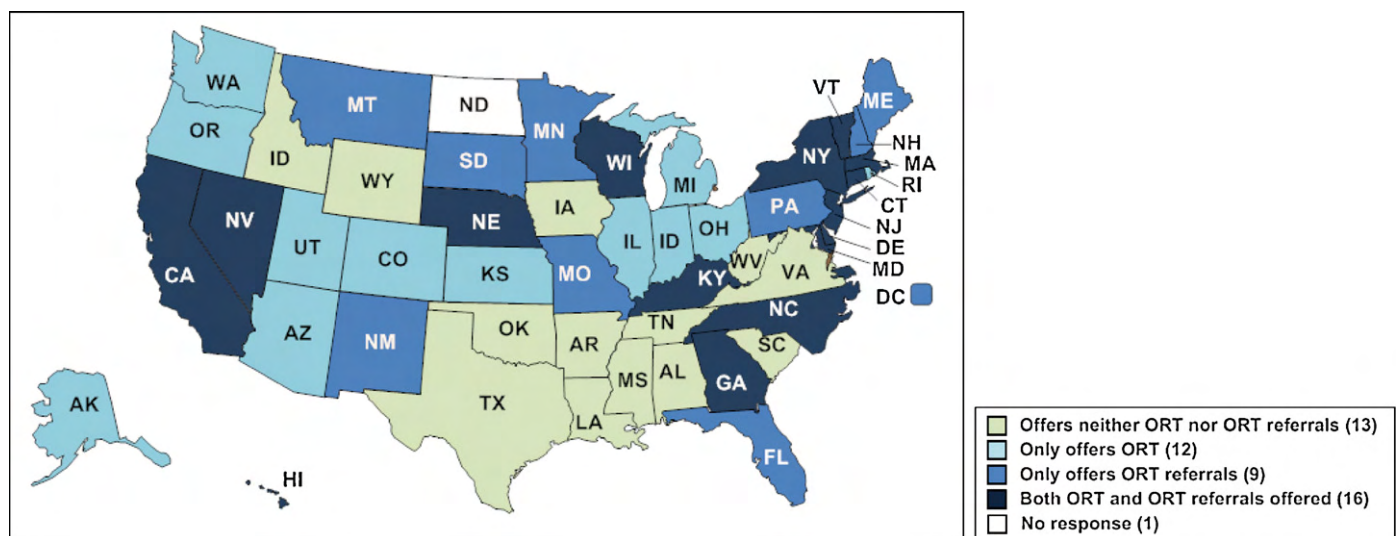
buprenorphine prescribing and referral practices in state prisons nationwide. Although methadone is offered more frequently than buprenorphine, only 55% of prison systems (including state and federal systems) offer methadone under any circumstances. Methadone use varies widely across states: some states report treating more than 500 patients with methadone, but over 50% who offer methadone do so exclusively for pregnant women, acute opiate withdrawal, or for chronic pain management. By summing the reported number of prisoners receiving methadone in all states and federal jurisdictions responding to our survey, we estimate that between 1614 and 1817 prisoners receive methadone in state and federal correction systems nationwide. (We note, however, that two states responded “do not know” in response to the question about approximately how many prisoners receive MMT in their systems.) Similarly, 45% of facilities provided some community linkage to methadone treatment post-release.

Seven prison systems (14%) offer buprenorphine in some circumstances and 15 (29%) offer referrals for some inmates to community buprenorphine providers upon release. By summing the reported number of prisoners receiving buprenorphine in all states and federal jurisdictions responding to our survey, we estimate that between 57 and 150 prisoners

receive buprenorphine in state and federal correction systems nationwide.

To assess regional differences in provision of ORT in prison systems and linkage to ORT post-release, we stratified the data by geographic region, as defined by the Centers for Disease Control and Prevention (CDC). The proportion of facilities offering methadone to incarcerated inmates was similar across the Northeast, Midwestern and Western regions of the US, while relatively few facilities offered methadone to inmates in the South (35%). The Northeast was the only region of the US reporting common provision of buprenorphine treatment for inmates; nearly a third of Northeastern prison systems offered this treatment option. Similarly, a much greater proportion of prison systems in the Northeast referred inmates to community-based ORT treatment upon release (78% and 67% for methadone and buprenorphine, respectively). Notably, five respondents (10%) reported that heroin use is infrequent in their state, citing low opiate addiction prevalence as the primary reason they did not offer ORT. The federal prison system offers methadone but not buprenorphine and does not provide ORT referrals upon release.

Table 2 describes reasons why ORT is not available in prison systems as well as reasons why ORT referrals are not available

**Fig. 1.** Current status of state prison systems offering opiate replacement therapy (ORT) and referrals to community-based ORT providers.



**Table 2**  
Reasons why methadone or buprenorphine and ORT referrals not provided in US state and federal prisons (*N* = 51).

	<i>N</i> (%) <sup>a</sup>
Reason for not offering methadone in prison	
Methadone is not beneficial to inmates	2 (9)
Facility offers buprenorphine instead	0 (0)
Facility favors drug-free detox over methadone	13 (57)
Cost is prohibitive	0 (0)
Security concerns	5 (22)
Administrative opposition	5 (22)
Lack of health care providers	1 (4)
Opiate addiction is an uncommon problem	2 (9)
Administrative burdens of implementing methadone	3 (13)
Don't know/unsure	2 (9)
Other	1 (4)
Reason for not offering buprenorphine in prison	
Buprenorphine is not beneficial to inmates	0 (0)
Facility offers methadone instead	9 (20)
Facility favors drug-free detox over buprenorphine	17 (39)
Cost is prohibitive	8 (18)
Security concerns	9 (20)
Administrative opposition	2 (5)
Lack of health care providers	4 (9)
Opiate addiction is an uncommon problem	3 (7)
Decisions are made on a case by case basis	3 (7)
Don't know/unsure	2 (5)
Other	2 (5)
Reason referrals to community-based methadone clinics are not offered	
Administrative opposition	1 (4)
Facility prefers drug free detox over methadone	14 (50)
Limited partnerships with community providers	7 (25)
Cost is prohibitive for inmates upon release	3 (11)
Facility focuses on inmate health during incarceration	7 (25)
Human resource limitations	1 (4)
Director feels that opiate dependence is uncommon in state	2 (7)
Don't know/unsure	3 (11)
Reason referrals to community-based buprenorphine providers are not offered	
Administrative opposition	3 (8)
Facility prefers drug free detox over methadone	13 (36)
Limited partnerships with community providers	12 (33)
Cost is prohibitive for inmates upon release	3 (8)
Facility focuses on inmate health during incarceration	8 (22)
Human resource limitations	1 (3)
Director feels that opiate dependence is uncommon in state	4 (11)
Don't know/unsure	5 (14)
Missing	2 (6)

<sup>a</sup> Percentages do not sum to 100% because response categories are not mutually exclusive.

post-release. When asked how beneficial methadone is for treating inmates with opiate addiction, 18% of respondents responded “very beneficial;” 39% responded “somewhat beneficial,” 16% responded “not beneficial,” and 27% responded that they did not know how beneficial methadone is for treating inmates with opiate addiction. The federal prison system respondent responded that methadone is “somewhat beneficial” (data not shown). When asked how beneficial buprenorphine is for treating inmates with opiate addiction, 12% of respondents responded “very beneficial;” 29% responded “somewhat beneficial,” 10% responded “not beneficial,” and 49% responded that they did not know how beneficial buprenorphine is for treating inmates with opiate addiction. The federal prison system respondent responded that buprenorphine was somewhat beneficial.

We asked respondents who did not offer ORT during incarceration or upon release why their facilities did not offer ORT and ORT referrals. The most common reason why facilities did not offer ORT to inmates was that they favored drug-free detoxification over ORT (57% and 39% for methadone and buprenorphine, respectively). Interestingly, 22% of prison facilities cited security concerns about providing methadone to inmates; 20% of facilities cited security concerns about providing buprenorphine. An additional barrier to

both provision of ORT to inmates and linkage to ORT post-release was lack of partnerships with community ORT providers (Table 2). Many providers also indicated that their focus on inmate health during incarceration rather than upon release as another reason for not linking inmates to ORT post-release (25% of respondents indicated this for methadone referrals and 22% for buprenorphine referrals). The federal responses were very similar: neither methadone nor buprenorphine referrals were offered because “prisoners are detoxified prior to release.”

In addition to the structured survey questions, we provided an opportunity for respondents to comment about ORT in the correctional setting. Many comments reflected respondents' opposition to pharmacological management of opiate dependence. For example, one respondent remarked that:

We don't have ORT programs and inmates are detoxed when they leave. I can't think of a better time to get your life straight than when you have nothing to do but sit and think. We do not support long-term maintenance programs for addicted individuals.

Similarly, with regard to linkage to ORT upon release, one respondent stated that:

Inmates are off drugs while in prison, so there's no reason for them to be referred; they wouldn't fit the criteria for referral. They don't need detox because they've been rehabilitated while in prison. It is assumed that they are no longer [drug] users.

Another respondent commented that “facilitating addiction seems inconsistent with the mission of incarceration.” A fourth respondent indicated that ORT is not appropriate for inmates by stating that: “ORT certainly has a use, but is not appropriate or desirable in many patients, especially prisoners.”

Several respondents in favor of expanding access to ORT cited institutional barriers beyond their control that limit its implementation. One respondent indicated that even if medical directors favor provision of ORT, they must often overcome significant administrative barriers or undertake dramatic shifts in prison policy, and remarked:

We're making a huge effort to improve discharge planning and to connect people with primary care providers. It's a huge paradigm and cultural shift.

Another respondent who favored expansion of ORT provision in his prison system responded:

Department of Corrections staff and leadership don't know how to provide ORT and don't have an appreciation of its importance, particularly in an underfunded program like ours where everything is broken. . . There is also a huge political challenge to overcome; a lot of work needs to be done to sensitize people about the importance of this issue.

#### 4. Discussion

This is the first national survey to document important attitudes and practices among state and federal correctional medical directors regarding both methadone and buprenorphine prescribing policies. In spite of CDC and WHO guidelines recommending provision of ORT during incarceration and upon release, as well as several studies that demonstrate the efficacy and health and social benefits of such policies (Dolan et al., 2005; Fallon, 2001; Heimer et al., 2006; Kakko et al., 2003; Marsch, 1998; McKenzie et al., 2005; Springer and Altice, 2007), just over half of US prison systems provide any methadone. Moreover, the total number of people receiving methadone represents only a minute fraction of the estimated 9% (15,689) of federal and 13% (163,005) of state inmates

who reported regularly using heroin in 2004 (Mumola and Karberg, 2006). Our results also support a 2006 Department of Justice report that found that less than 0.5% of state and federal prisoners received drug maintenance therapy (Mumola and Karberg, 2006). Our estimates are also similar to results from our 2003 survey that finds that only 47% of US prison systems provided methadone to prisoners, most of which limited MMT provision to pregnant women (Rich et al., 2005a). However, while the 2003 survey finds that only 8% of prison systems provided MMT referrals upon release, we find that 46% of prison systems provide referrals in some circumstances. This suggests there have been considerable increases in the number of prisons providing referrals to MMT upon release since 2003. Furthermore, since buprenorphine has been approved, some prison systems (14%) provide it, and 29% of prison systems refer some released inmates to community buprenorphine providers. Our results suggest that in spite of a growing body of literature supporting the feasibility and demonstrated health and social benefits associated with ORT use, fewer than 2000 prisoners in state and federal prisons receive ORT, and access to ORT in the correctional setting has improved only slightly since 2003.

Our open-ended responses highlight several important discoveries about ORT and referral provision in the correctional setting. First, there is still a great deal of stigma attached to ORT provision, and a general preference for abstinence-based drug treatment policies rather than pharmacological and therapeutic treatment of opiate addiction. Many respondents have misperceptions about the nature of addiction and incorrectly associate forced detoxification with curing opiate dependence. This attitude ignores important evidence about common relapse to addiction after forced detoxification. We also find that administrative barriers and personal opinions of prison medical directors often influence their facilities' ORT prescribing and referral policies in positive or negative ways. For example, one respondent commented that a former medical director was personally opposed to the use of pharmacological intervention for drug use and thus maintained abstinence-based drug treatment policies. When this medical director was replaced, the new director immediately began working to implement ORT within the state prison system. Another respondent underscored the value of buprenorphine for prisoners, commenting that his facility was launching a new buprenorphine treatment and referral program for inmates. However, we find common misperceptions about the magnitude of the opiate addiction among prisoners. For example, a medical director in one Northeastern state with very high rates of prisoners with a history of heroin use commented that opiate addiction was not a significant problem among prisoners.

Initiation of ORT for inmates while in prison has been shown to decrease high risk behavior during incarceration and upon release, including transmission of HIV and hepatitis C due to sharing needles and other drug paraphernalia (Heimer et al., 2006). When correctional-based ORT programs are successfully linked with community ORT providers, they have been shown to reduce relapse to opiate use, mortality, criminality, and recidivism (Dolan et al., 2005). Prisoners who successfully remain on ORT in the community are also more likely to sustain employment and to improve social function (Kakko et al., 2003). In spite of improvements in the number of prisons offering ORT referrals since 2003, our findings suggest that most prisons are still missing opportunities to break the cycle of incarceration and addiction by failing to link inmates with a history of opiate dependence to ORT programs upon release.

We find that many prison medical directors are not familiar with the potential medical and social benefits of providing ORT in the correctional setting, particularly buprenorphine. Additionally, a focus on inmate health exclusively during incarceration ignores the common social, public health and recidivism challenges associated with inmate relapse to substance use immediately after release. In summary, our results suggest that in spite of this evidence base,

formidable political and administrative barriers to widespread ORT provision in and upon release from the US correctional system remain. Given the proven efficacy of ORT interventions in reducing health and social harms, these barriers have serious health and public policy implications.

In addition to educating and encouraging correctional administrators and policy makers to improve provision of and linkage to ORT for prisoners upon release, ORT providers could be encouraged to develop connections and working relationships with correctional systems. This might be facilitated by ORT regulators who could require or encourage such relationships. Also, given the common goals of reduced drug use, criminal behavior and recidivism, Probation and Parole Departments could also encourage ORT prior to or upon release from prison.

In spite of the remarkably high response rate to our survey, our findings are subject to a few limitations. There are approximately 114 federal prisons nationwide. Although medical and drug policies for federal prisons are centralized, there may be local differences about prescribing attitudes and practices related to ORT that our survey did not capture. Additionally, our survey focused exclusively on prisons rather than local jails, so it may not provide a comprehensive picture of nationwide ORT prescribing and referral attitudes and practices for all correctional settings. Moreover, our survey relied on the self-report and estimates of each medical director; we were unable to independently confirm the actual numbers of people prescribed or referred to ORT in each prison participating in the survey. It is therefore difficult to extrapolate the exact numbers of inmates receiving ORT from our findings. Finally, while we document an increase in the number of prison systems reporting referrals to ORT upon release, because our survey did not include a question about how many prisoners are referred to ORT upon release, we are unable to estimate the impact of this increase on the number of prisoners receiving ORT in the community. This could be a potential avenue of new research, as could exploration of prisoner opinions about ORT in prison and upon release. Additionally, given the important role of parole officers in helping inmates transition to the community, new research might explore probation officers' attitudes about and roles in promoting access to ORT.

Our results related to ORT policies may partially reflect regional drug use trends in the United States. Opiate use is twice or three times as common in the Northeastern United States than elsewhere (SAMHSA, 2007). Several medical directors commented that heroin addiction was not a common problem among inmates, citing other local drug epidemics such as cocaine and crystal methamphetamine use. In these cases, lack of ORT programs may be partially attributable to each state's drug epidemics rather than lack of prison commitments to ORT; future research should focus on these regional phenomena.

## 5. Conclusion

Our survey suggests that prison systems nationwide have made some progress in providing ORT to prisoners: a few prisons now provide buprenorphine to prisoners, and the number of facilities providing referrals to ORT upon release has increased since 2003. Overall, however, pharmacological treatment of opiate dependence is still an important but under-utilized intervention in US prison settings; the number of prisoners with opiate dependence who receive ORT during incarceration remains quite limited. In spite of the demonstrated medical, social and economic benefits of providing opiate-dependent inmates with ORT (particularly upon return to the community), federal and state prisons in the US often do not provide ORT to inmates during incarceration or refer them to community ORT programs upon release. This is a missed public health opportunity; greater national leadership is needed to change criminal justice policies that deny addiction treatment services to

prisoners. Political and administrative opposition to pharmacological treatment of opiate dependence also suggests that educating prison staff and policymakers about the medical and social benefits of ORT for treatment of opiate dependence, as well as exploring other ways to encourage greater ORT in the correctional setting, should be important public health priorities.

## Acknowledgments

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## Links and Other Resources

### **Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment**

*Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction.* Treatment Improvement Protocol (TIP) Series 40. (2004).  
<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat5.chapter.72248>

*Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs.* Treatment Improvement Protocol (TIP) Series 43. (2008).  
<http://www.ncbi.nlm.nih.gov/books/NBK14677/>

*Substance Abuse Treatment for Adults in the Criminal Justice System.* Treatment Improvement Protocol (TIP) Series 44 (2005).  
<http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=hssamhsatip&part=A80017>

*Incorporating Alcohol Pharmacotherapies Into Medical Practice.* Treatment Improvement Protocol (TIP) Series 49, (2009).  
<http://kap.samhsa.gov/products/manuals/tips/pdf/TIP49.pdf>

*Medication-Assisted Treatment for Opioid Addiction 2010 State Profiles (2011)*  
<http://store.samhsa.gov/product/Medication-Assisted-Treatment-for-Opioid-Addiction-2010-State-Profiles/SMA11-4643>

### **National Institute on Drug Abuse**

*Principles of Drug Abuse Treatment for Criminal Justice Populations* (2006)  
[http://www.nida.nih.gov/PDF/PODAT\\_CJ/PODAT\\_CJ.pdf](http://www.nida.nih.gov/PDF/PODAT_CJ/PODAT_CJ.pdf)

### **Others**

Southeast Addiction Technology Transfer Center, *Managing Opioid Abuse and Addiction in Primary Care Settings*  
[http://www.attcnetwork.org/userfiles/file/opioid\\_ppt.pdf](http://www.attcnetwork.org/userfiles/file/opioid_ppt.pdf)

Center for Substance Abuse Research, *CESAR FAX* series on Buprenorphine Availability, Diversion, and Misuse  
<http://www.cesar.umd.edu/cesar/cesarfax.asp>

# Medication Treatments for Addictive Disorders: An Overview

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## Medication Treatments for Addictive Disorders: An Overview

Robert P. Schwartz, M.D.

Shannon Gwin Mitchell, Ph.D.

Friends Research Institute

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### Medications for Alcohol Addiction Treatment

- Disulfiram (Antabuse)
- Oral naltrexone (Revia)
- Injectable extended release naltrexone (Vivitrol)
- Acamprosate (Campral)

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### Medications for Cocaine & Methamphetamine Addiction Treatment

- None are approved by the FDA
- Several medications have shown promising results
- Several compounds are under development

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### Medications for Opioid Addiction Treatment

- Methadone
- Buprenorphine (Subutex)
- Buprenorphine/Naloxone (Suboxone)
- Oral Naltrexone (Revia)
- Injectable extended release Naltrexone (Vivitrol)

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### Medications for Addiction Treatment: Highly Studied

Name of Med	Cochrane Reviews	# Scientific Papers in Pub Med
Antabuse	NO	3,640
Naltrexone	YES	7,215
Acamprosate	YES	552
Methadone	YES	11,784
Buprenorphine	YES	3,869
Naltrexone	YES	7,215

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### FDA-approved Medications for Opioid Addiction Treatment

#### Opioid Agonists

- 1) Full agonist: Methadone (oral)
- 2) Partial agonist: Buprenorphine (sublingual)

#### Opioid Antagonist

- 3) Naltrexone (oral)
- 4) Naltrexone (extended-release injection)

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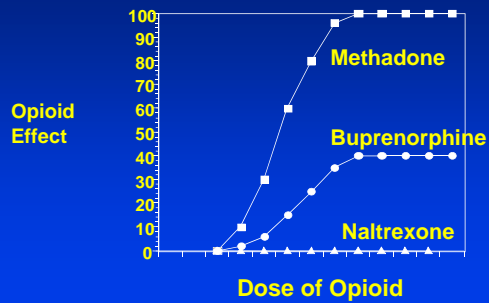
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What is the difference between  
opioid agonists & antagonists?



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## I. Opioid Agonists

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### Methadone and Buprenorphine

- Activate the opioid receptors
  - Although buprenorphine is weaker than methadone at higher doses and therefore has better safety profile
- Reduce heroin craving
- Alleviate withdrawal
- Block heroin's euphoric effects

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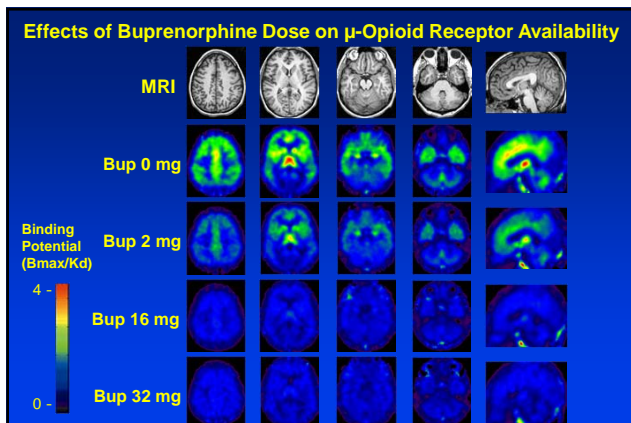
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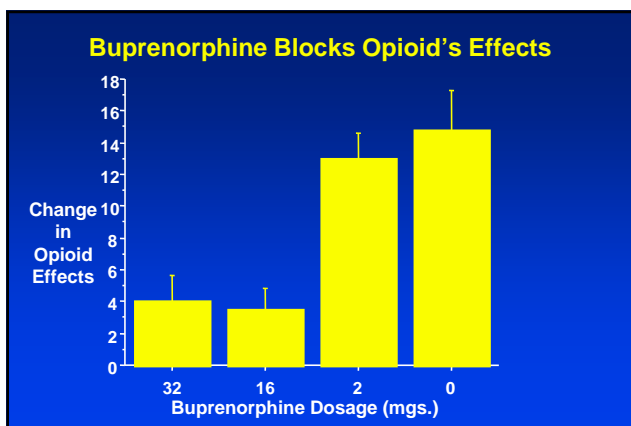
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### What is the difference between heroin addiction and opioid agonist treatment?

	<u>Heroin Addiction</u>	<u>Opioid Agonist Treatment</u>
Route	Injected	Oral or Sublingual
Onset	Immediate	Slow
Euphoria	Yes	No
Dose	Unknown	Known
Cost	High	Low
Duration	4 hours	24 hours
Legal	No	Yes
Lifestyle	Chaotic	Normal

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**Where are methadone & buprenorphine provided?**

**Opioid Treatment Programs (OTPs)**

- Methadone (mostly) or buprenorphine
- Counseling & drug testing
- Clinic administered dosing
  - Take home doses contingent on performance

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**Where are methadone & buprenorphine provided?**

**Outpatient Counseling Programs**

- Buprenorphine only
- Counseling & drug testing on-site
- Doses may be administered at clinic initially and then by prescriptions

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**Office-Based Treatment**

**Physician Offices**

- Buprenorphine with physician monitoring and advice
- Referral to counseling & drug testing
- Doses self-administered through prescriptions
- Widely used internationally
- In U.S. often limited to insured patients

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**How are buprenorphine & methadone provided?**

Shorter-term: Detoxification

Longer-term: Maintenance

Length of time on these medications  
should be individually determined by  
patient and physician together

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**Does detoxification with opioid agonists work?**

- Effective at reducing withdrawal symptoms
- Helps minority of patients detoxify
- If goal is to get off medication, it's necessary but not sufficient.
- Most patients relapse quickly after detoxification  
29% success at 2 weeks post-detox (Ling et al, 2009)

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**Does detoxification with opioid agonists work?**

- Low success rate is true for both inpatient & outpatient detox
- Relapse is associated with increased risk of overdose death and recidivism

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### Does Opioid Agonist Maintenance Treatment Work?

Many studies show its effectiveness in reducing:

- Heroin use
- Criminal activity
- HIV risk behavior

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### What are the characteristics of effective maintenance treatment?

- Higher doses (individualized to patients' needs)
- Longer time in treatment
- Psychosocial services of appropriate intensity & duration

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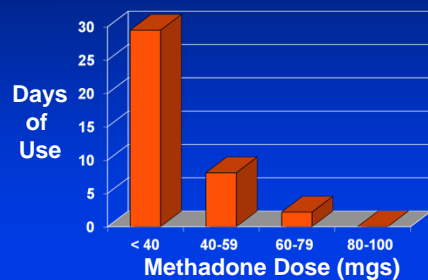
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### Higher Methadone Dose Is Associated with Less Frequent Heroin Use (Ball & Ross, 1991)



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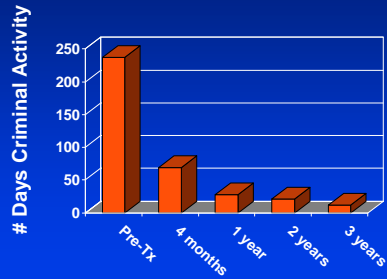
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**Longer Time in Methadone Treatment  
Associated with Crime Reduction**  
(Ball & Ross, 1991)




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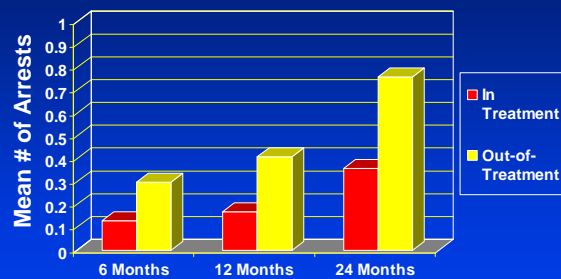
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**Methadone Treatment Reduces Arrests**  
(Schwartz et al., 2009)




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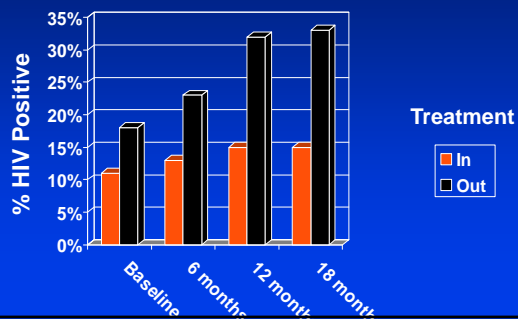
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**Methadone Treatment Reduces Likelihood of  
HIV Infection**  
(Metzger et al., 1993)




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## Buprenorphine/Naloxone vs. Buprenorphine Alone

### Combination of buprenorphine with naloxone (Suboxone):

- Sublingual buprenorphine has well absorbed
- Addition of naloxone to buprenorphine to decreases its abuse potential (injection precipitates withdrawal)

### Buprenorphine Alone (Subutex):

- Rare indications for use

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## Buprenorphine Treatment

- Buprenorphine more effective than placebo
- Buprenorphine equally effective as moderate doses of methadone

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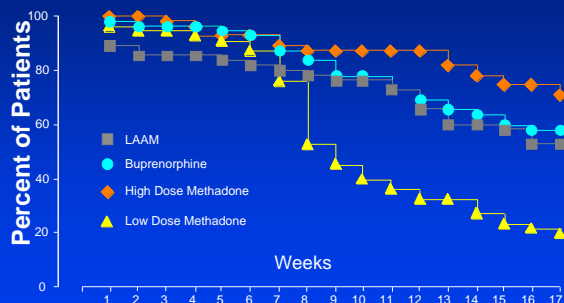
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### Buprenorphine & High Dose Methadone Increase Time in Treatment (Johnson et al., 2000)



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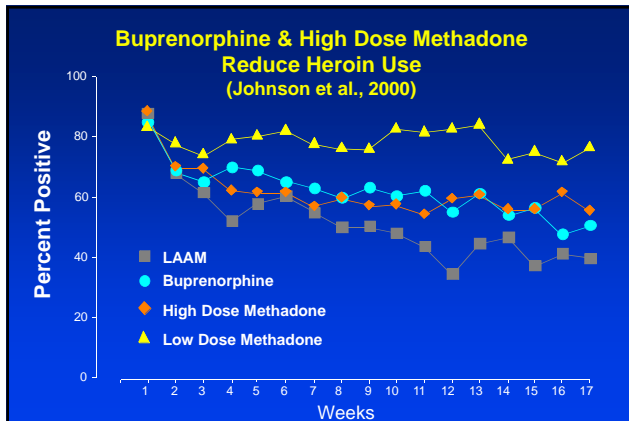
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### Agonist Treatment in Criminal Justice System

- These medications can be used in probation, parole and drug courts
- Although not uniformly available
- Highly effective at reducing drug use and criminal behavior
- However, unfortunately agonist treatments often are not continued should incarceration occur

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### Agonist Treatment in Jails

#### Inmates

- Awaiting trial
- Short sentences (< 1 year)

#### Uses of Agonist Treatment

- Detoxification from heroin (if desired/indicated)
- Initiate in jail and continued upon release
- Continue in jail for arrested patients

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## Prisons

### Prisoners

- Long sentences (> 1 year)

### Treatment Issues

- Initiate treatment for in-prison heroin users
- Initiate treatment for in-prison abstainers who wish to avoid release upon release

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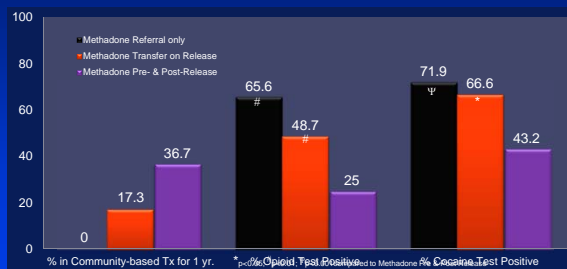
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## ***Treatment Increases Time in Treatment and Reduces Drug Use***

Methadone Treatment for Prisoners: Findings at 12 Mo. Post-Release (N=204)



Kinlock, Gordon, Schwartz, Fitzgerald, O'Grady (2009). *Journal of Substance Abuse Treatment: A Randomized Clinical Trial of Methadone Maintenance for Prisoners: Findings at 12 Months Post-Release.*

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## Summary

### Opioid Agonist Treatment:

- Block the euphoric effects of heroin
- Reduces heroin use, HIV risk and criminal behavior
- Can be provided for individuals in probation, parole, Drug Court, jail and prison

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## II. Opioid Antagonists

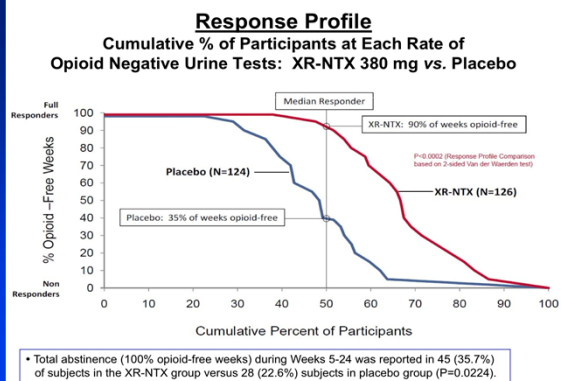
### Opioid Antagonist Treatment

#### Oral Naltrexone

- Highly effective pharmacologically
- Hampered by poor patient adherence
- Useful for highly motivated patients

#### Injectable formulation (Vivitrol ®)

- FDA-approved alcohol dependence and opiate dependence
- Effective for about 30 days



### Summary

Opioid antagonists:

- Oral tablets effective when taken but have poor adherence
- Injectable naltrexone recently approved by the FDA for the prevention of relapse to opiate dependence
- Promising approach in CJ settings

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### Summary and Future Direction

- Medications have proven effectiveness in reducing drug use, crime and HIV risk
- Medications are underutilized and infrequently studied in CJ settings
- More research is needed to determine the most effective approaches to implementing medication treatments in CJ settings

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# **Drug Enforcement Administration and Substance Abuse Treatment in the Criminal Justice System**

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Drug Enforcement Administration



## DEA and Substance Abuse Treatment in the Criminal Justice System

Loren T. Miller  
Policy Unit Chief  
Liaison and Policy Section  
Office of Diversion Control

DRUG ENFORCEMENT  
ADMINISTRATION | DIVERSION  
CONTROL PROGRAM

October, 2011  
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## Office of Diversion Control Mission

To prevent, detect, and investigate the diversion of controlled substances from legitimate sources

*while*



Ensuring an adequate and uninterrupted supply for legitimate medical and scientific purposes

DRUG ENFORCEMENT ADMINISTRATION  
DIVERSION CONTROL PROGRAM

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## LEGAL FOUNDATION

- Controlled Substances Act of 1970 (CSA)
- Narcotic Addict Treatment Act of 1974 (NATA)
- Drug Addiction Treatment Act of 2000 (DATA)

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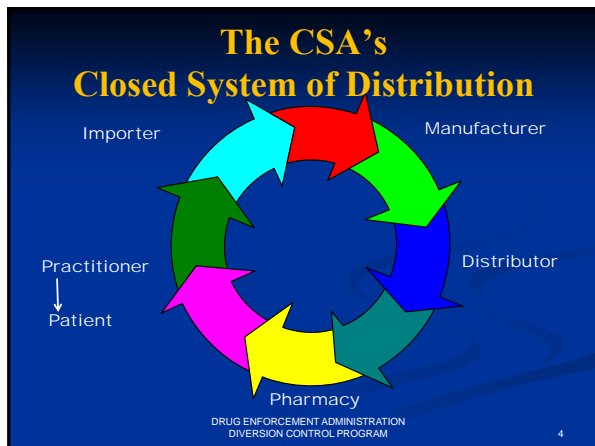
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### Active DEA Registrants as of 09/22/2011

• Practitioners	1,114,140
• Pharmacies	66,923
• Hospitals/Clinics	15,696
• Narcotic Treatment Programs	1,261
• Approximate Total: 1.4 million - 2011	
• Approximate Total: 480,000 - 1973	

DRUG ENFORCEMENT ADMINISTRATION  
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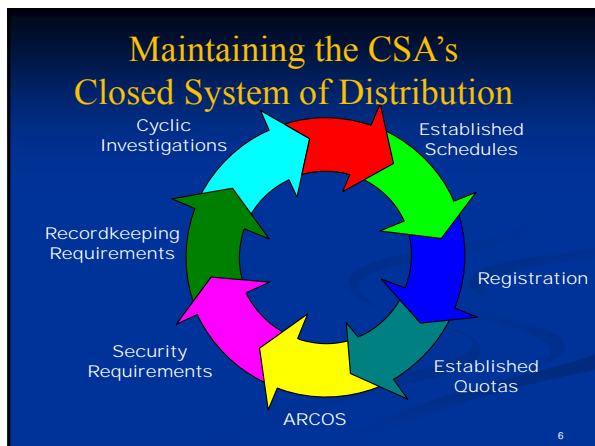
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## NTPs

- If registered with DEA, in the appropriate schedules, an NTP can **dispense** but not prescribe those schedule II-V narcotics approved for opioid treatment. 808 NTPs are currently registered in schedule III narcotic.
- Inspected on a cyclic basis
  - Compliance with **security** 21 C.F.R. §§ 1301.71-74
  - Compliance with **inventory and recordkeeping** requirements. 21 C.F.R. § 1304

DRUG ENFORCEMENT ADMINISTRATION  
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## Impact of DATA 2000 on Practitioners

- Prior to the DATA 2000, a practitioner's choices for treating the primary medical issue of opioid addiction was (1) register as an NTP, (21 C.F.R. § 1306.07(a)) or (2) dispensing (**but not prescribe**) one days supply for up to three days while arrangements were made to get the patient into an NTP. (21 C.F.R. § 1306.07(b))

DRUG ENFORCEMENT ADMINISTRATION  
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## Impact of DATA 2000 on Practitioners

- With the passage of the DATA 2000 qualified physicians that obtained a waiver were given the added opportunity to administer, dispense, or **prescribe** schedule III-V narcotics approved by FDA for the treatment of opioid addiction. (21 C.F.R. 1306.07(d)). They became part of DEA's scheduled investigation program.

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## Patient Limits for Practitioners under DATA 2000

- Initial patient limit: 30. Currently there are 15,101 practitioners in this category.
- After a year a practitioner may submit a second notification to CSAT of the need and intent to increase the patient limit to 100. Currently 4,709 practitioners are in this category.

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## Record Keeping Requirements

- All records required to be kept, must be available for inspection 21 U.S.C. § 827(b) and 21 C.F.R. § 1304.03(a), for two years.
- What needs to be kept?
  - Records of prescriptions issued for Schedule III-V narcotics prescribed for opioid addiction treatment
  - Inventories
  - Records of dispensing
  - Records of distribution and disposal
  - Records of theft/loss

DRUG ENFORCEMENT ADMINISTRATION  
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## DEA Inspection

- DEA is mandated to protect the public's safety.
- DEA is required to ensure that DEA Registrants comply the Controlled Substance Act and its implementing regulations.
  - Inspections (Unannounced) – Maintains the integrity of the inspection process
  - Issue a Notice of Inspection to inspect records required to be kept/Giving consent to inspect records
  - Audit of dispensing records to ensure accountability
  - Verify patient limit compliance

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## Common Security Issues Noted During Inspections of NTPs

- Unauthorized access by trusted individuals.
- Inadequate physical security
- Limited or inoperative alarm security
  - No separate alarm on safe or cabinet
  - Alarms deactivated due to maintenance, frequent false alarms, or financial cutbacks

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## Common Recordkeeping Issues Noted During Inspections of both NTPs and DATA Waived Practitioners

- Inventories
  - Did not indicate date and point of time taken
  - Did not maintain for two years
- Records of Receipt
  - Did not indicate date or amount received
  - Did not maintain for two years
- Records of Dispensing
  - Lacked some or all of the information required in 21 C.F.R. 1304. For DATA Waived Practitioners, the UIN is often not on these records.
  - Did not maintain for two years

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## Further Common Recordkeeping Issues Noted During Inspections

- Reports of Thefts/losses
  - Not generated
  - Not sent to local DEA office
  - If generated, not maintained for two years
- Record of Disposal
  - Not generated
  - Lacked Approval from Local DEA office
  - If generated, not maintained for two years

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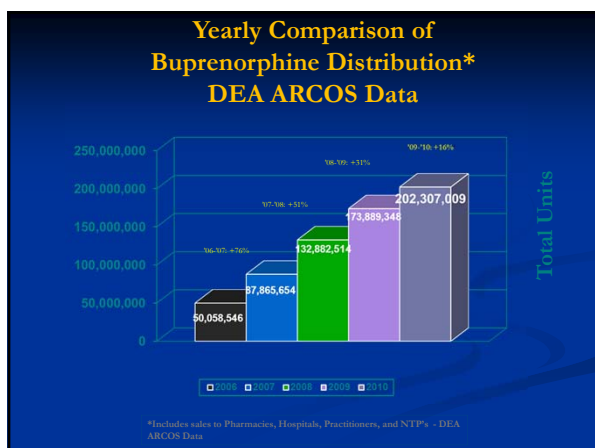
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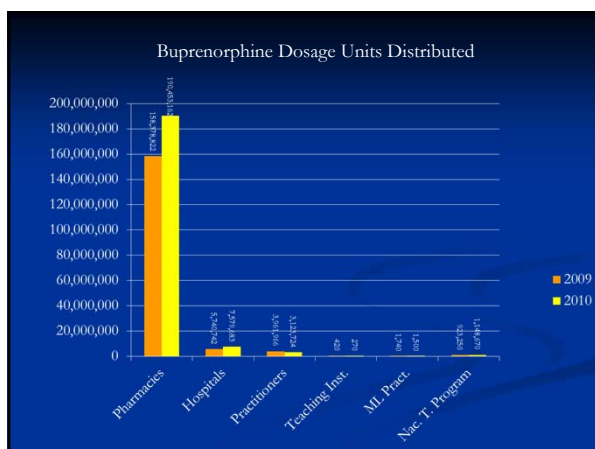
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## Diversion

- DEA is aware that some of the some of licitly manufactured controlled substances that were intended for use in treating opioid addiction are being diverted into the illicit market.

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## Diversion

- Suboxone: one street name is Prison Heroin
- Street price \$2-15.
- Smuggled into prisons in a variety of ways, including inside cards.
- Two uses other than for treatment, (1) stop gap between oxycodone fixes, and (2) euphoria.
- Oxycodone addicted individuals seek it out due to cost

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## Thefts/Losses Involving Buprenorphine Products

- Suboxone 8mg tablet
 

■ 2009 153 reports	35,462 du	
■ 2010 157 reports	54,577 du	
■ 2011 80 reports	16,696 du	(September 21, 2011)
- Subutex 8 mg tablet
 

■ 2009 16 reports	2,376 du	
■ 2010 14 reports	2,119 du	
■ 2011 9 reports	1,192 du	(September 21, 2011)
- One NTP in a criminal justice setting has reported a theft/loss of a buprenorphine product since 2009. This was for six generic Suboxone 8mg tablets.

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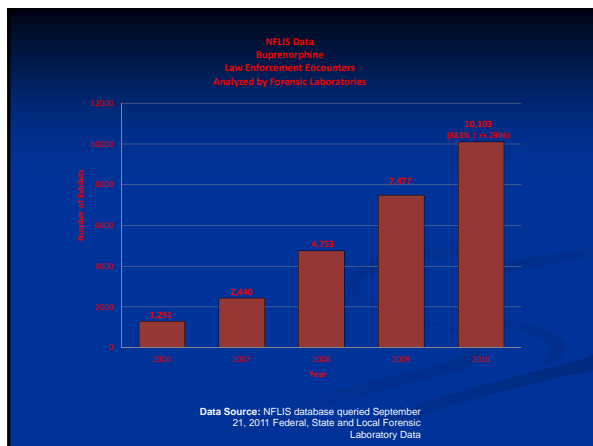
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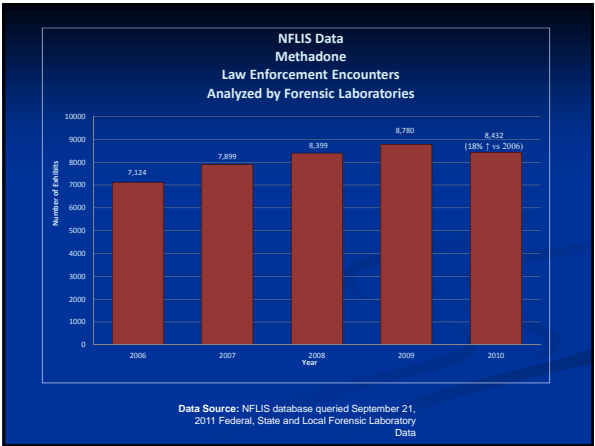
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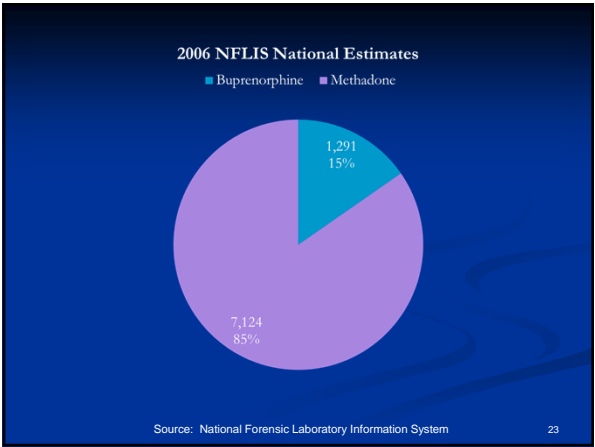
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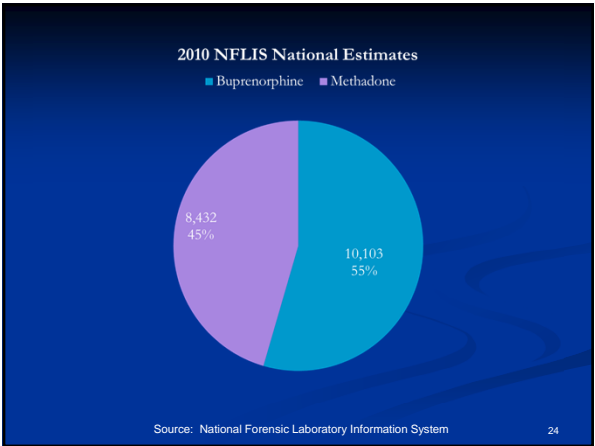
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### Issues regarding opioid treatment in the Criminal Justice Setting

- Transient nature of patients
  - Patient is released
  - Patient is transferred
  - Patient is hospitalized
- Transient nature of practitioners
  - Transfer or relocate
  - Retire
- Mid-level Practitioners vs Qualified Physicians

DRUG ENFORCEMENT ADMINISTRATION  
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### Issues regarding opioid treatment in the Criminal Justice Setting

- Guest Dosing
  - When does it become more than guest dosing
  - One day supply vs one week supply
- Prescriptions vs medical orders
  - Prescribing for methadone
  - Retail Pharmacies filling medical orders
- Standing Orders

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### Issues regarding opioid treatment in the Criminal Justice Setting

- Disposal
  - Partially used or contaminated product
  - Unused
- Access by unauthorized individuals
- Receipt and dispensing records
- Inventories and reports
- Storage of records and inventories

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# **Substance Abuse and the Criminal Justice System**

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## Substance Abuse

- Prescription drug abuse is the nation's fastest growing drug problem
- 27,000 people died of drug overdose in 2007
- Drug induced deaths outnumber gunshot deaths in America
- In 17 states such deaths exceed motor vehicle crashes as the leading cause of injury or death

(National Drug Control Strategy 2011, White House, Office of National Drug Control Policy)

## Drug Abuse and Criminal Activity

- ➔ According to the FBI, the most frequent arrests made in 2008 were for drug abuse violations -- estimated at 1.7 million arrests or 12.2% of the total number of all arrests.
  - 17.7% of the arrests were for sale/manufacturing,
  - 82.3% for possession
- ➔ In 2009, adults (18+) who were on parole or supervised release from jail had higher rates of dependence on or abuse of a substance than their counterparts who were not on parole or supervised release (22.8% vs. 8.4%).
- ➔ A similar trend was seen among those on probation – 27.9% on probation reported substance dependence or abuse vs. 8.1% among adults who were not on probation.

Sources: Crime in the United States 2008 & 2009 NSDUH

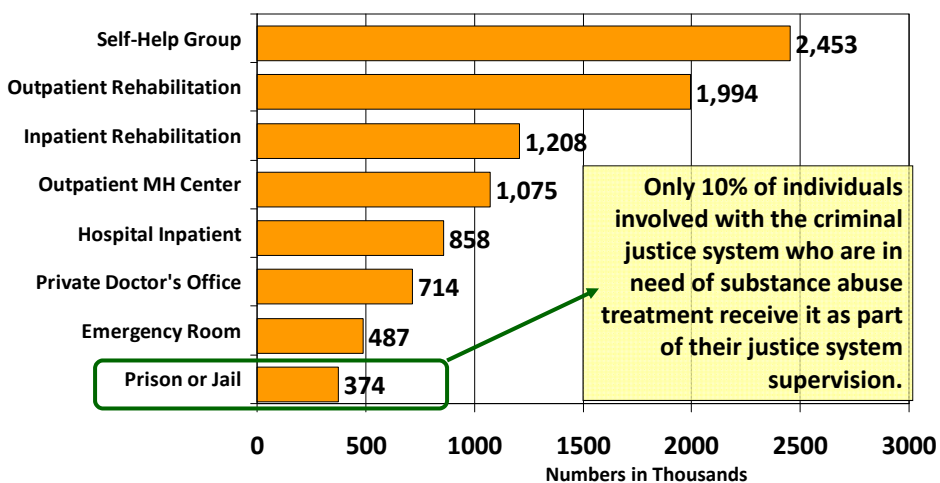
## Treatment Need of those in the Criminal Justice System

- Nearly 3/4ths of state prison inmates are in need of some substance abuse intervention:
  - 31.5% of male inmates and 52.3% of all female inmates require intensive services such as residential treatment programs.<sup>1</sup>
- Only ¼ of men returning from prison and 14% of women report participating in a formal drug or alcohol treatment program while incarcerated.
  - When AA and NA participation was added in, the number for men with a recent SA history rose to approximately ½ for men, but incarcerated women remained underserved.<sup>2</sup>

<sup>1</sup> Belenko and J. Peugh, Estimating drug treatment needs among state prison inmates, *Drug and Alcohol Dependence* (2005),

<sup>2</sup> Mallik-Kane, K., Visser, C. (2008 February) *Health and prisoner reentry: how physical, mental and substance abuse conditions shape the process of reintegration*. Urban Institute, Justice Policy Center, Retrieved 03/12/10 from [www.urban.org](http://www.urban.org)

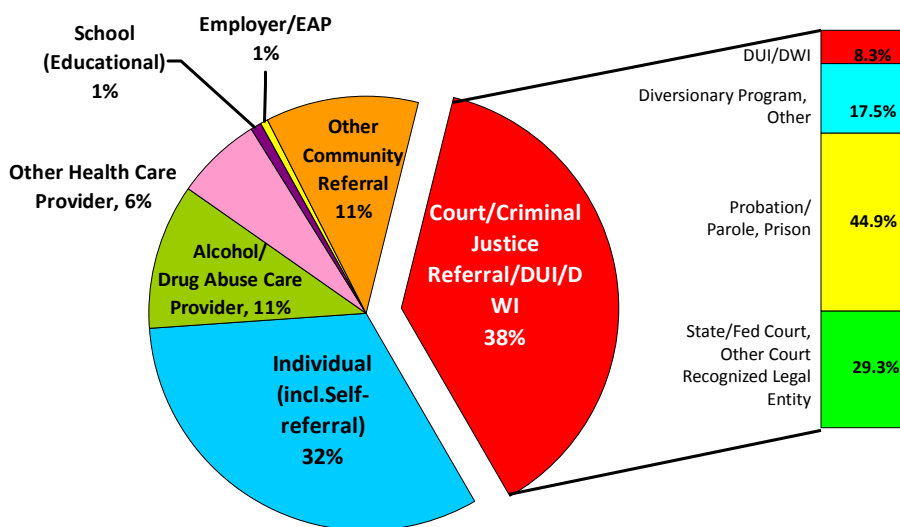
## Where Past Year Substance Use Treatment Was Received among Persons 12+: 2009



Source: NSDUH 2009



## However, the Criminal Justice System is the Largest Source of Referral to Treatment - 2008



Source: SAMHSA Treatment Data Set (TEDS) Concatenated, 2008

## SAMHSA's 2008 National Survey of Substance Abuse Treatment Centers

- 13,688 facilities responded to the survey
- Approximately 1,200 of these were opioid treatment programs (OTPs)
- 272,351 clients received opioid treatment services, accounting for 24% of all treatment program admissions
- 98% of these clients received methadone.
- 15,732 clients received buprenorphine.

## Admissions aged 12 and older, by primary substance of abuse in 2009

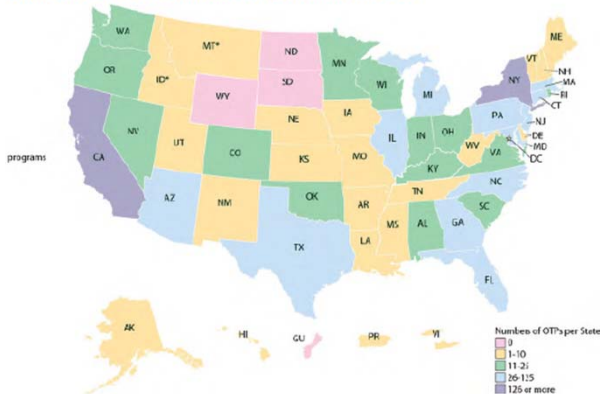
<b>Opiates</b>	<b>420,851</b>
Heroin	282,212
Other opiates/synthetics	138,639
Non-Rx methadone	5,876
Other opiates/synthetics	132,763

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

## United States

These two maps present an overview of medication-assisted therapy in the States and territories of the United States. They focus particular attention on SAMHSA certified OTPs that provide medication-assisted therapy to treat individuals addicted to opioids such as heroin, oxycodone, or hydrocodone. The first map shows the States with OTPs, and the second shows the number of patients. New York, California, and Texas have the largest number of OTPs at 152, 146 and 78 respectively.

### Number of Opioid Treatment Programs (March 2010)

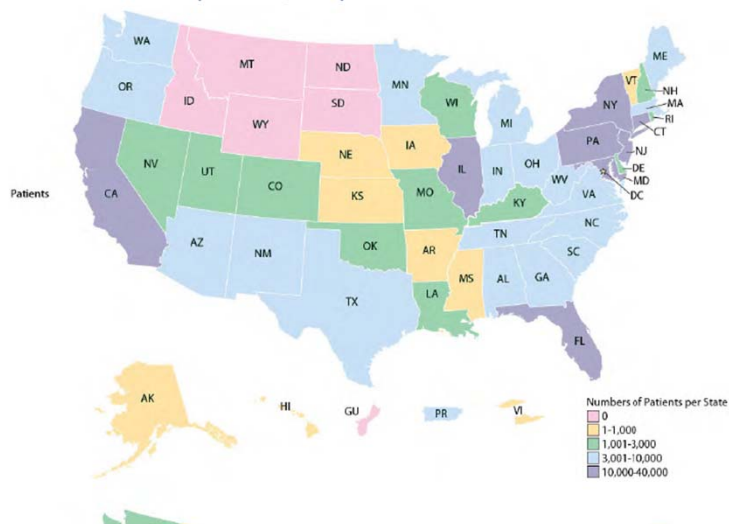


Total Number of OTPs: 1,216

Source: SAMHSA, CSAT, OTP Database, March 2010.

\*No data were reported by Idaho and Montana for March 31, 2008.

### Number of Patients (March 31, 2008) in the U.S.

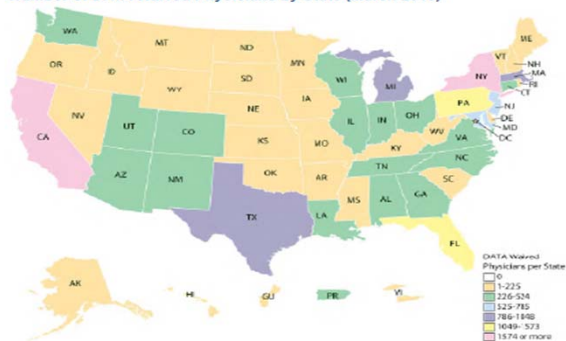


Total Number of Patients in OTPs: 272,351

Source: SAMHSA, CBHSQ. National Survey of Substance Abuse Treatment Services (N-SSATS). March 31, 2008.

The map below presents the number of physicians who have a waiver to prescribe or dispense buprenorphine and the number of patients in OTPs by State. New York, California, and Pennsylvania have the largest number of physicians who dispense buprenorphine at approximately 2,060, 2,087, and 1,165 respectively. However, New York, California, and Minnesota have the three largest numbers of patients receiving buprenorphine via OTPs.

### Number of DATA Waived Physicians by State (March 2010)

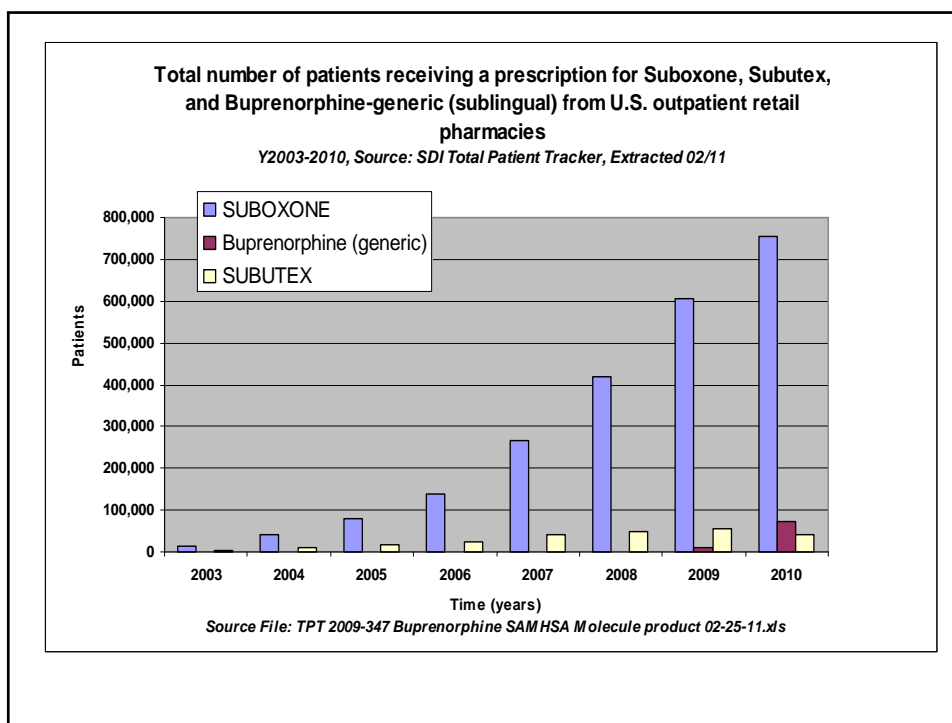


Total Number of Physicians: 18,842

Source: SAMHSA, CSAT. OTP Database. March 2010.

Total Number of Patients Receiving Buprenorphine via OTPs: 4,280

Source: SAMHSA, CBHSQ. National Survey of Substance Abuse Treatment Services (N-SSATS). March 31, 2008.



## SAMHSA's Adult Treatment Drug Court Program

- SAMHSA's active Adult Treatment Drug Court grantees have served 7,782 clients to date.
- 61.3% are male, and 38.7% female.
- Two-thirds (66.6%) are between the ages of 18 and 34 years old.
- Top 5 substances use:

Substance	% Used
Alcohol	28.0%
Marijuana	22.3%
Cocaine	9.0%
OxyContin	6.2%
Benzodiazepines	6.1%

Source: SAIS data through 6/23/11

## **Special Issues for Prisoners With Mental Illness**

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**A Jailhouse Lawyer's Manual Chapter 29: Special Issues for Prisoners with  
Mental Illness  
Columbia Human Rights Law Review  
8th Edition**

## **General Right to Medical Care**

You have a right to adequate medical care and treatment. Under the Eighth Amendment of the Constitution, the government has an obligation to provide medical care to those people whom it is punishing by incarceration. This right includes the regular medical care that is necessary to maintain your health and safety. Many states also have state statutes requiring prisons to provide medical care to prisoners.

## **What the Law Means by “Treatment”**

The definition of “treatment” under the law generally includes three steps: (1) diagnosis (a finding by a doctor or mental health specialist there is a mental illness), (2) intervention (a decision to treat with therapy, drugs, or other care), and (3) planning (developing a method to relieve suffering or find a cure).

Whether a particular medical action/choice qualifies as “treatment” depends on whether it is medically necessary and whether it will substantially help or cure your medical condition. Medical necessity usually involves a serious medical need, which “could well result in the deprivation of life itself” if untreated. The test to determine whether treatment is “necessary” is not whether a prisoner suffers from mental illness but rather whether that mental illness “requires care and treatment.

## **Mental Health Care**

**\*\*Mental health care is governed by the same deliberate indifference/serious needs analysis as physical health care. Most federal circuits have held the right to adequate medical care specifically includes any psychiatric care that is necessary to maintain your health and safety.**

In *Bowring v. Godwin*, an important early decision, the Fourth Circuit explicitly extended the right to medical care to mental illness treatment, noting that there is “no underlying distinction between the right [of a prisoner] to medical care for physical ills and its psychological or psychiatric counterpart.”

The *Bowring* court developed a three-part test to determine whether psychiatric care is necessary for a prisoner. Under the test, a prisoner who suffers from a mental illness is likely to have a right to mental health treatment if a health care provider determines that:

- (1) the prisoner's symptoms are evidence of a serious disease or injury;
- (2) that disease or injury is curable, or can be substantially improved; and
- (3) the likelihood of harm to the prisoner (in terms of safety and health, including mental health) is substantial if treatment is delayed or denied.

You should note that the *Bowring* test is the law only in the Fourth Circuit. Other courts are likely to consider using the standard in similar cases, especially because no court has issued a disagreeing opinion. However, the only courts that *must* apply the test are federal courts in the Fourth Circuit. You should still cite to *Bowring* if you are bringing a case in another federal jurisdiction, because the court in your circuit might find it persuasive.

## **Your Right to Treatment for Substance Abuse**

The American Psychiatric Association incorporates in its definition of mental illness “substance-related disorders,” which include illnesses like substance use, abuse, and withdrawal.

**\*\*The law, however, does not always consider such diseases as rising to the level of seriousness needed to require prison authorities to provide medical care to treat them. But, many courts have found that prisoners have the right to treatment for substance abuse in certain circumstances. The sections below describe these situations.**

### **A. No Right to Drug and Alcohol Rehabilitation in Prison**

**\*\*As a general rule, you have no right to rehabilitation while in prison. Individual states or corrections departments may decide that rehabilitation is an important goal and may implement programs to achieve that aim, but the Constitution does not require them to do so. One application of this rule is that there is no right to narcotics or alcohol treatment programs in prison. However, courts have at times ordered prisons to implement drug and alcohol treatment programs where their denial would otherwise lead to conditions that were so bad that they violated prisoners' rights to medical care; prisoners**

**often raise these issues successfully in the context of broader claims about unconstitutional conditions of confinement.**

Additionally, at least one court has found that prisoners should be “free to attempt rehabilitation or the cultivation of new socially acceptable and useful skills and habits.” It might be possible to argue that failure to receive drug treatment violates that freedom.

**\*\*There is also no right to methadone or to establishment of methadone maintenance programs in prison. On the other hand, a few courts have found that you do have the right to ongoing drug treatment from programs in which you already participate.**

This right extends primarily to pretrial detainees unable to post bail. Since such individuals have not yet been found guilty and are instead in jail because they cannot afford to post bail or have been determined to be a flight risk or danger to the community, they cannot be punished beyond detention and the necessary restraint of liberty that it entails. Forced rehabilitation is seen as a punishment, as is the pain suffered when methadone is discontinued.

### **B. Your Right to Avoid Deterioration (Getting More Sick) While Incarcerated**

**Many courts have held that even if you do not have an absolute constitutional right to treatment for certain illnesses like substance abuse, you do have a right to avoid having your illness get worse while you are in prison. Though some courts have not found a right to avoid getting more sick while incarcerated, several have at least found that where conditions are “so bad that serious physical or psychological deterioration is inevitable,” you can state an Eighth Amendment claim of cruel and unusual punishment. So, if your drug or alcohol addiction is likely to worsen your condition, you might be able to claim failure to receive adequate treatment violates your right to avoid deterioration while in prison. Even though different judicial circuits have established differing rules as to the extent of that right, at a minimum, if your deterioration results from the State’s intent to cause harm, you can claim the State violated your rights.**



### **C. Your Right to Care for Withdrawal**

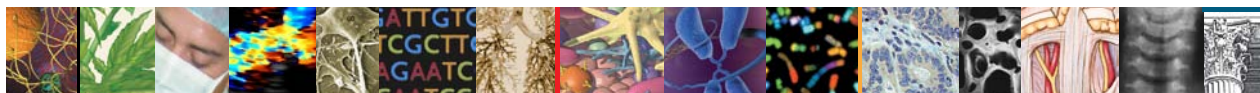
**\*\*Another exception to the general rule that prisons do not need to provide medical care for substance related disorders is that prisons *do* need to provide care for withdrawal, which can be excessively painful and dangerous, and is therefore considered a serious medical condition.** Because of the seriousness of withdrawal symptoms, you are entitled to treatment. Most of the cases have arisen in the context of pretrial detainees going through withdrawal just after arrest, but the courts have not explicitly limited the right to treatment to pretrial detainees; if a convicted prisoner is experiencing a serious medical need due to withdrawal, he should receive treatment.

**Source: A Jailhouse Lawyer's Manual Chapter 29: Special Issues for Prisoners with Mental Illness, Columbia Human Rights Law Review, 8th Edition**

[http://www3.law.columbia.edu/hrlr/JLM/Chapter\\_29.pdf](http://www3.law.columbia.edu/hrlr/JLM/Chapter_29.pdf)

# Medicine and the Epidemic of Incarceration in the United States

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# The NEW ENGLAND JOURNAL of MEDICINE

## Perspective

JUNE 2, 2011

### Medicine and the Epidemic of Incarceration in the United States

Josiah D. Rich, M.D., M.P.H., Sarah E. Wakeman, M.D., and Samuel L. Dickman, A.B.

Over the past 40 years, the number of people in U.S. prisons has increased by more than 600% — an unprecedented expansion of the criminal justice system. On January 1, 2008, one of every 100 adults,

or more than 2.3 million people, were behind bars.<sup>1</sup> An estimated 10 million Americans are incarcerated each year.<sup>2</sup> With only 5% of the world's population, the United States has a quarter of the world's prisoners. No other country locks up more of its citizens.

For black Americans, especially men with no college education, incarceration has become an alarmingly common life experience. By middle age, black men in the United States are more likely to have spent time in prison than to have graduated from college or joined the military,<sup>3</sup> and they are far more likely than whites to be sent to prison for drug offenses despite being no more likely than whites to use drugs.<sup>3</sup>

Much of the increase in the

prisoner census is a result of the “War on Drugs” and our country's failure to treat addiction and mental illness as medical conditions. The natural history of these diseases often leads to behaviors that result in incarceration. The medical profession has the chance both to advocate for changes in the criminal justice system to reduce the number of people behind bars who would be better served in community-based treatment and to capitalize on the tremendous public health opportunities for diagnosing and treating disease and for linking patients to care after release.

Deinstitutionalization of the mentally ill over the past 50 years and severe punishment for drug users starting in the 1970s have shifted the burden of care for ad-

diction and mental illness to jails and prisons. The largest facilities housing psychiatric patients in the United States are not hospitals but jails. More than half of inmates have symptoms of a psychiatric disorder as defined by the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV), and major depression and psychotic disorders are four to eight times as prevalent among inmates as in the general population — yet only 22% of state prisoners and 7% of jail inmates receive mental health treatment while incarcerated.<sup>4</sup>

The medical care that many inmates receive, in combination with a different environment, can be lifesaving. Yet correctional facilities are fundamentally designed to confine and punish, not to treat disease. The harsh and socially isolating conditions in jail or prison often exacerbate mental illness, especially when inmates are placed under solitary confinement, as is common

Prevalence of Medical Conditions among Federal and State Prisoners, Jail Inmates, and the Noninstitutionalized U.S. Population.*				
Condition	Federal Inmates	State Inmates	Jail Inmates	U.S. Population
	<i>percent</i>			
Any chronic medical condition	38.5	42.8	38.7	NA
Diabetes mellitus	11.1	10.1	8.1	6.5
Hypertension	29.5	30.8	27.9	25.6
Prior myocardial infarction	4.5	5.7	2.1	3.0
Persistent kidney problems	6.3	4.5	4.1	NA
Persistent asthma	7.7	9.8	8.6	7.5
Persistent cirrhosis	2.2	1.8	1.8	NA
Persistent hepatitis	4.6	5.7	4.6	NA
HIV infection	0.9	1.7	1.6	0.5
Symptoms of mental health disorders	39.8	49.2	60.5	10.6
Major depressive disorder	16.0	23.5	29.7	7.9
Mania disorder	35.1	43.2	54.5	1.8
Psychotic disorder	10.2	15.4	23.9	3.1

\* Data are from the Bureau of Justice Statistics and a 2009 study from the Cambridge Health Alliance. NA denotes not available.

in the “super maximum” facilities that have proliferated extensively in recent years.

Substance use and dependence are highly prevalent in the incarcerated population. More than 50% of inmates meet the DSM-IV criteria for drug dependence or abuse, and 20% of state prisoners have a history of injection-drug use.<sup>4</sup> Up to a third of all heroin users — approximately 200,000 — pass through the criminal justice system annually. With growing numbers of drug users in correctional facilities, the prevalence of infectious diseases has increased correspondingly. As many as a quarter of all Americans infected with HIV and one in three with hepatitis C pass through a correctional facility each year.<sup>2</sup> Chronic noninfectious diseases are also disproportionately prevalent in correctional facilities (see table).

The impact of incarceration

extends far beyond the approximately 10 million people who are put behind bars each year. In low-income minority communities where a large portion of the male population is in correctional facilities at any given time, incarceration delivers a devastating blow to stable relationships, resulting in risky sexual partnerships that lead to increased rates of sexually transmitted diseases and HIV transmission and may increase rates of unwanted pregnancy. The disproportionate incarceration of young black men is also associated with low wages and rising unemployment rates, which further exacerbate disparities in health. Because no country has ever incarcerated people at such high rates, the full extent of the social and public health consequences will not be known for years to come.

Nearly all prisoners will eventually return to the community,

and the post-release period presents extraordinary risks to individuals and costs to society. In the 2 weeks after release, former inmates are 129 times more likely to die from a drug overdose than members of the general public and 12 times more likely to die of any cause.<sup>5</sup> Yet most released inmates lack medical insurance, and Medicaid benefits have often been terminated upon incarceration.<sup>2</sup> Although discharge-planning practices vary considerably, inmates are typically released with no more than a 2-week supply of even crucial medications such as insulin and with no primary care follow-up, so the burden of care falls predominantly on emergency rooms and is financed primarily by the public sector.<sup>2</sup> Addressing the health needs of this vulnerable population is thus not only an ethical imperative, but also of crucial importance from both a fiscal and a public health perspective.

Correctional facilities are a critical component of the public-safety infrastructure, but many observers believe that the social and economic costs associated with the unprecedented expansion of the U.S. correctional system now far outweigh the benefits. State correctional spending has increased by 300% since 1980, to \$50 billion annually; it's now the fastest-growing area of government spending after Medicaid.<sup>1</sup> In Rhode Island, the average cost in 2008 of incarcerating an inmate for 1 year was \$41,346; for an inmate in a super maximum security setting, the cost jumps to \$109,026 annually. Five states now spend more on corrections than they do on higher education.<sup>1</sup> As alternatives to incarceration, addiction and mental health treatment programs are

more humane and cost-effective and ultimately better address the underlying problems, but political support for these approaches is crippled by policymakers' fear of being labeled "soft on crime."

There are tremendous medical and public health opportunities that can be created by addressing the health care needs of prisoners and former prisoners. Perhaps foremost among these is that opened up by health care reform: the Affordable Care Act will permit most former prisoners to receive health insurance coverage, which will offer them greater access to much-needed medical care. Such access could redirect many people with serious illnesses away from the revolving door of the criminal justice system, thereby improving overall public health in the communities to which prisoners return and decreasing the costs associated with reincarceration due to untreated addiction and mental illness. To achieve these gains, we will need to ensure linkages

to medical homes that provide substance-use and mental health treatment for reentering populations. Partnerships between correctional facilities and community health care providers — especially community health centers and academic medical centers — can capitalize on health gains made during incarceration and improve the continuity of care for former inmates during the critical post-release period. The success of this effort will determine not only the health of released prisoners, but that of our society as a whole.

Locking up millions of people for drug-related crimes has failed as a public-safety strategy and has harmed public health in the communities to which these men and women return. A new evidence-based approach is desperately needed. We believe that in addition to capitalizing on the public health opportunities that incarceration presents, the medical community and policymakers must advocate for alternatives to

imprisonment, drug-policy reform, and increased public awareness of this crisis in order to reduce mass incarceration and its collateral consequences.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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## The Long-Term Effects of In Utero Exposures — The DES Story

Annekathryn Goodman, M.D., John Schorge, M.D., and Michael F. Greene, M.D.

It has been 40 years since the *Journal* published a seminal article by Herbst et al. (1971;284:878-81) noting the association of in utero exposure to a synthetic nonsteroidal estrogen, diethylstilbestrol (DES), and the development of a rare clear-cell adenocarcinoma (CCA) of the vagina in young women 15 to 22 years later. The identification of an in utero exposure that caused alterations to the anatomical and histologic structure of the female genital tract, infertility, and malig-

nant transformation has changed medical thinking about both the embryologic development of the genital tract and the mechanism of carcinogenesis.

DES was developed in 1938 and used widely, including as a supplement to cattle feed in the 1960s and in humans for symptom relief from estrogen-deficiency states, postpartum lactation suppression, and treatment of prostate and breast cancer. Despite some evidence to the contrary, a 1948 study suggested that

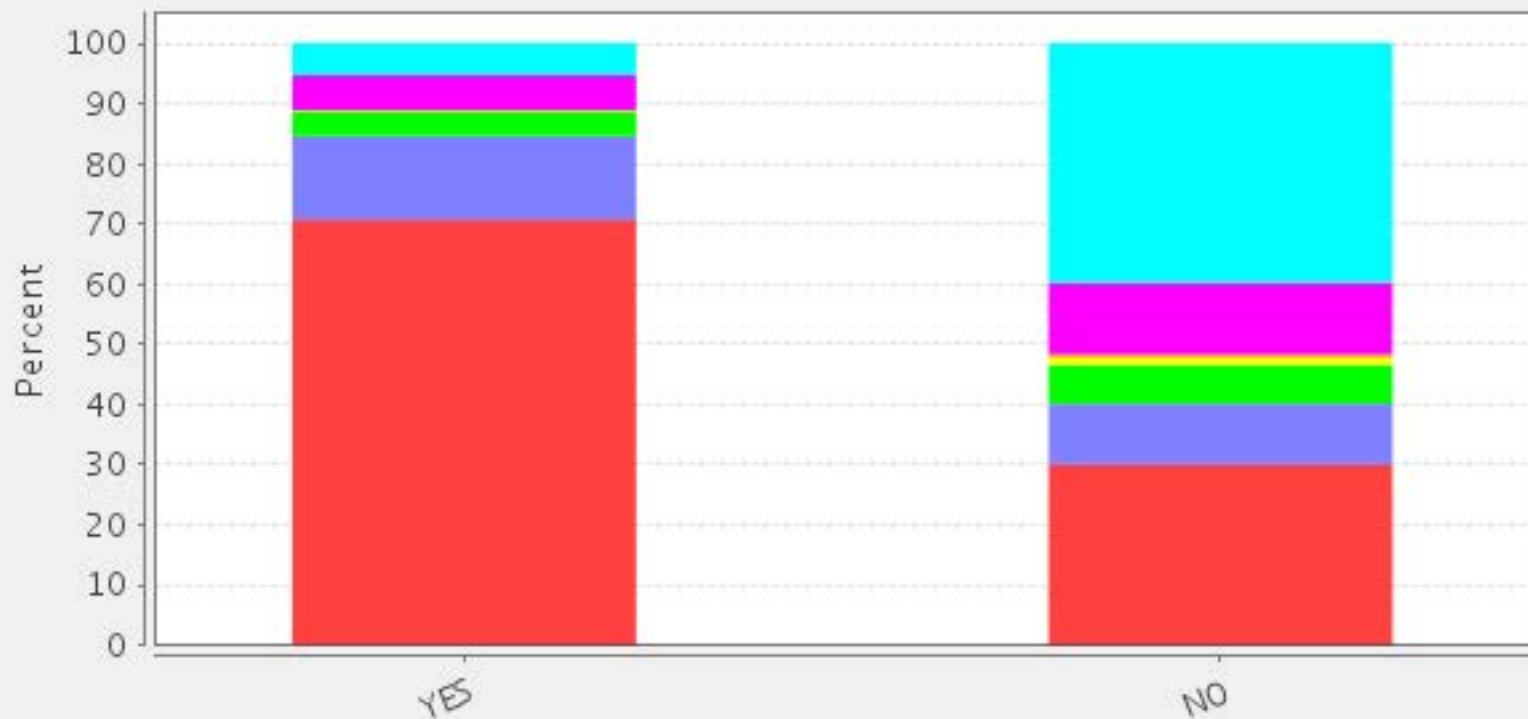
DES taken in early pregnancy prevented miscarriage.<sup>1</sup> Over the subsequent two decades, and despite mounting evidence of lack of efficacy, DES was commonly prescribed for that purpose. Ultimately, however, it was acknowledged to be ineffective in the prevention of miscarriage. The exact number of offspring exposed to DES in utero is unknown but is thought to be several million.

The Registry for Research on Hormonal Transplacental Carcinogenesis had collected information

**Principal Source of Referral by Medication:**  
**Assisted Opioid Therapy**

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# PRINCIPAL SOURCE OF REFERRAL BY MEDICATION-ASSISTED OPIOID THERAPY



■ INDIVIDUAL (INCLUDES SELF-REFERRAL) ■ ALCOHOL/DRUG ABUSE CARE PROVIDER  
■ OTHER HEALTH CARE PROVIDER ■ SCHOOL (EDUCATIONAL) ■ EMPLOYER/EAP  
■ OTHER COMMUNITY REFERRAL ■ COURT / CRIMINAL JUSTICE REFERRAL / DUI / DWI