



National Institute of Justice

**Panel on Medication-Assisted Treatment for Heroin and Other
Opioid Abusing Offenders**

October 3, 2007
Washington, DC

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Meeting Objectives

The five panelists in this 2-hour presentation discussed the use of opioids and treatment options for offenders who are incarcerated or under supervision in the community. Approximately 68 percent inmates report being regular drug users, according to the [Bureau of Justice Statistics](#). Given such a high level of substance abuse, treatment is a necessary consideration.

Counseling and other non-medication treatment therapies can be successful, but medication such as methadone and buprenorphine are often prescribed as well.

The discussion raised several issues:

- Treatment philosophy of complete abstinence (clean and sober).
- Appropriateness of short-term (buprenorphine) vs. long-term (methadone) regimens.
- Heroin (including injection drug) vs. other opioid (prescription drug) abusers.
- Nonclinical problems of compliance and improper use (boosting with alcohol and other drugs).

All of these issues affect the relapse and recovery of offenders and consequently their recidivism and return to the community.

Panelists

- Joshua M. Sharfstein, M.D., Commissioner of Health, and Chair of the Drug and Alcohol Abuse Council, for the City of Baltimore
Advances in Substance Abuse Treatment and the Impact on the Criminal Justice System ([View Slides](#))
- Gregory C. Warren, M.A., M.B.A., Director of Substance Abuse Services, Maryland Department of Public Safety and Correctional Services
An Opioid Treatment Program at the Baltimore City Detention Center ([View Slides](#))
- Carol D. Shropshire, C.A.S.A.C., Administrator of Addiction Medicine, Prison Health Services, Inc. (Contractor), New York City Department of Health Mental Health and Correctional Health Services
Treatment of Opioid Dependence: Buprenorphine vs. Methadone in New York City Jails ([View Slides](#))
- Lisa A. Marsch, Ph.D., Director of the Center for Technology and Health at NDRI, and Research Scientist at St. Luke's-Roosevelt Hospital Center in New York City
Treatment of Heroin or Other Opiate Addiction in Adolescents ([View Slides](#))
- Robert Lubran, M.S., M.P.A., Director of Division of Pharmacologic Therapies, Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration
Discussant

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Buprenorphine:

Advances in Substance Abuse Treatment & the Impact on the Criminal Justice System

Joshua M. Sharfstein, MD

Commissioner of Health, Baltimore City

October 3, 2007

Overview

- Background & scientific evidence of buprenorphine treatment
- The Baltimore Buprenorphine Initiative
- Buprenorphine and the criminal justice system

Buprenorphine: Background

- Buprenorphine is a partial opioid agonist
 - Low maximal effects of euphoria, respiratory depression
- Advantages of Buprenorphine
 - Reduces cravings, withdrawal symptoms
 - Limited side-effects
 - Less potential for illegal diversion
 - Fewer overdoses (ceiling effect)
 - Proven to be safe and effective
 - Improves retention in treatment



Buprenorphine: Scientific Evidence

- Significantly superior to placebo in treatment retention and in suppression of use. (Ling 1998 and Johnson 1995)
- No significant difference to methadone in:
 - Treatment retention
 - Suppression of heroin use
 - # of cocaine and benzodiazepine positive urines
 - Level of criminal activity (Mattick et al, 2006; *Cochrane Review*)

Buprenorphine: Scientific Evidence

- Overdose deaths fell from 565 to 143 (75%) over 4 years in France (Ling and Smith, 2002)
- Less side effects, milder withdrawal symptoms than methadone (Krantz and Mehler, 2004)
- New patient populations come into treatment (younger, employed, shorter history of use) (Sullivan et al, 2004)

Buprenorphine: Treatment Outcomes & Criminal Justice

- Reduction in:
 - Risk-taking behaviors (Teesson et al, 2006)
 - Criminal behaviors (Teesson et al, 2006)
 - Psychopathology (Teesson et al, 2006)
 - Injection related behaviors (Teesson et al, 2006)
 - > 60% heroin abstinence at 1 year follow up (Teesson et al, 2006)
 - Drug buying/selling & violent crimes at 5 year follow-up (Gossop et al, 2005)

Baltimore's Challenges

- Heroin addiction remains high:
 - Supply falls short of demand despite expansion in treatment over past 10 years
 - ~4,000 methadone treatment slots
 - > 10,000 admissions for heroin treatment in FY 2006
- High rate of violent crime

Baltimore's Opportunities

- Large medical system
 - Opportunity to expand treatment to physician offices, clinics, and CHC's
- Support from local leadership
- High crime rate & drugs are major local concerns

The Baltimore Buprenorphine Initiative



Step 1: Patient starts buprenorphine in substance abuse treatment program

Baltimore Substance Abuse Systems, Inc. Oversees contracts with treatment programs

Step 2: Patient transitions to medical system

Baltimore Healthcare Access, Inc. Social workers arrange insurance and transfer

Baltimore City Health Department. Supports training for doctors in medical system

Step 3: Patient continues to receive buprenorphine from own doctor

Buprenorphine treatment in substance abuse treatment program now available for someone else



Baltimore's Results to Date

- 543 patients total; 308 currently active
 - 63% remained in treatment for 90+ days
- 91 patients transferred to PCPs
 - 13 dropped out in 236 total months of medical care
 - ~50% continue counseling after transfer
- At least 79% qualify for health insurance
- Training 150 physicians and residents
- Cost-effectiveness, new funding sources established

Remaining Challenges

- Education of local police
- Diversion prevention
 - Market for buprenorphine exists
 - Fake buprenorphine pills sold
- Communication gap among different systems:
 - Substance abuse
 - Medical
 - Mental health
 - Criminal justice

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Outstanding Opportunities

- Treatment coordination with Criminal Justice System
- Buprenorphine Behind Walls:
 - Induction, stabilization, maintenance while in jail
 - Upon release, transfer to substance abuse treatment site and/or medical system as appropriate
 - Continuity of treatment and initiation of medical care ensured post-jail

An Opioid Treatment Program

at the

Baltimore City Detention Center

Greg Warren, MA, MBA

Director of Substance Abuse Services

Maryland Department of Public Safety and Correctional Services

Innovation and the Challenges in Implementing Change

- Scope of Baltimore's Problem
- Characteristics of Baltimore's heroin-addicted inmates
- Goals of the OTP
- Implementation Challenges

Scope of the Problem

| | |
|-----------------------------------------------------------|--------|
| Number of Addicts in Baltimore City | 58,000 |
| 60,000 Individuals/ 90,000 Bookings annually | 90,000 |
| 60% Released within 24 hours | 54,000 |
| Inmates incarcerated longer than 24 hours | 36,000 |
| 70 % of individuals Alcohol/Drug Dependent | 25,200 |
| 67% Heroin is Drug of Choice for Baltimore City Residents | 16,884 |
| 50% (?) Heroin addicts needing Detox | 8,400 |
| 10% of 6,200 Methadone clients will get arrested annually | 620 |

Criminal History of Prison-based OTP Patients

1

| | Mean |
|-----------------------------------|-------|
| Age first crime | 13.8 |
| Age first arrest | 16.5 |
| Age first incarceration | 20.6 |
| Lifetime incarcerations | 9.1 |
| Past 30 days involved in crime | 25.5 |
| Past 30 days crime-profit | 24.8 |
| Criminal Income (\$/past 30 days) | 8,057 |

¹ Kinlock, Schwartz Gordon (2005)

Goals of Jail-based OTP

- Provide effective & humane treatment
- Engage new patients in treatment
- Improve Inmate Security
- Reduce Maryland's 49% recidivism rate
- Improve public health and crime rates
- Satisfy political and judicial pressures
- Demonstrate potential cost savings

Planned OTP Interventions

- Maintain arrested OTP clients during Pre-Trial status and reconnect them to their OTP at release
- Detox heroin-addicted inmates with non-opioids or methadone
- Longer-term goal: Engage heroin-addicted inmates in methadone maintenance “behind the walls” and directly link them with a community program upon release

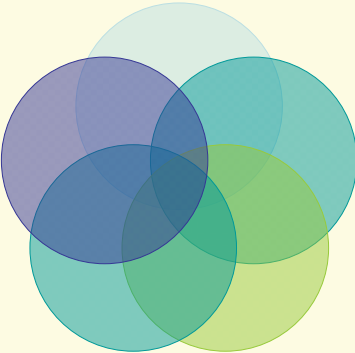
Opioid Treatment Stakeholders

Inmate
Motivation

DPSCS
Medical
Provider

Custody Staff

Community
Providers



Pharmacy
Vendor

Regulatory
Agencies

Foundations

Strategic Framework



Implementation Challenges

- Treatment within a correctional culture
- OTP Correctional regulations in Maryland do not exist
- Partnerships need to be created with State and Federal regulatory agencies
- Law of Unintended consequences
 - Public health system
 - Community program effectiveness

Lessons Learned: Implementation Challenges

- Change process is needed which requires personal contact, data collection and cultural analysis
- Change creates a fear of failure and resistance
- Leaders need to be realistic about timeline and not press faster than staff can absorb, own and embrace change
- Promoting change must reduce resistance thru:
 - Identifying your “champions”
 - Education
 - Personal involvement in change

Treatment of Opioid Dependence Buprenorphine vs. Methadone in NYC Jails

Carol D. Shropshire, CASAC Prison Health Services,
Inc. Rikers Island, NDRI and NYCDOH MH

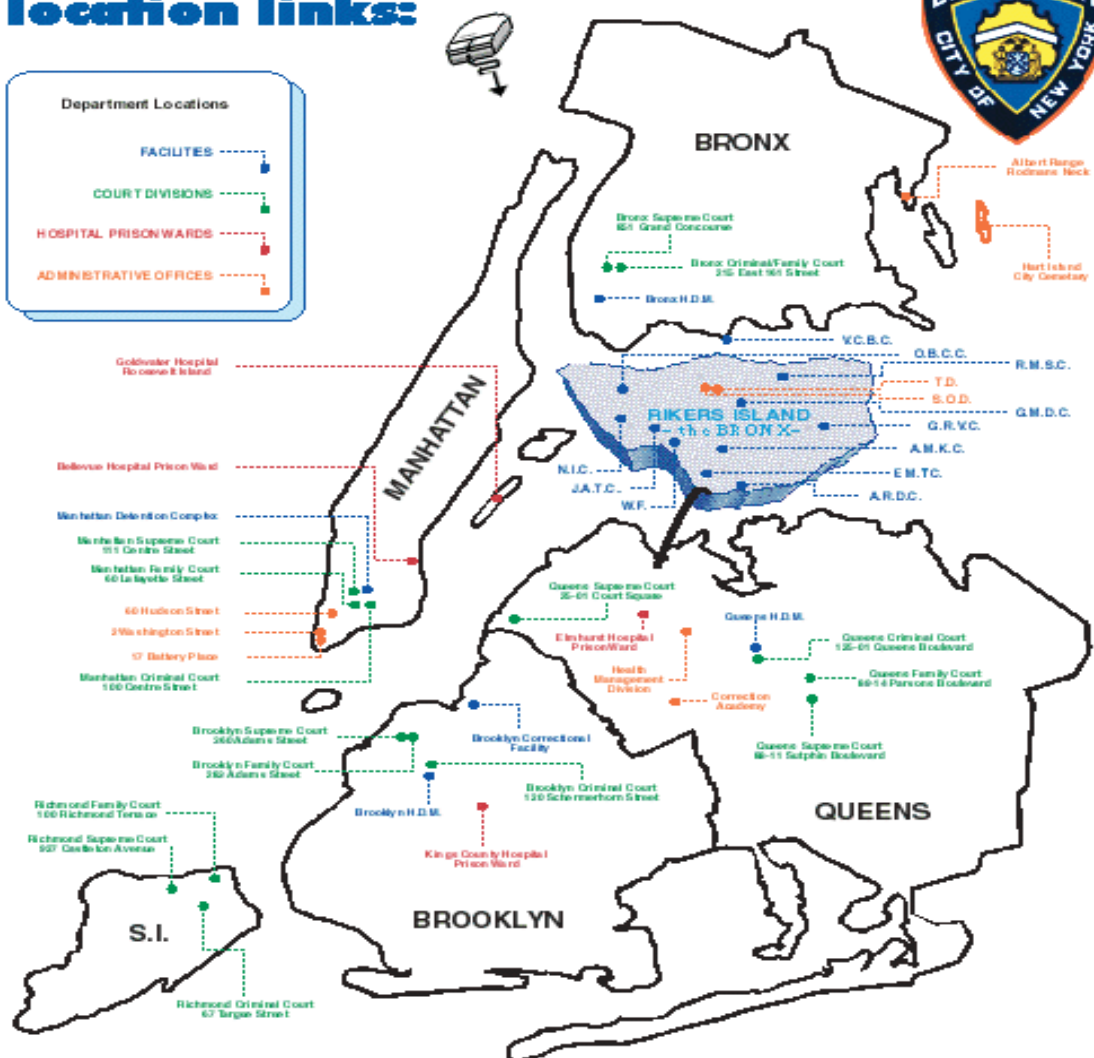


Click on a borough to access location links:



Department Locations

- FACILITIES
- COURT DIVISIONS
- HOSPITAL PRISONWARDS
- ADMINISTRATIVE OFFICES



Opioid Tx.

- History
- Accreditation
- Patients < 5,000 Maintenance
- > 14,300 Detoxes
- Buprenorphine vs. Methadone Study 07

Admission

- Standard - Detox 12 day or verified
- KEEP Evaluation - 1 – 7 days
- Buprenorphine study assessment:
- Random Choices - Methadone or buprenorphine

Year 2006 statistics

- 9364, out of treatment admissions
- 5384, community methadone maintenance admissions
- 4210 enter KEEP Program
- 3200 discharge to community programs
>75% reporting rate for > 20 years

100%

76%

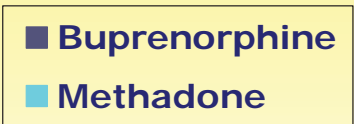
69%

66%

28%

32%

9%

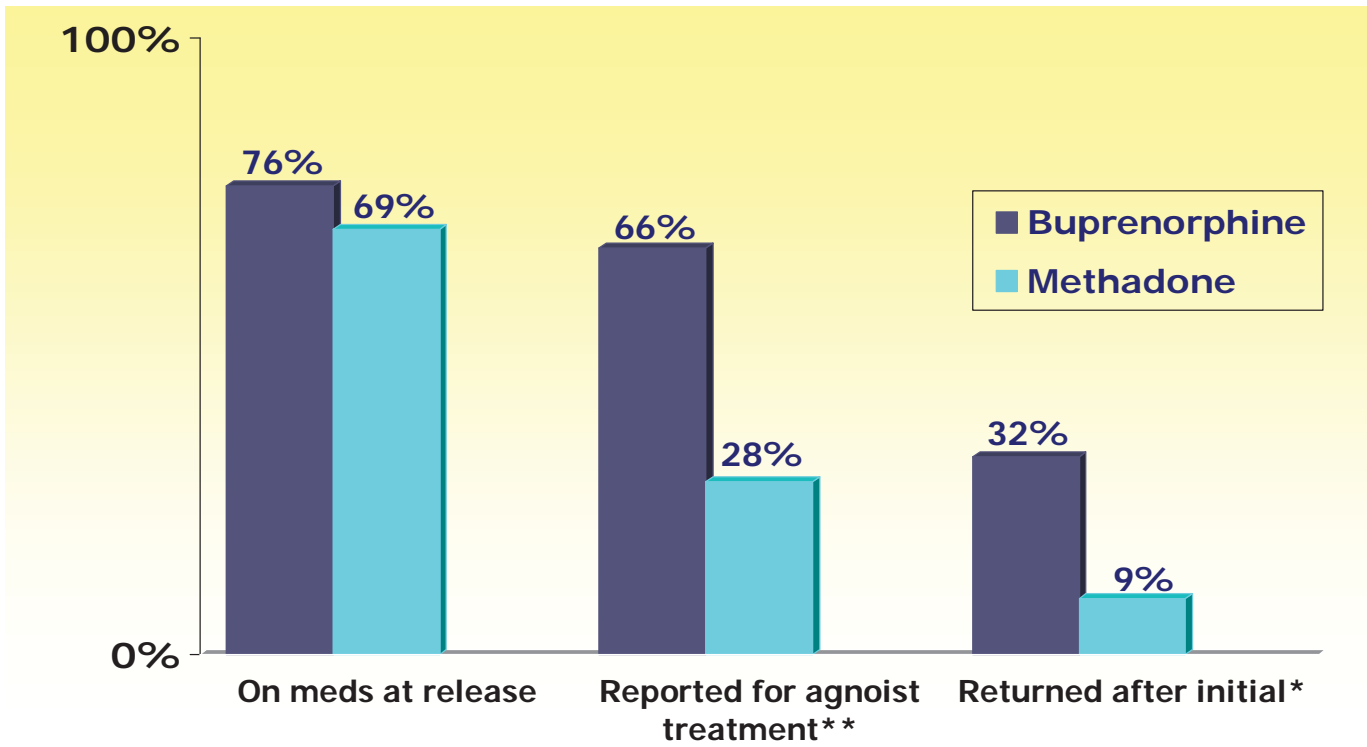


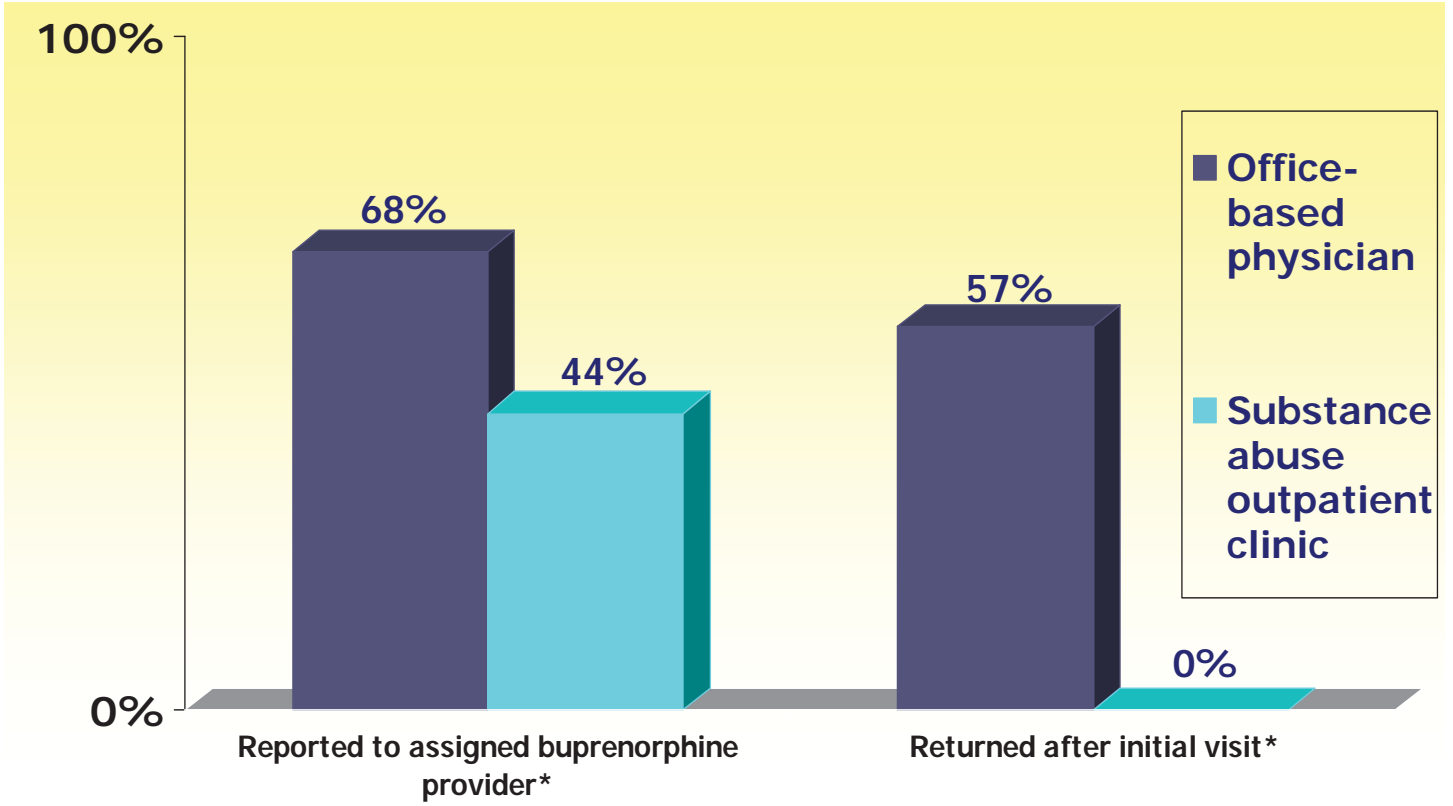
On meds at release

Reported for agnoist
treatment**

Returned after initial*

0%





Post release outcomes

- Higher incarceration methadone dose (means) - higher reporting rate to community programs.
- Patients who traditionally do not report to community methadone programs, seem report for buprenorphine treatment with concierge settings at much higher rates.
- In general, very few patients ask to switch back to methadone, after being induced on buprenorphine.
- Many patients who are admitted to the system from community methadone programs request the switch to buprenorphine.
- Very small <1% diversion of medication.
- Only 1 precipitated withdrawal – 1 out of 150 patients

Things to Ponder

- Correctional staff training.
- Community networks must be well established and/or dedicated to discharges from correctional facilities.
- Considerations to cost and insurance

Treatment of Heroin or Other Opioid Addiction in Adolescents

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Recreational Heroin & Other Opioid Use Among Youth

- Recreational use and dependence on heroin and other opioids among adolescents is a significant and, in some countries, a growing public health concern.
- In the U.S., the prevalence of heroin use among 8th, 10th, & 12th graders increased from 0.4-0.6% a decade ago to 1.0-1.6% in recent years (Monitoring the Future, 2006)
- About 13% of 8th graders, 17% of 10th graders & 27% of 12th graders say heroin is “fairly or very easy to get” (MTF, 2006)

Recreational Heroin & Other Opioid Use Among Youth

- The increased number of young heroin users has been largely attributed to the decreased price and increased purity of heroin, which allows for intranasal use.
- Purity of heroin in U.S. increased from an average of approx. 7% a couple of decades ago to approx. 69% (DEA, 2003)
- Many adolescents initiate heroin use by snorting it; however, they are at great risk of becoming injection drug users.
- Heroin-using adolescents have the highest rate of injection drug use compared with youth using other substances.

Recreational Heroin & Other Opioid Use Among Youth

- 2.6%, 3.8% & 4.3% of 8th, 10th & 12th graders, respectively used OxyContin, and 3%, 7% & 9.7% used Vicodin in last year (Monitoring the Future, 2006)
- About 13% of 8th graders, 22% of 10th graders & 40% of 12th graders say narcotics are “fairly or very easy to get” (MTF, 2006)
- Opiates are currently the second most commonly used illicit drugs among youth in the U.S.
- These trends of increased recreational opioid use have paralleled a sizeable and continuing growth of the availability of new prescription analgesics available in the pharmaceutical market.

Research on Treatment for Opioid-Dependent Adolescents

- A few treatment studies were conducted in the 1960s and 1970s with opioid-dependent youth
- These studies typically did not have control groups or use random assignment, most did not specifically focus on youth under age 18, & may not reflect characteristics of the current cohort of opioid-abusing youth.
- We launched a line of clinical research to identify effective treatments for this understudied population of youth.

Overview of First, Randomized, Controlled Trial

(Marsch et al., 2005, *Archives of General Psychiatry*)

- First study in science-based, data-driven effort to produce information needed to effect large-scale change
- Double-blind, double-dummy study designed to compare the relative efficacy of buprenorphine and clonidine in the detoxification of opioid-dependent youth (28-day detoxification; ages 13-18 eligible)
- Informed by the scientific literatures on both effective treatment for opioid-dependent adults & effective treatment of adolescent substance abusers in general

Behavioral Interventions

- All adolescents were also provided with a multicomponent, behaviorally-based treatment program:
 - Individual behavior therapy, including family therapy (based on efficacious Community Reinforcement Approach)
 - Voucher-based Contingency Management (incentives for drug abstinence as measured via thrice weekly urinalysis and clinic attendance)
 - Outreach component to engage adolescents in recreational and other activities to increase non-drug sources of reinforcement

Post-Detoxification Interventions

- All adolescents were provided with 2 months of aftercare, including:
 - Individual Counseling
 - Urinalysis (semi-quantitative)
 - Naltrexone - A pure opioid antagonist; prevents receptor activation by other opioid compounds and blocks effects of other opioid drugs
 - Referral to a community-based treatment facility

Participant Characteristics

($n=36$)

| <u>CHARACTERISTIC (% or M + SD)</u> | <u>BUPRENORPHINE</u> | <u>CLONIDINE</u> |
|------------------------------------------|----------------------|------------------|
| Age | 17.3 (0.7) | 17.4 (0.7) |
| Age of First Opiate Use | 15.0 (1.6) | 14.7 (1.7) |
| Gender (% Male) | 50% | 28% |
| Race (% Caucasian) | 100% | 94% |
| Route of Opiate Use (% Injecting) | 33% | 39% |
| Primary Opiate Used (% Using Heroin) | 55% | 50% |
| # of Days Used Opiates in Last 30 Days | 27.7 (3.0) | 27.7 (4.8) |
| # of Prior Outpatient S. Abuse Treatment | 0.9 (1.05) | 1.1 (1.13) |
| # of Prior Inpatient S. Abuse Treatment | 0.8 (1.06) | 0.4 (0.85) |

Other Participant Characteristics/ Life History Variables

- Participants reported significant exposure to risk and high levels of risk behavior. *For example,*

93% had a family member who drank/used drugs regularly; 45% had a family member with significant mental health problems

44% had experienced a significant family crisis and 41% had someone close to them reject them

36% had witnessed severe violence or abuse, and 31% percent of female participants reported having been raped

Over half (53%) had a family member who engaged in illegal activity, and over 70% had witnessed the arrest of a friend, relative, or neighbor

Other Participant Characteristics/ Life History Variables

- Participants criminal activity included:

91% had committed a crime, most commonly shoplifting (73%) & drug dealing (57%)

Age of first occurrence of criminal activity was 14 years on average

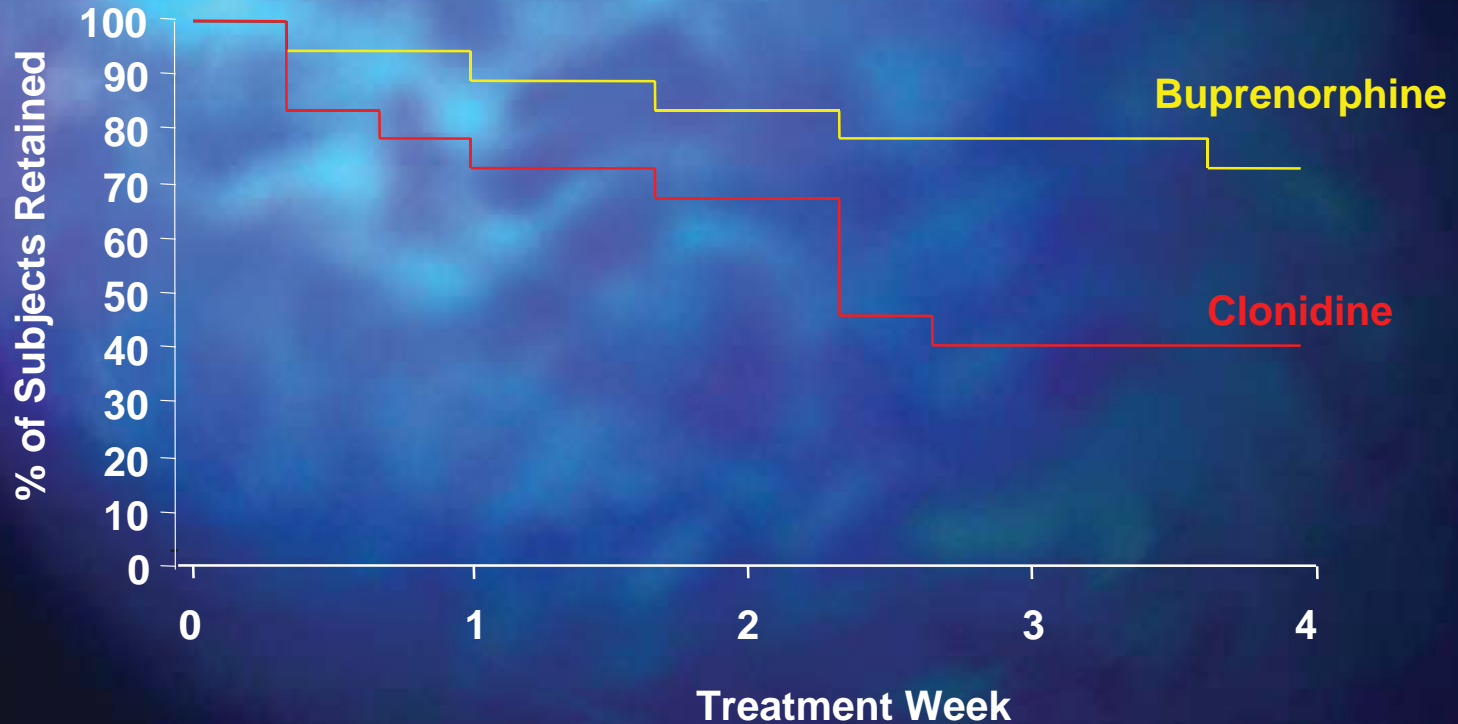
54% had been picked up by police

42% had been on probation

24% spent time in juvenile detention or jail

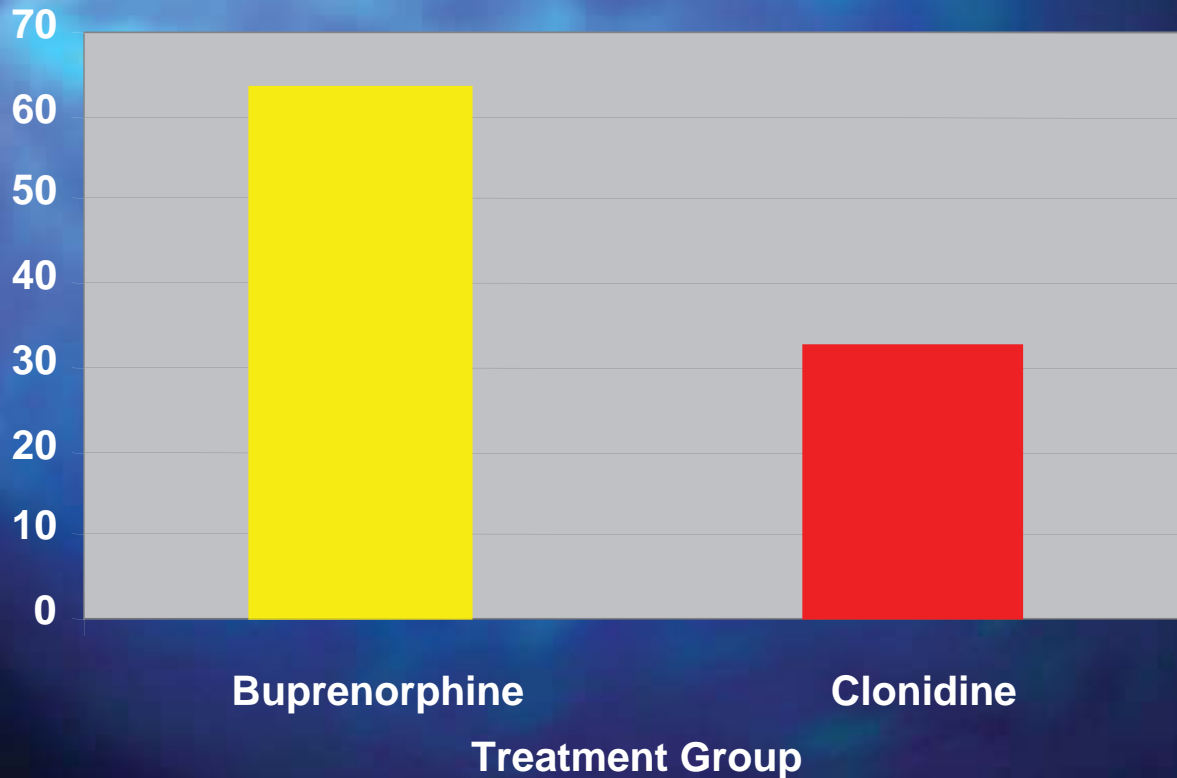
Treatment Retention

($p=.04$)

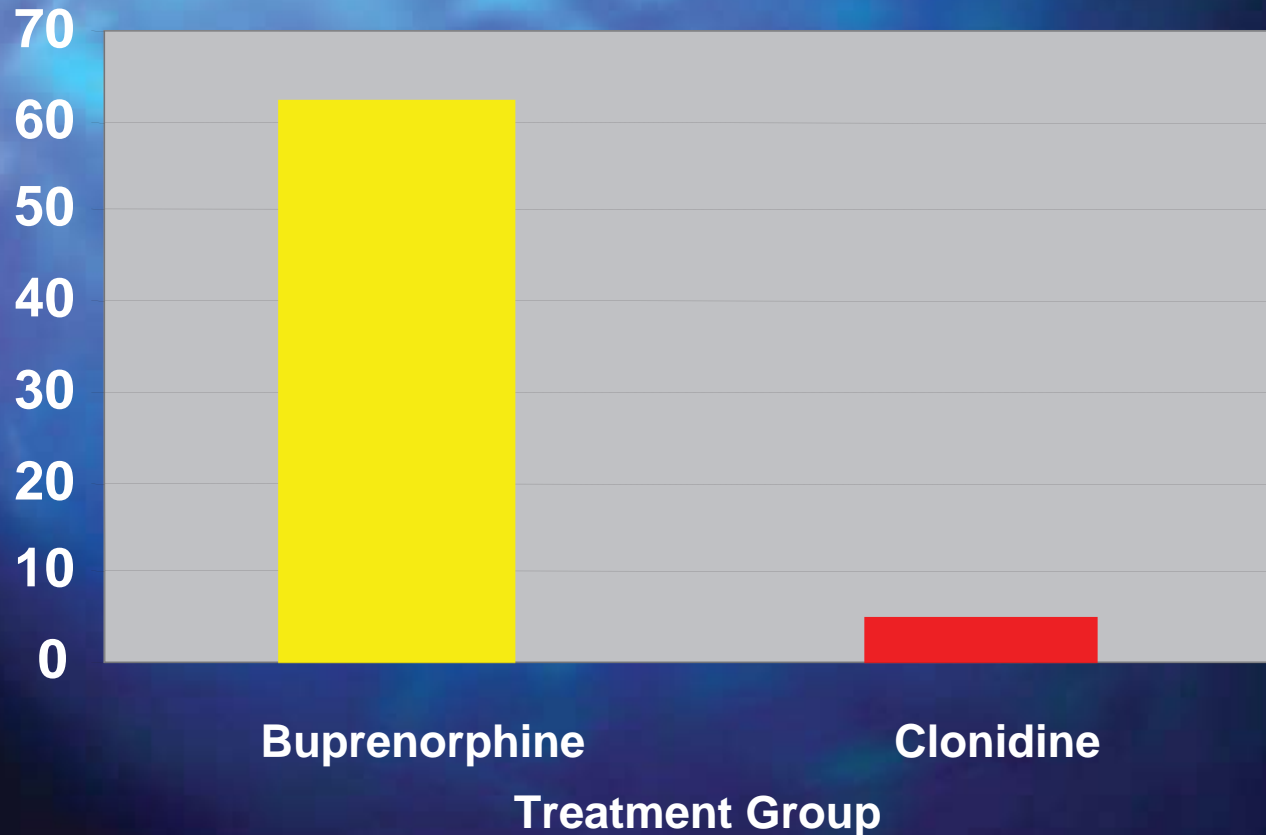


Mean Percent Opiate Abstinence

(p=.01)



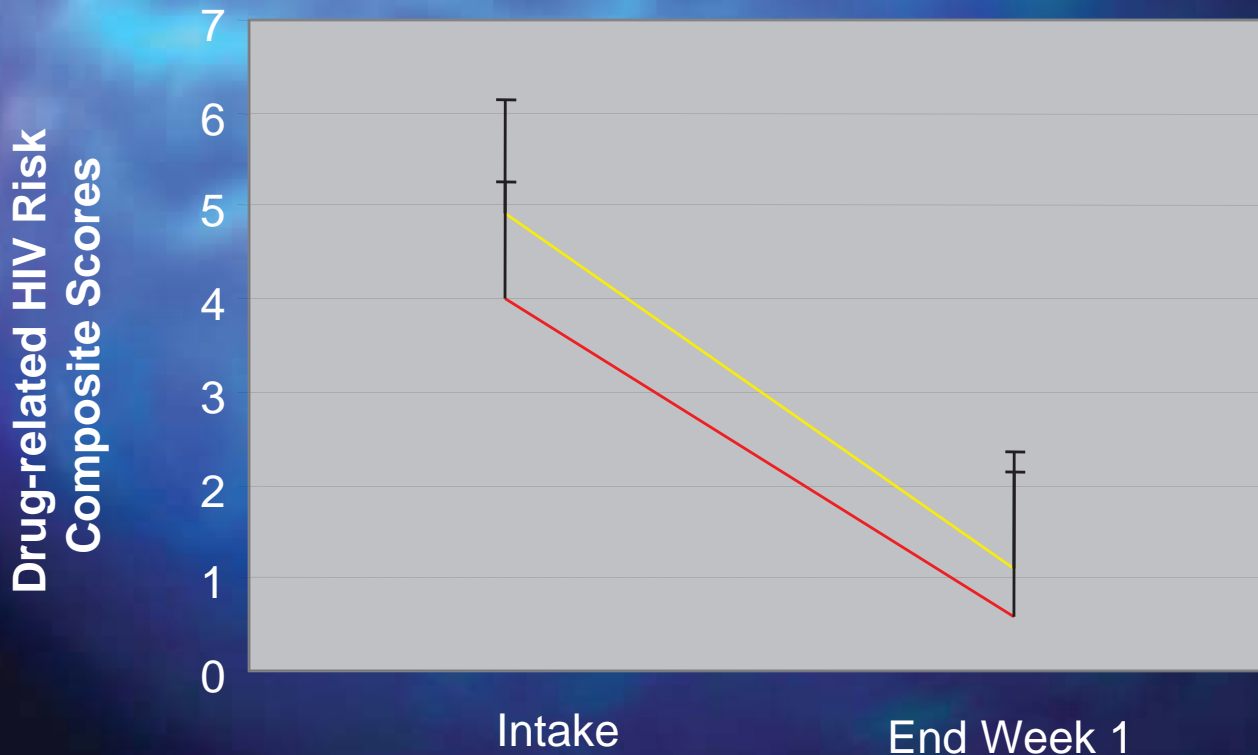
Percent of Participants Initiating Naltrexone Post-Detoxification



HIV Risk Behavior (HRBS)

(time effect: $p = .0005$)

- Buprenorphine
- Clonidine



Sub-group Analyses: Outcome by Gender

- Baseline characteristics of males & females were similar.
- Both males & females had significantly better outcomes from buprenorphine & behavioral treatment compared to clonidine & behavioral treatment.
- However, females achieved greater opioid abstinence and reductions in HIV risk behavior relative to males during buprenorphine/behavioral treatment.

Current Clinical Research in New York City

- Can treatment outcomes be improved if duration of medication taper is increased?

Phase 1: Random Assignment to 28 or 63-day buprenorphine taper

- Can incentives contingent on naltrexone consumption increase compliance with naltrexone and reduce relapse?

Phase 2: Random Assignment to receive/not receive voucher incentives contingent on naltrexone

- Do various sub-populations of opioid-dependent youth have differential treatment outcomes (e.g., based on demographics, other drug use, psychological variables)?

Summary of Research Results to date

- Expanded science-based prevention & treatment interventions are needed for the emerging cohort of opioid-dependent adolescents
- Although both clonidine and buprenorphine were shown to be quite safe, results indicate that combined behavioral & buprenorphine treatment is more efficacious than combined behavioral & clonidine treatment
- Due to the nature and pharmacology of opioid drugs, pharmacotherapy appears to be a critical component of successful treatment of opioid dependence (to stabilize brain neurochemistry).

Summary of Research Results to date

- Naltrexone appears to have considerable utility in preventing relapse to opioid use after an adolescent is no longer dependent.
- Treatment outcomes appear optimal when medication is provided along with intensive behavioral therapy (to promote alternative rewarding behaviors & strengthen inhibitory control).
- Psychotherapy should address adolescent-specific issues (e.g., school re-entry, securing a degree, self-control training)
- Psychosocial treatment should address high rates of psychiatric comorbidity to be optimally effective

Summary of Research Results to date

- Early intervention is key (to prevent transition from abuse to dependence or from intranasal to injection opioid use)
- Extended therapeutic treatment may be important for relapse prevention.
- Given this group's extensive involvement in the criminal justice system, there may be many opportunities for offering effective treatment to youth within this system
- Providing science-based treatment to this young population greatly reduces their likelihood of continued and escalating substance involvement and may prevent a substance-abusing life trajectory.