Conflict of Interest Disclosures

✨ None
The Key Extended Entry Program (KEEP):
A Methadone Treatment Program for Opiate-Dependent Inmates

Vincent Tomasino, Arthur J. Swanson, Ph.D., James Nolan, and Harry I. Shuman, M.D., M.P.H.

Abstract

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 3% of KEEP patients, some with mental illness, have a high incidence of recidivism.

Key Words: Methadone, correctional treatment, jail, discharge planning, recidivism.
What criminal justice historically does for OUD is largely ineffective

MAT Saves Lives

Diversion can be managed

Calmer, Quieter, Safer facilities
Current Practice Often Ineffective

✧ Incompatible with basic premise of addiction
✧ Empirically ineffective
  – High rates of relapse
  – Frequent incarceration is associated with very high rates of substance use disorders
  – Jail *Increases* Risk of overdose death
What is Addiction?

“Addiction is chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences.

It is considered a brain disease because drugs change the brain; they change its structure and how it works.”

National Institute on Drug Abuse (NIDA)
Risk Factors for Addiction

Biology / Genetics
- Genetics ~ 50% of risk

Environment
- Poverty
- Trauma
- Education
- Parents/Peers

Drugs
- Early Use
- Effect of Drug
- Route of Use
- Availability
- Cost

Brain Chemistry
- Brain Development
- Reward Pathway
- Tolerance/Withdrawal

Addiction

Adapted from NIDA 2018
Criminal Justice Exposure Common for Patients with Opioid Use Disorder

In addition to the fact that heroin possession/use is illegal, increased tolerance and physical dependence often lead to criminal activity in order to sustain drug use.
The Rikers Island Hotspotters

From November 2008 through December 2014, the frequently incarcerated...

- had a median duration of stay of 11 days compared with 13 for the control group
- had a median number of 32 days between incarcerations compared with 58 for the control group
- had total admissions of 18,713 compared with 3,108 for the control group

Cost the city $129 million compared with $37.6 million for the control group

ALCOHOL AND DRUG USE

<table>
<thead>
<tr>
<th>Drug or alcohol use</th>
<th>78.8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant drug or alcohol use</td>
<td>55.6%</td>
</tr>
<tr>
<td>Cocaine and crack use</td>
<td>30.4%</td>
</tr>
<tr>
<td>Heroin or opiate use</td>
<td>22.3%</td>
</tr>
<tr>
<td>Alcohol withdrawal in jail</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

HOMELESSNESS

| Homeless | 51.5% |

CHARACTERISTICS

| Frequently incarcerated | Control group |

RACE

<table>
<thead>
<tr>
<th>Black</th>
<th>72.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>19.0%</td>
</tr>
<tr>
<td>White</td>
<td>6.0%</td>
</tr>
<tr>
<td>Other</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

MEDICAID STATUS

| Ever had a relationship with Medicaid | 78.0% |
| Active, suspended or applied | 68.7% |

MENTAL ILLNESS

| Prescribed antipsychotic medication in jail | 15.6% |
| Has a serious mental illness | 19.0% |

MEDICAL CONDITIONS

| HIV-positive | 4.3% |
| Hepatitis C | 18.3% |
| Diabetes | 8.9% |
| Epilepsy | 8.8% |

Source: American Journal of Public Health analysis of NYC correctional health records THE WALL STREET JOURNAL.
What is Addiction?

“Addiction is chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences.

It is considered a brain disease because drugs change the brain; they change its structure and how it works.”

National Institute on Drug Abuse (NIDA)
What supports recovery?

Pharmacotherapy
- Methadone
- Buprenorphine
- Naltrexone

Psychosocial Interventions
- CBT
- MI
- CM

Recovery Support
- AA
- NA
- SMART Recovery
- Recovery Coaches

Mental Health Care

Employment

Safety

Housing

Self-Esteem

$$$
Incarceration and addiction

- Doubles down on harmful consequences for a condition characterized by compulsive use despite harmful consequences
- Destabilizes whatever protective supports (already tenuous) a person has in the community
- Then what’s the treatment most frequently encountered…
Opioid Detoxification Alone Ineffective

(community data; relevant as jail median LOS 14 days)

83% relapsed at 30 days

Compared to 1st Attempt:
- 2nd attempt 32% less likely
- 3rd attempt 44% less likely
- 4th attempt 47% less likely
- 5th attempt 59% less likely

What could be…

Buprenorphine is Effective at Retaining Patients in Treatment & Preventing Relapse

Kakko et al. Lancet. 2003 Feb 22;361(9358):662-8
What usually is...

**Opioid Detoxification Alone Ineffective**

*(community data; relevant as jail median LOS 14 days)*

83% relapsed at 30 days

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- 2nd attempt 32% less likely
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- 5th attempt 59% less likely

End Result-Death Post Release

_Mortality_

- Mortality is increased in the immediate post-release period (2-4 weeks)
  - True for Prison – SMR of 12.7<sup>1</sup>
  - True for jail (NYC data)- SMR of 8.0<sup>2</sup>
  - Driven largely by overdose death

Figure 1. Age-standardized rates of death (deaths per 100,000 person-years) from suicide, homicide, and drug-related causes, New York City, 2001–2005. Persons living in the poorest neighborhood included New York City residents living in the South Bronx (United Hospital Fund’s neighborhood designations 105, 106, and 107). The South Bronx is the New York City neighborhood with the highest percent of people living in poverty (42%) according to the Census 2000.
Risk is Post-Release

Figure 1. Mortality Rates Among Former Inmates of the Washington State Department of Corrections During the Study Follow-up (Overall) and According to 2-Week Periods after Release from Prison.

The dashed line represents the adjusted mortality rate for residents of the State of Washington (223 deaths per 100,000 person-years), and the solid line represents the crude mortality rate among inmates of the state prison system during incarceration (201 deaths per 100,000 inmate person-years).
What do we know works?

✧ Opioid Agonist Therapy
  – Reduces the risk of post release death by about 75% across multiple studies
Australia

Figure 2. All-cause mortality post-prison release among people \( n = 14532 \) with a history of opioid dependence \( n = 60161 \) prison releases, according to extent of retention in opioid substitution therapy (OST) in the immediate post-release period, 2000–12. (a) Crude mortality rates according to extent of retention in the first 4 weeks post-release, by week. (b) Mortality in the first year post-release according to extent of retention in the first 4 weeks post-release (Kaplan–Meier curves). Retention in (b) refers to whether an individual received OST for all, some or none of the first 4 weeks following release from prison.

Degenhardt et al, 2014
Figure 1  Survival curve during the year following release (all-cause mortality). OST = opioid substitution treatment

Figure 2  Survival curve during the year following release (drug-related poisoning mortality). OST = opioid substitution treatment

Marsden et al, 2017
Why international data?

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated Incarcerated Patients Receiving OST</th>
<th>Percent of Incarcerated Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>472 (2006)</td>
<td>14.5%</td>
</tr>
<tr>
<td>Spain</td>
<td>6,893 (2006)</td>
<td>12.3%</td>
</tr>
<tr>
<td>Australia</td>
<td>3,328 (2006)</td>
<td>11.4%</td>
</tr>
<tr>
<td>Denmark</td>
<td>333 (2005)</td>
<td>9.2%</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>35 (2009)</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Poland</td>
<td>12 (2004)</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>4 (2007)</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>United States</td>
<td>1,671-1,967 (2008)</td>
<td>&lt;0.1%</td>
</tr>
</tbody>
</table>

Adapted from Larney NDLERF report 2011
RESEARCH LETTER

Postincarceration Fatal Overdoses After Implementing Medications for Addiction Treatment in a Statewide Correctional System
Traci C. Green, PhD, MSc
Jennifer Clarke, MD
Lauren Brinkley-Rubinstein, PhD
Brandon D. L. Marshall, PhD
Nicole Alexander-Scott, MD, MPH
Rebecca Boss, MA
Josiah D. Rich, MD, MPH

Proportion of statewide OD’s among recently incarcerated dropped from 14.5 to 5.7%
Use your data

- Look at deaths post release in your jurisdiction
  - Match jail release data with Medical Examiner death data
  - You will find overdoses concentrated in the recently released
  - Having local data can help to push policy change

- Look at the frequently incarcerated in your jurisdiction
NYC post-release death

Opoid overdose n=22

Chronic disease

Other drugs

Assaultive trauma

Accidental trauma or Suicide

pre-release methadone

no pre-release methadone

Alex, B et all 2017, JCHC
Barriers to opioid agonist therapy in Jail

✧ Where is the patient going next?
  – Most state prisons have no capacity for MAT

✧ Cost

✧ Accreditation

✧ Diversion
Diversion considerations

- Diversion happens
- Needs to be managed
- Orderly, collaborative process between health staff and security staff will minimize diversion
Diversion considerations

- Zero tolerance policy
- Risk vs. Benefit of life saving treatment
- Who is buying (not likely opioid naïve)
- Reduction of overall demand in the facility
  - Effect on net availability of illicit substances unclear
- Risk vs. fentanyl or K2
- Formulation matters
“But suboxone gets smuggled in…”

Methadone and buprenorphine added to the WHO list of essential medicines.

- If we didn’t offer HIV meds would they be smuggled in? Diabetes meds?
“But suboxone gets smuggled in…”

- If “suboxone” is notoriously smuggled
  - Remind staff that it’s the only opioid available in film form
  - If we didn’t offer HIV meds would they be smuggled in? Diabetes meds?
- We don’t use suboxone
- We do use buprenorphine (e.g. crushed, rapidly dissolving, etc.)
  - Smuggled vs. Diverted meds clearly identifiable
Urine Drug Screens

✧ Implications of a widespread urine drug screening program in Correctional Facilities

✧ Positives happen? A little? A lot?

✧ Driving dangerous use?
  – K2, fentanyl analogues, other?

✧ Is any facility truly drug free?
Diversion bottom line

✧ Not a valid reason to deny a standard of care medication to a high risk population
BMJ Open  Opioid substitution therapy as a strategy to reduce deaths in prison: retrospective cohort study

Sarah Larney,¹,² Natasa Gisev,¹ Michael Farrell,¹ Timothy Dobbins,³ Lucinda Burns,¹ Amy Gibson,⁴ Jo Kimber,¹ Louisa Degenhardt¹,⁵

Calmer, Quieter, Safer

“Compared to time out of OST, the hazard of all-cause death was 74% lower while in OST…and the hazard of unnatural death was 87% lower while in OST”

Unnatural Death:
- Suicide
- Overdose
- Homicide
- Accidental Death

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Thank You