CORRECTIONAL HEALTH SERVICES
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Operational Feasibility of in MAT the Criminal Justice System

Naltrexone is Not Enough

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Conflict of Interest Disclosures

- None

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Jail

- Jail stays for opioid users increase overdose!
- Strategies for mitigation
  - Methadone/Buprenorphine access in jails
  - Naloxone distribution for visitors
  - Supportive housing for the frequently incarcerated

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Death Post Release

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

1.Binswanger et al 2007 2. Lim et al 2012 3. Degenhardt et al 2014

Formerly Incarcerated at Risk

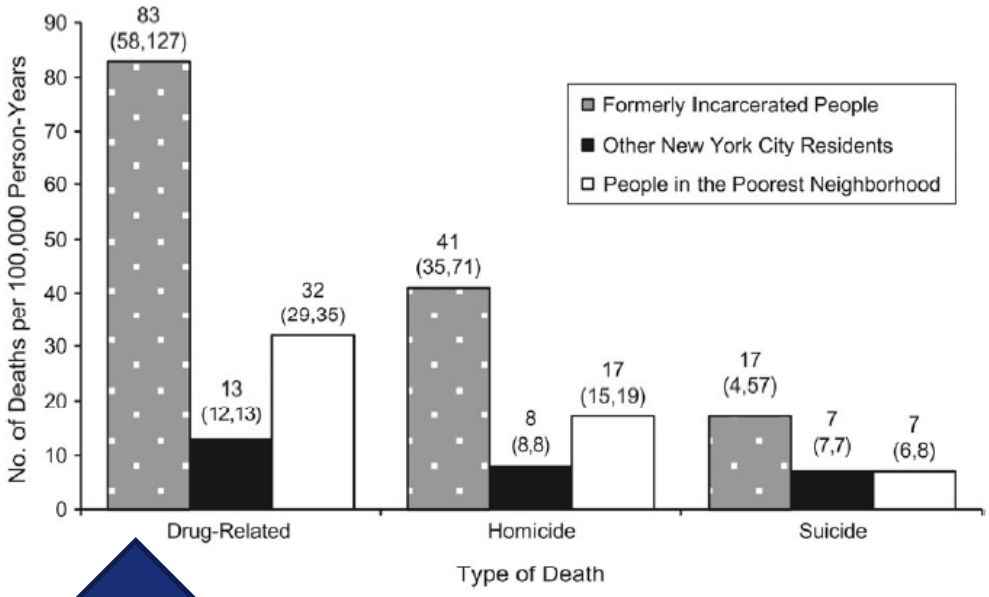

Figure 1. Age-standardized rat eath (deaths per 100,000 person-years) from suicide, homicide, and drug-related causes, New York City, 2001–2005. Persons living in th est neighborhood included New York City residents living in the South Bronx (United Hospital Fund's neighborhood designations 105, nd 107). The South Bronx is the New York City neighborhood with the highest percent of people living in poverty (42%) according to the ensus 2000.

Lim et al 2012

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Risk is Post-Release

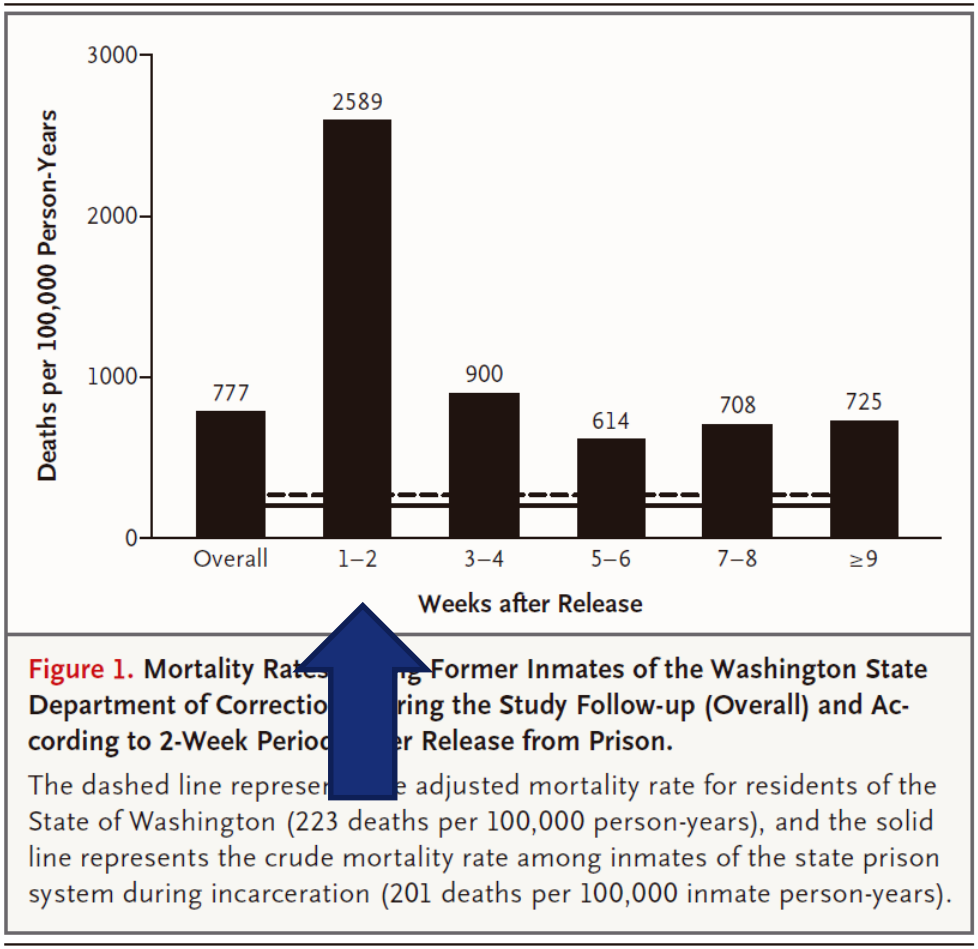

Figure 1. Mortality Rate[illegible] Former Inmates of the Washington State Department of Correctio[illegible]ring the Study Follow-up (Overall) and According to 2-Week Period[illegible]r Release from Prison.

The dashed line represe[illegible]e 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).

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What do we know works?

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

Australia

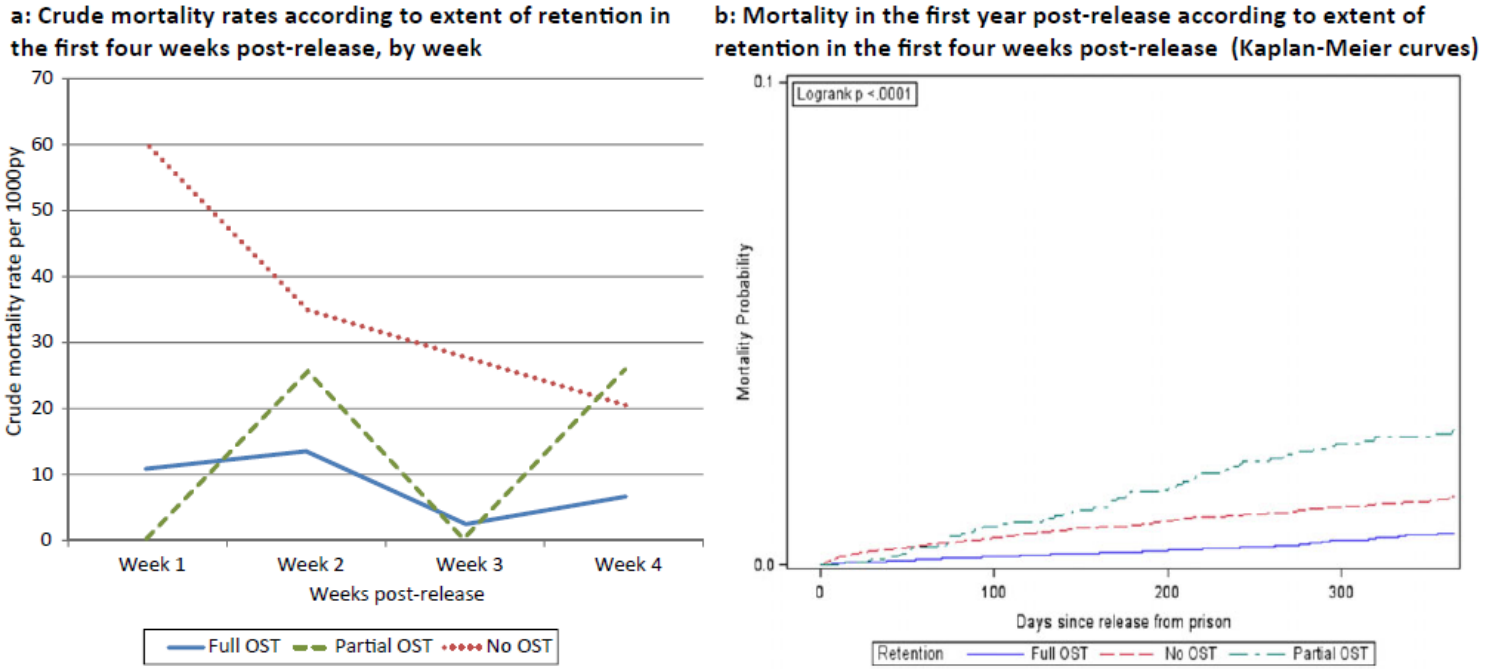

Figure 2 All-cause mortality post-prison release among people ($n = 14\,532$) with a history of opioid dependence ($n = 60\,161$ prison releases), according to extent of retention in opioid substitution therapy (OST) in the immediate post-release period, 2000–12. (a) Crude mortality rates according to 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

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England

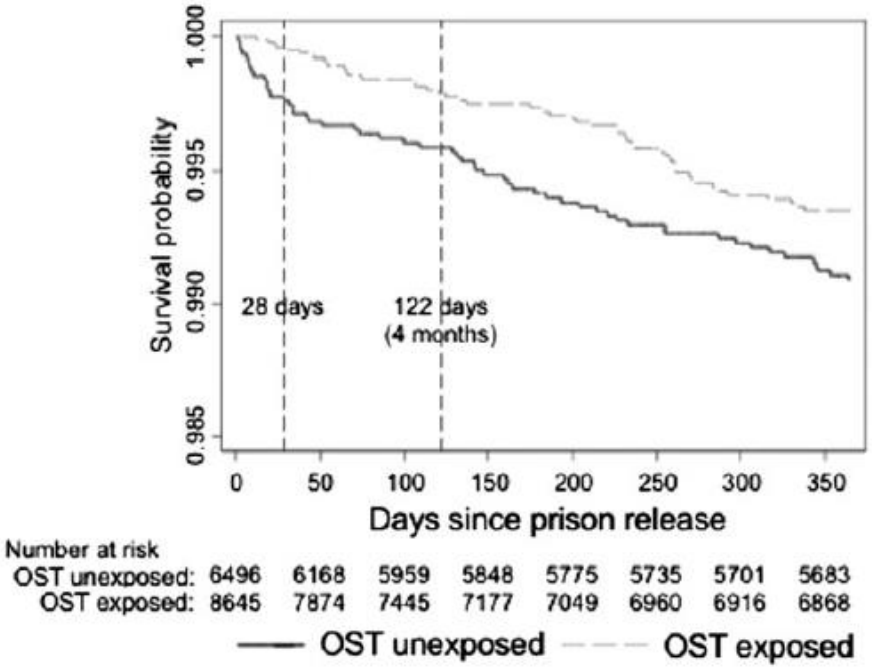

Figure 2 Survival curve during the year following release (drug-related poisoning mortality). OST = opioid substitution treatment

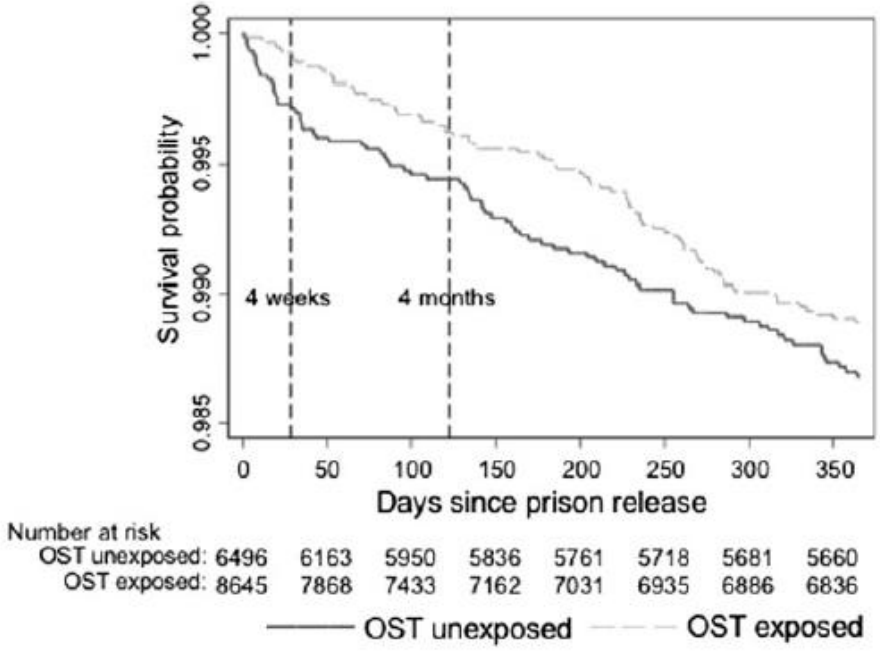

Figure 1 Survival curve during the year following release (all-cause mortality). OST = opioid substitution treatment

Marsden et al, 2017

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Why international data?

Country	Estimated Incarcerated Patients Receiving OST	Percent of Incarcerated Population
Ireland	472 (2006)	14.5%
Spain	6,893 (2006)	12.3%
Australia	3,328 (2006)	11.4%
Denmark	333 (2005)	9.2%
…		
India	35 (2009)	<0.1%
Poland	12 (2004)	<0.1%
Taiwan	4 (2007)	<0.1%
United States	1,671-1,967 (2008)	<0.1%

Adapted from Larney NDLERF report 2011

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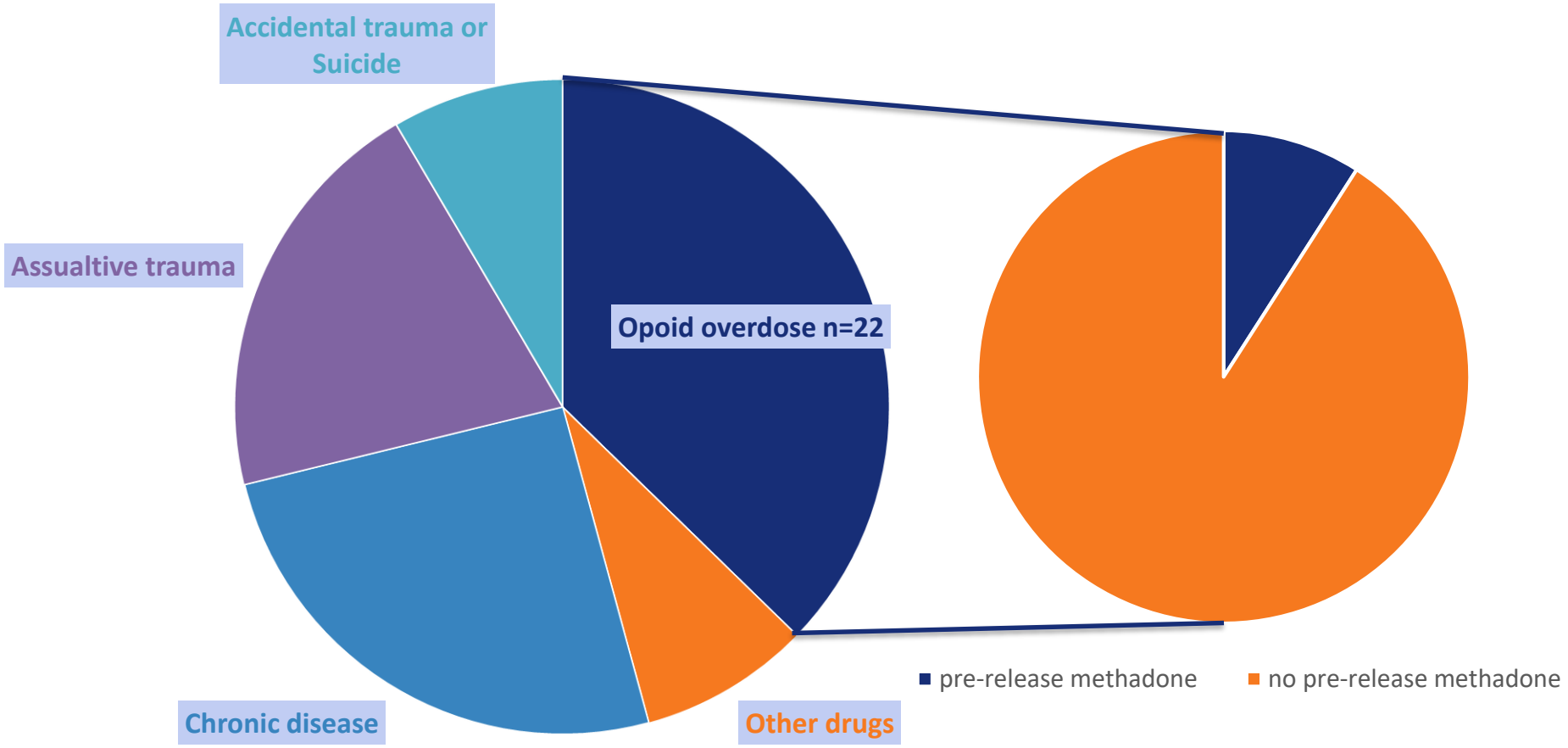
NYC post-release death



Alex, B et all 2017, JCHC

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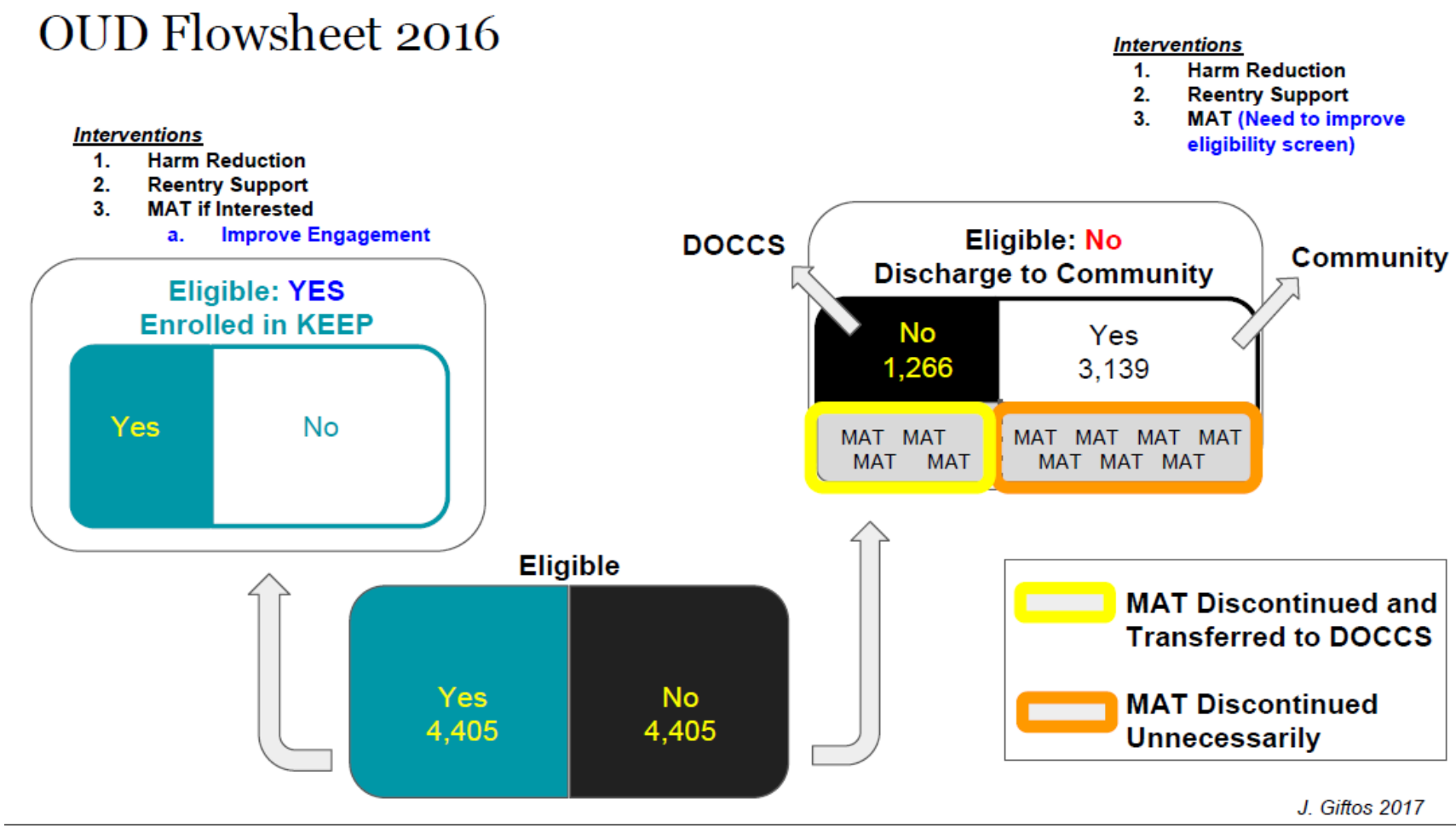
Barriers to opioid agonist therapy in Jail

- Where is the patient going next?
  - Most state prisons have no capacity for MAT
- Cost
- Accreditation
- Diversion

Where to Next?



Cost-Most are labor costs

- Prescribers
  - Can be prescribers already working in the system
  - May need additional training
- Counsellors
  - Confirm doses with community programs, counsel patients, link to programs
- Administrative staff
  - Scheduling, data management, licensure,
- Nursing
  - Dispensing medications, case management
- Security Staff
  - Patient movement, monitoring for diversion

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Costs 2

- Methadone itself is negligible cost
  - Dispensing pumps, software may be costly
- Buprenorphine/naloxone is roughly $7-14/patient/day

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Accreditation

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Accreditation

- Most of the work is already done
  - Most OTP regulations are already satisfied by correctional health systems standard operating procedures
  - E.g. emergency response plans, quality improvement efforts, medication handling, etc

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Diversion

- Rikers Island has been doing this since 1987
- Diversion happens, but it can be managed
  - Less common with methadone
    - But more dangerous
  - More common with buprenorphine
    - But less dangerous

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Diversion with buprenorphine

- Randomized controlled trial of buprenorphine initiation in prison pre-release
  - Better outcomes than counselling
  - 17.5% of participants disqualified from the study because of attempted diversion
    - But, mostly using tablets instead of strips

Gordon et al. drug and alcohol dependence, 2014

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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

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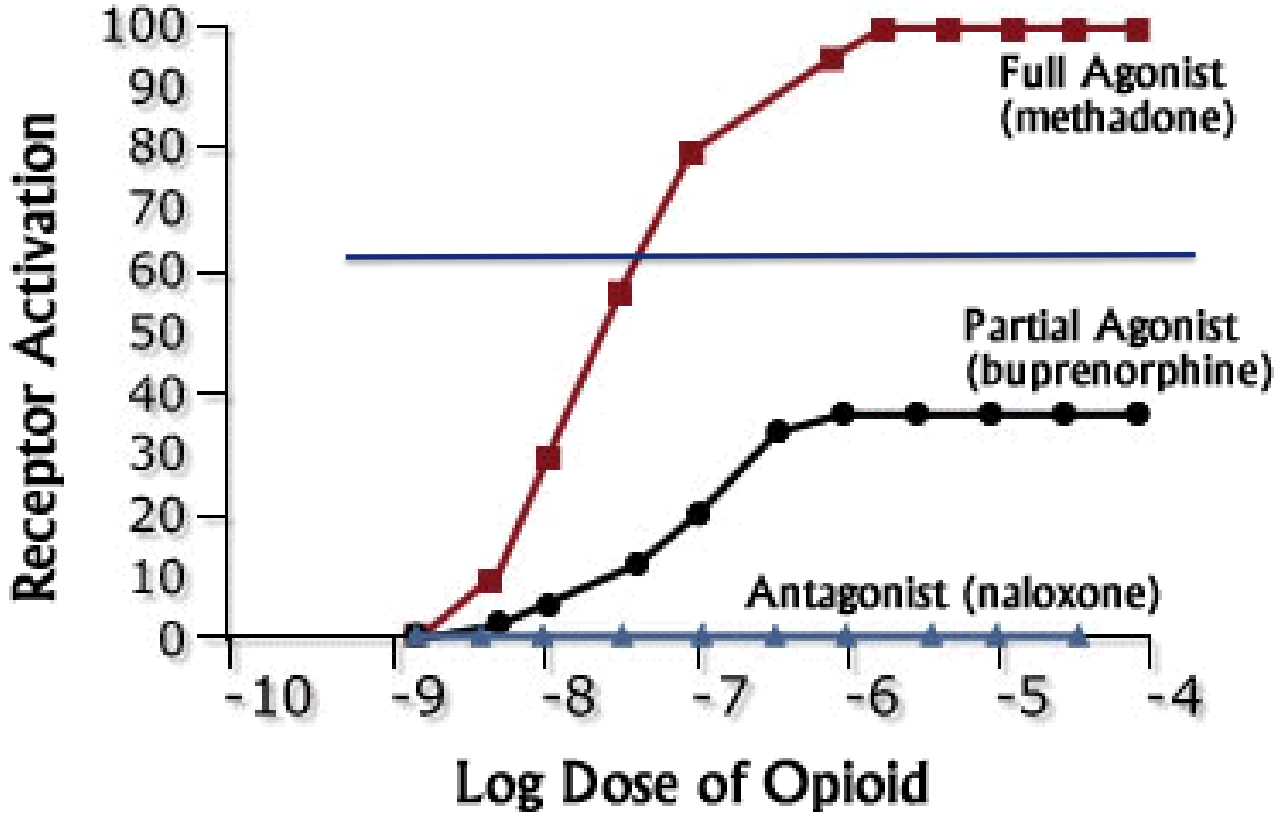
Receptor Activation:
Full Agonist, Partial Agonist, Antagonist



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Diversion bottom line

- Not a valid reason to deny a standard of care medication to a high risk population

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What about Vivitrol?

- Why aren't I talking to you about Vivitrol (long acting injectable naltrexone)?
- Because I bet someone else has…

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Vivitrol (long acting injectable naltrexone)

- Moderate outcomes
- No strong overdose data anywhere
- No strong body of literature to support a reduction in post-release mortality
- Recent non-inferiority study
- Should be available for selected patients, Should NOT be the only medication available

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Naloxone

Annals of Internal Medicine | ORIGINAL RESEARCH

Cost-Effectiveness of Distributing Naloxone to Heroin Users for Lay Overdose Reversal

Phillip O. Coffin, MD, and Sean D. Sullivan, PhD

Background: Opioid overdose is a leading cause of accidental death in the United States.

Objective: To estimate the cost-effectiveness of distributing naloxone, an opioid antagonist, to heroin users for use at witnessed overdoses.

Design: Integrated Markov and decision analytic model using deterministic and probabilistic analyses and incorporating recurrent overdoses and a secondary analysis assuming heroin users are a net cost to society.

Data Sources: Published literature calibrated to epidemiologic data.

death was prevented for every 227 naloxone kits distributed (95% CI, 71 to 716). Naloxone distribution increased costs by $53 (CI, $3 to $156) and quality-adjusted life-years by 0.119 (CI, 0.017 to 0.378) for an ICER of $438 (CI, $48 to $1706).

Results of Sensitivity Analysis: Naloxone distribution was cost-effective in all deterministic and probabilistic sensitivity and scenario analyses, and it was cost-saving if it resulted in fewer overdoses or emergency medical service activations. In a "worst-case scenario" where overdose was rarely witnessed and naloxone was rarely used, minimally effective, and expensive, the ICER was $14 000. If national drug-related expenditures were applied to heroin users, the ICER was $2429.

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Naloxone

- Training for layperson overdose reversal
- Focus on the friends and family of our patients at the Rikers Island Visitor Center
- Focus on intranasal formulations
- aka Narcan

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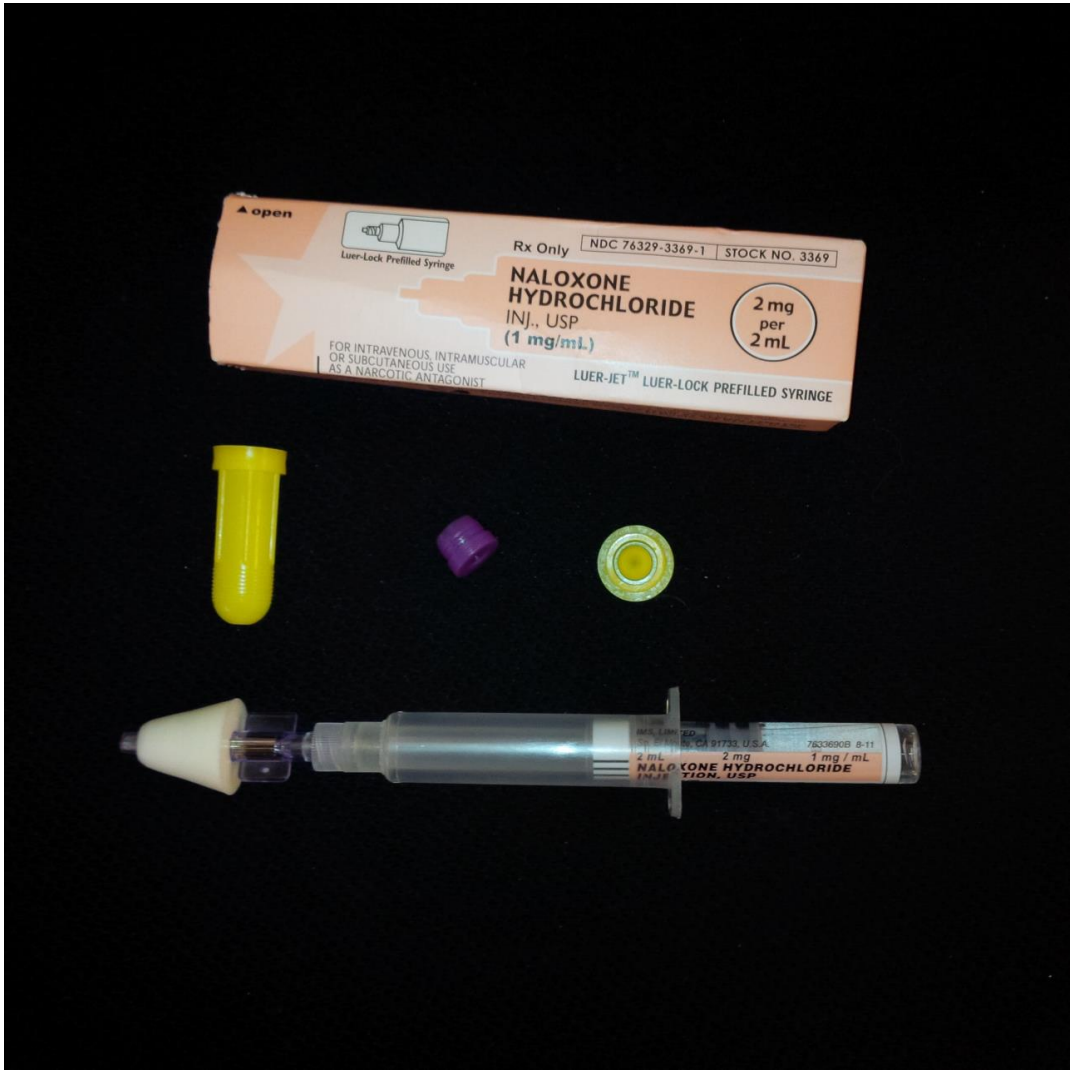
Naloxone



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Naloxone follow up study

- 300 visitors who had received kits were contacted 6 months later
  - 50 instances of kits being used
  - Suggests the kits return to high risk neighborhoods, as expected

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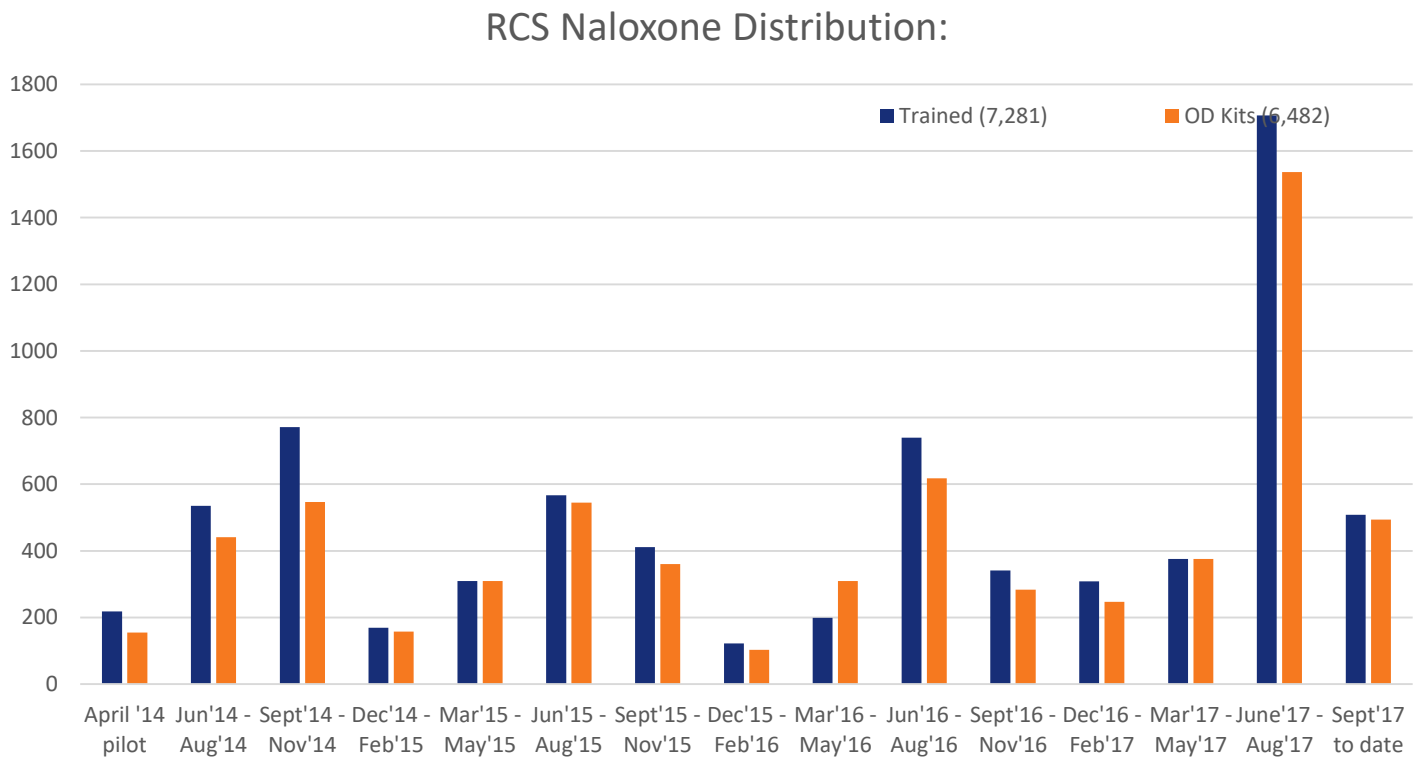
Naloxone distribution

	Trained	OD Kits
Total to date	7281	6482



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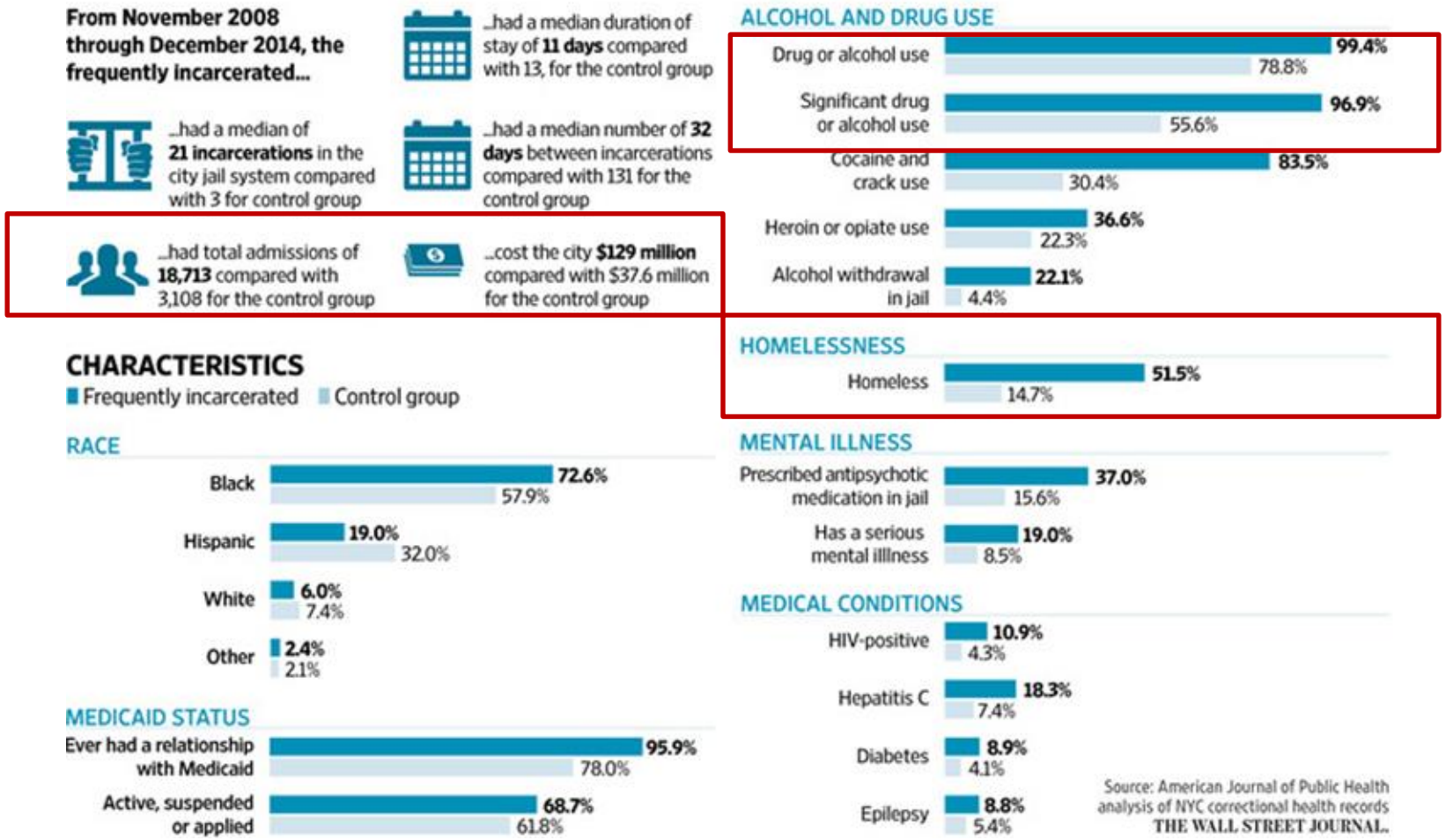
The Rikers Island Hotspotters



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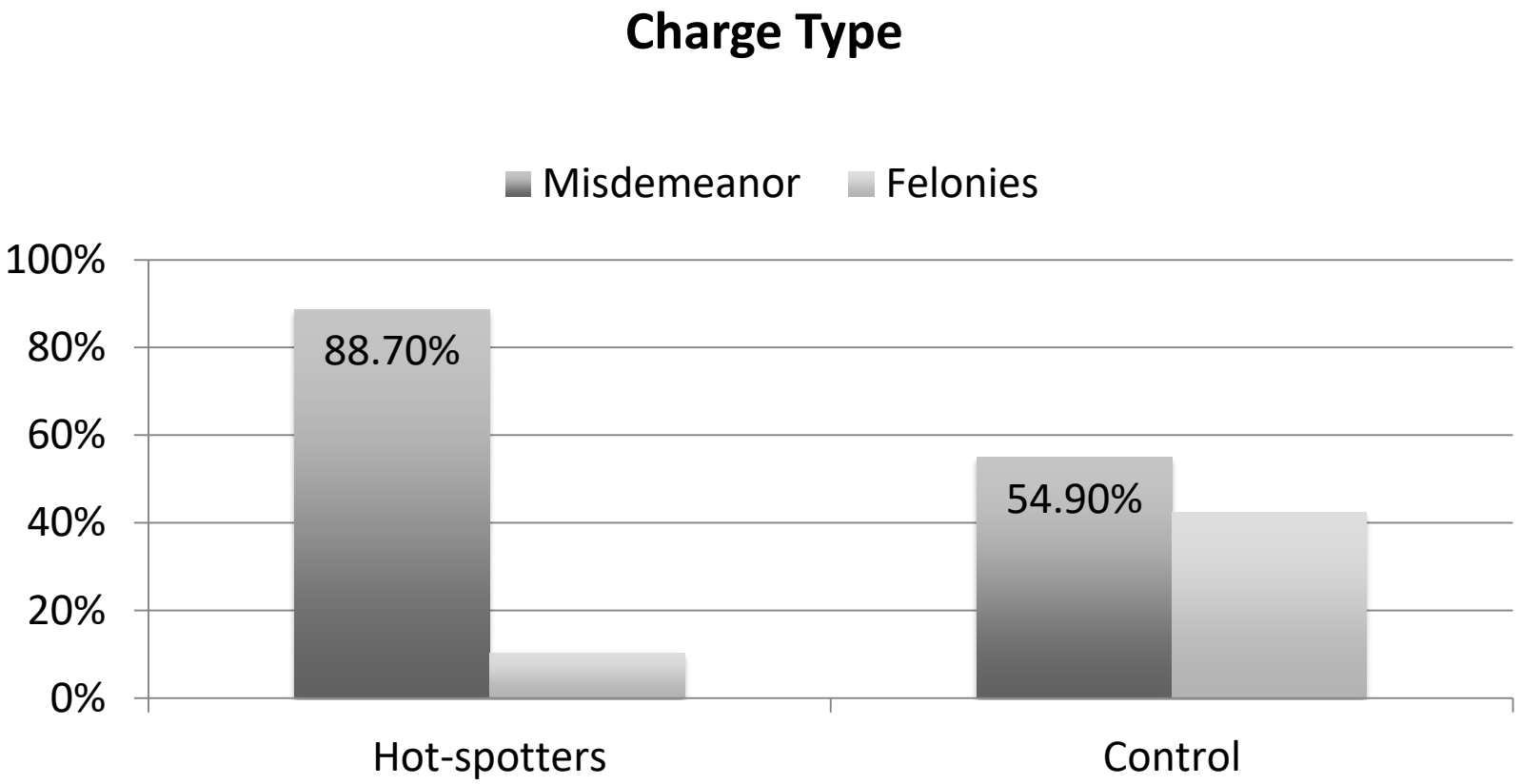
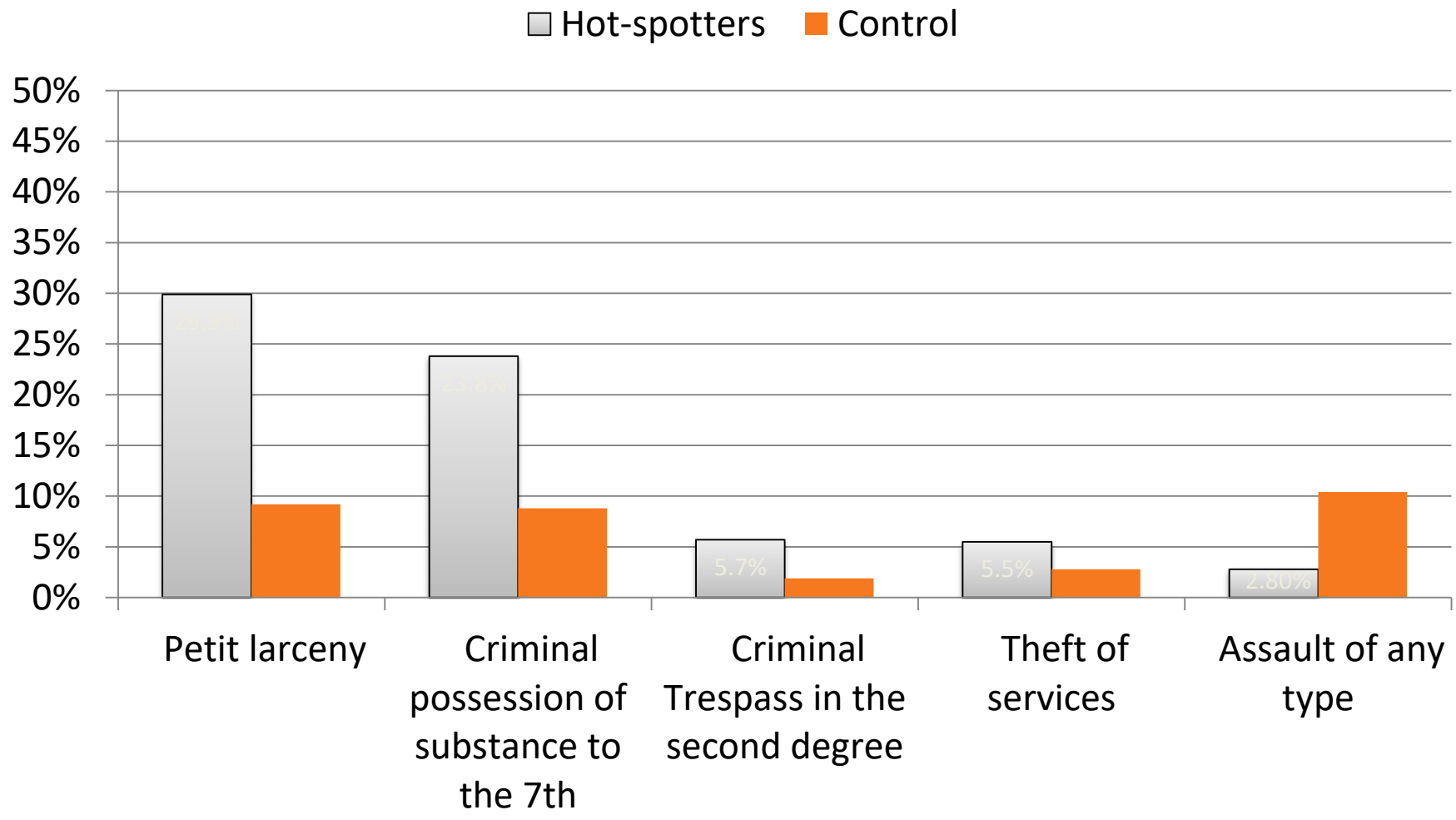
Hot Spotters Charges



Hot Spotters Charges



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Summary

- Sending opioid dependent people to jail makes them more likely to die of overdose
- The traditional criminal justice response to opioids is worsening the overdose crisis and costing lives
- Jails have an obligation to offer the treatments with the best body of evidence demonstrating that they will reduce post release death—methadone and buprenorphine
- Diversion is not an adequate reason not to offer life saving medications
- All jails should train visitors in overdose response and provide naloxone on site
- The Frequently incarcerated population has high rates of substance use disorder (not always opioid), unstable housing and minor charges
  - Supportive housing can break the cycle of repeated incarceration

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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