STRATEGIES TO COMBAT THE OPIOID EPIDEMIC

What We Know and Where to Go from Here

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NORTH AMERICA

A literature review suggested by the White House Office of National Drug Control Policy evaluates interventions and potential Pay for Success opportunities to treat opiate use disorders and related harms

OVERVIEW AND POLICY ISSUES

The use of opioids, a class of drugs that includes heroin and prescription pain relievers such as morphine and codeine, has skyrocketed in the United States over the past decade and a half. In 2015, more than twenty million people in the United States suffered from substance use disorders, and 12.5 million Americans reported misusing opioid pain relievers.[1] An average of 91 people died every day from an opioid-related overdose in 2015 (up from 78 in 2014).[2]

The current standard of care for treatment of opiate use disorders (OUDs) is medication-assisted treatment (MAT), a combination of behavioral therapy and medications (most commonly methadone or buprenorphine). While MAT has been shown to be safe and effective, especially when used in conjunction with psychosocial and medical support, it has significant limitations. The medications used in MAT are heavily regulated and, as a result, often difficult to access. MAT also requires long-term treatment and has relatively low rates of adherence.[3]

As part of ongoing engagement with the White House Office of National Drug Control Policy (ONDCP), Mireille Jacobson and Tiffany Cho, both of the University of California, Irvine, assessed the evidence for seven specific interventions to treat OUDs and related harms (see Table 1).[4] These interventions include programs designed to address social and health-related harms associated with OUDs; programs specifically targeted at mothers and babies suffering from OUDs; and programs designed to increase take-up and support adherence to MAT and other treatments.

KEY RESULTS

Based on the quantity and quality of peer-reviewed studies, there is strong evidence that supportive housing, or Housing First (HF), can mitigate a variety of harms related to substance use disorders. Among homeless individuals with mental health and/or substance use disorders, HF can improve housing outcomes, reduce incarceration rates and prison time, and lower both emergency department visits and inpatient hospital spending. The financial savings realized from these outcomes mostly offset, and in some cases may exceed, program costs. Existing evidence also suggests, however, that HF does not decrease opiate or other drug use.

Sustained use of extended-release naltrexone (brand name Vivitrol®) likely leads to a sustained reduction in opiate use. However, take-up and completion of Vivitrol® regimens among the criminal justice population remain a challenge; additional wrap-around services or support may be needed to engage this community.

Moderate evidence suggests that syringe service programs (SSPs) reduce risky behavior and HIV transmission among injecting drug users.

Programs providing peer support to individuals with OUDs, jail diversion programs, and programs targeted at mothers and babies with OUDs serve a great need and would benefit from rigorous study.

To learn more about J-PAL North America's U.S. Health Care Delivery Initiative please visit povertyactionlab.org/hcdi

TABLE 1. OVERVIEW OF PROGRAMS REVIEWED

PROGRAM	Intervention Description	Target Population	Health/Welfare Outcomes	Cost/Resource Outcomes
	INTERVENTIONS TO REDUCE HARMS IN INDIVIDUALS WITH OUDs			
Supportive housing or Housing First (HF)	Affordable housing assistance with wrap-around supportive services	Homeless individuals with substance use or mental health disorders; can include minors	Housing stability	Criminal justice involvement; employment; emergency department use; medical costs
Syringe service programs (SSPs)	Provide sterile syringes and collect/dispose of used syringes	Intravenous drug users	Syringe sharing; HIV/Hepatitis B/C transmission	HIV/Hepatitis B/C treatment costs
	INTERVENTIONS TO IMPROVE OUTCOMES FOR MOTHERS AND BABIES WITH OUDs			
Drug Free Moms and Babies Project (DFMB)	Medical, behavioral, and social services provided through a collaboration of community partners	Drug-dependent pregnant and postpartum women	Maternal drug use; health and welfare of infants, including birth outcomes	Medical costs
Specialized care for babies born with neonatal abstinence syndrome (NAS)	Non-hospital residential health care for moms and babies	Babies born with NAS	Health and well-being of infants	Short-term medical costs
	INTERVENTIONS TO INCREASE TREATMENT FOR OUDs			
Emergency Department (ED) peer counselors	Peer recovery coaches to help patients get into detox and treatment	Overdose patients presenting to the ED	Participation in drug treatment and recovery support; drug use	Emergency department use
Police Assisted Addiction and Recovery Initiative (PAARI)	Pre-booking jail diversion to treatment (rather than arrest)	Individuals with OUDs/ at risk of overdose who turn themselves into police	Participation in drug treatment and recovery support; drug use	Criminal justice involvement
Vivitrol® medication-assisted treatment for criminal justice populations	Monthly injections of extended-release naltrexone (a type of medication that helps prevent substance abuse relapses)	Inmates; released prisoners; probationers/ parolees with OUDs	Opiate use	Criminal justice involvement

TABLE 2. EVIDENCE RATING CRITERIA

STRONG	MODERATE	WEAK
High confidence in the intervention to produce reported outcomes Supported by minimum of (i) three randomized controlled trials (RCTs) or (ii) two RCTs and two quasi-experimental studies	Some support for intervention based on adequate research Supported by minimum of (i) two or more quasi-experimental studies, (ii) one RCT and one quasi-experimental study, or (iii) at least two RCTs with some methodological weaknesses	Insufficient evidence to support intervention Found (i) no RCTs, (ii) no more than one quasi-experimental study, or (iii) multiple studies with conflicting outcomes or no peer-reviewed evidence

METHODOLOGY

The researchers rated the strength of the evidence for each intervention based on a review of published, peer-reviewed studies. The researchers considered the quantity of studies, quality of research designs and other methodological factors in their analysis. The rating criteria, which were adapted from a Substance Abuse and Mental Health Services Administration (SAMHSA) funded initiative to support states in implementing health reform,[5] are described in further detail at left.

RESULTS

Supportive housing/Housing First: Six well-designed randomized controlled trials in different cities provide strong evidence that supportive housing can improve housing outcomes, reduce incarceration rates and jail/prison time, and lower both ED visits and inpatient spending among homeless individuals. An important caveat to the strength of the evidence for supportive housing is that while most studies focused on individuals with substance use disorders and/or serious mental illness, relatively few were specific to individuals with OUDs. Relative to Treatment First approaches, most studies found improved housing stability but generally no impact on substance use outcomes. Studies also suggest that the costs of this intervention are mostly offset, or in some cases are outweighed, by reductions in hospital and criminal justice spending.

Evidence rating: Strong

Syringe service programs (SSPs): Studies document wide variation in the operation of SSPs, making comparisons of the evidence difficult. Review articles tended to find that SSPs with fewer restrictions were associated with lower reuse. A few, better-designed observational studies associated SSPs with reduced risky behaviors such as needle sharing and reduced HIV transmission among injecting drug users. A policy change in Washington DC that lifted the ban on municipal funding for SSPs was associated with a steep drop in new monthly HIV cases. Several studies also suggested that SSPs save money due to reductions in HIV treatment costs.

Evidence rating: Moderate

Vivitrol® for criminal justice populations: Earlier studies of the use of oral naltrexone provide some evidence that it can be used successfully in criminal justice settings to reduce heroin use and crime, although one larger study suffered from high dropout rates. One adequately designed randomized controlled trial documented significant reductions in relapse rates due to Vivitrol®, although this reduction faded out within six months of the treatment period. Related studies suggest that, as with other types of MAT, treatment adherence to Vivitrol® can be challenging and can therefore lessen its impacts.

Evidence rating: Moderate

Interventions targeting mothers and babies: Evaluations of the **Drug Free Moms and Babies Project** are in progress and there is no direct evidence about the effectiveness of **Lily's Place** (see Table 1 for descriptions of these programs). Earlier, small studies suggest that MAT combined with behavioral health services may improve birth outcomes, but more evidence is needed. There is also some observational evidence that allowing drug-dependent women to room-in with their babies may provide benefits to both mothers and babies. Given the rising human and financial cost of NAS and the thin evidence base, this is an area ripe for further study.

Evidence rating: Weak

Emergency Department peer counselors: No evaluations of this specific program were found. Two randomized studies of the use of peer coaching with substance users found promising results, but suffer from design limitations. This intervention serves an important need and has support from key stakeholders; more evidence of its impact would be valuable. *Evidence rating: Weak*

Police Assisted Addiction and Recovery Initiative (PAARI): No evaluations of the PAARI jail diversion program were found. A series of non-randomized studies on jail diversion programs for individuals with mental illness tended to show that jail diversion (i) reduced jail time, (ii) reduced recidivism at thirty days, (iii) reduced jail costs, but (iv) substantially increased overall costs due to treatment costs.

Evidence rating: Weak

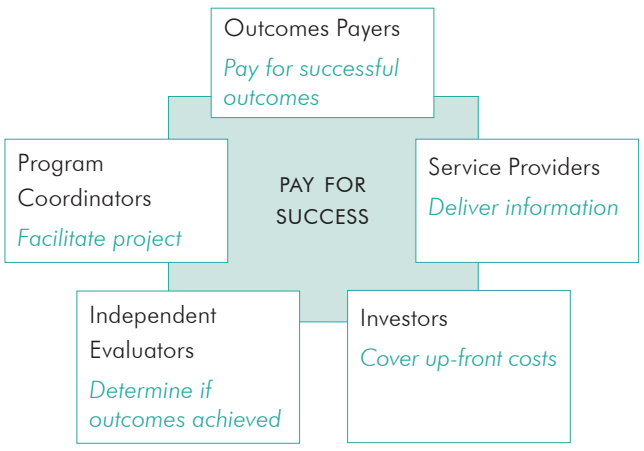
PAY FOR SUCCESS

J-PAL's engagement with ONDCP is part of ONDCP's broader work to support the use of Pay for Success (PFS) to address the opioid epidemic. PFS involves governments or other entities entering into contracts to pay for the achievement of pre-specified outcomes, as measured by an independent evaluation. PFS is designed to mitigate the risk of contracting for the provision of social services, and to address the "wrong pockets" problem, in which one agency would incur the cost of a program, while another receives the benefit.

PFS arrangements often solicit funding to cover the initial costs of service delivery. Investors providing this financing take on the risk of failure. The government or other entity typically makes outcomes payments covering the cost of services and offers investors a modest return on their investment in the case of successful outcomes.

PFS projects can be complex and often last multiple years. Figure 1 below shows the typical stakeholders involved in PFS projects.

FIGURE 1. PAY FOR SUCCESS



KEY TAKEAWAYS AND OPEN QUESTIONS

Opiate use disorders (OUDs) often derive from and cause great suffering. **For individuals afflicted with both OUDs and homelessness, supportive housing interventions may provide some relief, offering a pathway to housing, better health and less frequent involvement with the justice system.** Given that studies show substantial cost savings, these interventions may be promising for outcomes-based funding, such as Pay for Success.

Syringe service programs, particularly those with few restrictions, may also reduce the damage caused by OUDs by decreasing HIV transmission among injecting drug users. Given the high cost of HIV treatment, this intervention has the potential to be cost-neutral or even cost-positive.

Vivitrol® offers substantial promise to increase access to medication-assisted treatment among criminal justice involved populations. Adherence is a major challenge, and additional innovation and research is needed to support sustained treatment.

Peer counseling holds potential to support both treatment and adherence, but is largely untested. Rigorous study would be similarly valuable to identify effective approaches to treating mothers with OUDs and babies with neonatal abstinence syndrome.

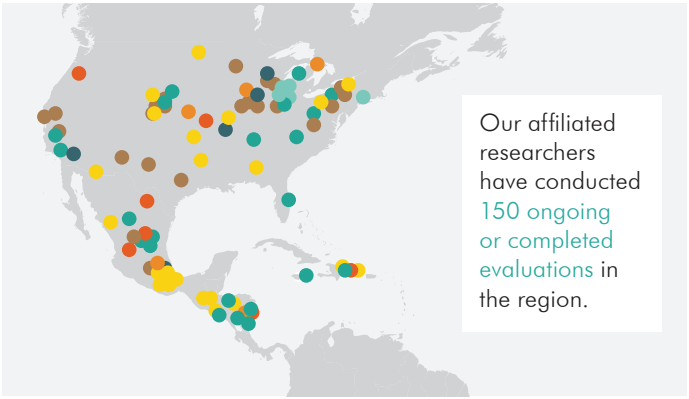
One approach to generating this much-needed evidence is to build an evaluation component when designing pilots of promising but untested programs. These evaluations can inform decisions to scale-up and adjust the piloted program, and can shape policymaking and funding on a broader scale. If outcomes and cost data are already collected as part of the program's normal operations and a rigorous design is built into the program at the outset, valuable measures of impact and cost-effectiveness may be obtainable at a relatively low cost.

ABOUT J-PAL NORTH AMERICA

J-PAL North America is a regional office of the Abdul Latif Jameel Poverty Action Lab (J-PAL) based at the Massachusetts Institute of Technology (MIT). J-PAL is a global network of affiliated researchers who use randomized evaluations to answer critical policy questions in the fight against poverty. Our mission is to reduce poverty by ensuring that policy is informed by scientific evidence. J-PAL North America was established with support from the Alfred P. Sloan Foundation and the Laura and John Arnold Foundation.

ABOUT THE U.S. HEALTH CARE DELIVERY INITIATIVE

J-PAL's U.S. Health Care Delivery Initiative supports the development and dissemination of rigorous evidence of strategies to improve the quality and value of health care delivery in the United States. The initiative receives generous support from the Laura and John Arnold Foundation and the Robert Wood Johnson Foundation.



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[1] Office of the Surgeon General, U.S. Department of Health and Human Services. 2016. "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health." Washington, DC.

[2] The White House. "Continued Rise in Opioid Overdose Deaths in 2015 Shows Urgent Need for Treatment." December 8, 2016.

[3] Connery, Hilary Smith. 2015. "Medication-Assisted Treatment of Opioid Use Disorder: Review of the Evidence and Future Directions." *Harvard Review of Psychiatry 23*(2): 63-75.

[4] Researchers at the Urban Institute provided valuable input on the review.

[5] Dougherty, Richard H., D. Russell Lyman, Preethy George, Sushmita Shoma Ghose, Allen S. Daniels, and Miriam E. Delphin-Rittmon. 2014. "Assessing the Evidence Base for Behavioral Health Services: Introduction to the Series." *Psychiatric Services 65*(1): 11-15.

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