COMBATING OPIOID ADDICTION IN MASSACHUSETTS:

A HOSPITAL-BASED SOLUTION SHOWS PROMISE IN REDUCING RELAPSES AND ER COSTS

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Pioneer's Mission

Pioneer Institute is an independent, non-partisan, privately funded research organization that seeks to improve the quality of life in Massachusetts through civic discourse and intellectually rigorous, data-driven public policy solutions based on free market principles, individual liberty and responsibility, and the ideal of effective, limited and accountable government.

This paper is a publication of the Center for Healthcare Solutions, which seeks to refocus the Massachusetts conversation about healthcare costs away from government-imposed interventions, toward market-based reforms. Current initiatives include driving public discourse on Medicaid; presenting a strong consumer perspective as the state considers a dramatic overhaul of the healthcare payment process; and supporting thoughtful tort reforms.

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Introduction

Massachusetts hospitals are on the front lines in the battle against opioid abuse, and have been experimenting with ways to combat drug addiction and other forms of mental illness that go beyond simply responding to overdose emergencies.

Two years ago, Beth Israel Deaconess Hospital-Plymouth began developing what it calls "a comprehensive community approach" to drug dependency. Hospital officials started connecting their emergency department and primary care offices with community-based mental health and substance abuse programs, and joining forces with the Plymouth school system, police department and local courts. Among the key goals were preventing relapses among drug users; educating students, patients and medical personnel about the risks of dependency; and curtailing opioid availability throughout the county.

That approach is having strong early results in preventing repeat overdoses and putting opioid patients into successful detox programs. In May 2015, House Speaker Robert A. DeLeo, Joint Committee on Health Care Financing Chairman Jeffrey Sánchez, State Representatives Tom Calter and Matt Muratore, and other elected officials visited the hospital to learn first-hand what Plymouth was doing to address the opioid crisis.

"Their presence at a community hospital, far outside their respective districts, spoke volumes," hospital CEO Peter Holden says. "They asked about the collaborative, how it works, and how they, as legislators, can help ensure the program's success. They also asked for our assistance in communicating our model of behavioral health and substance use disorder care to other communities and hospitals in reviewing upcoming legislation, and potentially working together to draft legislation to assist in battling the opioid crisis."

Here is a look at the opioid issues afflicting Massachusetts and an examination of BID-Plymouth's unique model.

Overview: the opioid crisis

Massachusetts' unprecedented levels of opioid abuse have prompted state officials and medical experts to declare a public health crisis. The deadly addiction has spread statewide and nationally in the past two decades as a result of two transformative factors: an enormous surge in prescriptions for narcotic pain killers, which many physicians and healthcare experts say far exceeds what is necessary to treat pain; and the widespread availability of cheap, potent heroin in communities across the Commonwealth.

> **" Four out of five heroin users started with prescription drugs. … As pills are no longer available to them, or become too expensive, individuals turn to heroin — cheap, readily available and deadly."**

As Massachusetts Secretary of Health and Human Services Marylou Sudders said in her keynote address at Pioneer's 10th annual Hewitt Healthcare Lecture: "This crisis is the result of years of easily accessible prescriptions, and the historical minimization of addiction as a side effect of these drugs." Noting that 4.4 million prescriptions for opioids were written in Massachusetts in 2014, yielding some 240 million doses, she added: "Four out of five heroin users started with prescription drugs. … As pills are no longer available to them, or become too expensive, individuals turn to heroin — cheap, readily available and deadly."

Much has been written about the nationwide opioid dependency epidemic and its resultant overdoses and deaths, and news media in Massachusetts have chronicled the affliction's local and regional impact in great detail. In 2014, Massachusetts became the first state to declare a public health emergency because of opioid abuse. By 2016, all 50 states had done so. Massachusetts is often listed as a state with one of the highest opioid death rates in the nation: an estimated 22.6 deaths per 100,000 residents in 2015, compared to an estimated national rate of 14.7 deaths per 100,000 people in 2014.

One reason for the high rate is that Massachusetts has one of the more robust reporting systems in the country to account for opioid-related deaths and overdoses, allowing the Commonwealth to track the incidence of opioid poisonings more accurately than many other states. For example, in 2014 the state Department of Public Health (DPH) published initial estimates that the opioid death count for 2014 was likely to hit 1,008 — the first time the number had surpassed 1,000. After an examination of finalized death records, the DPH revised that 2014 number in May 2016 to an estimated 1,256 deaths. The department has also revised its 2015 number from 1,379 to 1,536. The updated data are available at www.mass.gov/stopaddiction.

In March 2016, the administration of Governor Charlie Baker and the state Legislature allocated more than $250 million to combat the opioid crisis. The money is to be used for treatment, education, prevention and recovery; for bulk purchases of drugs used as overdose antidotes and for drug detoxification; for treating babies born with substance abuse syndromes (referred to as neonatal abstinence syndrome, or NAS); for prescription-monitoring programs and technology; and other measures.

Amid the welter of statistics, a few simple sets of Massachusetts data demonstrate the severity of the opioid crisis and the need for state funding and innovative approaches to reduce its human and financial toll.

1. In 2000, there were 338 opioid-related deaths statewide, or 5.3 per 100,000 residents. By contrast, automotive deaths that year were 493, or about 6.5 per 100,000. In 2014, state automobile deaths had fallen to 328, or 4.9 per 100,000 residents. As noted above, the opioid statistics for 2015 are 1,536 deaths, or 22.6 deaths per 100,000 residents.
2. A 2016 analysis by the Massachusetts Health Policy Commission shows that opioid-related hospital visits in the state nearly doubled between 2007 and 2014, from 31,000 to 57,000. The report says "non-heroin opioids," which refers largely to prescription medications like oxycodone, hydrocodone, codeine and morphine (often sold under familiar brand names like OxyContin, Percocet and Vicodin), led to nearly 80 percent of the visits.

A 2016 analysis by the Massachusetts Health Policy Commission shows that opioid-related hospital visits in the state nearly doubled between 2007 and 2014, from 31,000 to 57,000.

Financial and healthcare toll

While it is notoriously difficult to determine the true costs of any public health crisis, data gathered at the state and national levels in recent years show that the pervasiveness of opioid affliction has, conservatively, led to hundreds of millions in annual medical and law enforcement expenses as well as loss of life and productivity costs in Massachusetts.

Here is a brief review of some of the costs affecting taxpayers and others as a result of the epidemic:

1. A state-by-state analysis of 2007 healthcare costs attributable to opioids issued by Matrix Global Advisors, a Washington-based economic consulting firm, in April 2015, put the Massachusetts price tag conservatively at $584,278,745. Given that the number of deaths in 2007 was 615, and that opioid-related hospitalizations have nearly doubled since then, it is reasonable to assume that those healthcare costs have risen dramatically. In addition, the prescribing of opioids by physicians has nearly doubled nationally since 2000, hitting a high of 207 million prescriptions in 2013, according to the National Institute on Drug Abuse. The institute reported that Medicare, Medicaid and other state and federal entities pay for one-third of those prescriptions. In other words, taxpayers are covering a substantial portion of the cost of the pharmaceuticals that have precipitated the problem.
2. Nationally, the federal government and the states pay for nearly 80 percent of the costs associated with opioid-related admissions to hospitals and emergency rooms, at an average cost of $2,000 to $3,000 per day, by one estimate. In 2014 in Massachusetts, about 75 percent of those who suffered opioid overdoses were insured by the state or federal government (Medicare and MassHealth covered the bulk of the costs). The state also spends heavily on residential and prison-based substance abuse treatment beds, both by subsidizing detoxification care at existing sites and paying for new facilities.
3. Healthcare expenses are just half the overall societal cost of opioid abuse, dependence and misuse, according to Matrix Global Advisors, Managed Care Magazine and other sources. Again, based on 2007 figures (the latest available annual estimates), that number was $55.7 billion nationally, with healthcare costs accounting for $25 billion, criminal justice costs accounting for $5.1 billion, and premature death, workplace expenses and lost productivity put at $23.7 billion. No statewide statistics are available for Massachusetts, but healthcare experts and state officials said in interviews that the state's annual tally easily surpasses $1.5 billion a year.

Public health officials, medical professionals and law enforcement authorities are virtually unanimous in their belief that the opioid crisis requires a wide range of collaborative and interconnected policies and approaches. The sheer number of hospitals, medical clinics, physicians, substance-abuse specialists, state

and municipal law enforcement officers, judges, prison officials, mental health experts and social service workers who must routinely cope with opioid-related poisonings demonstrates that the problem cannot be addressed by a single, conventional approach.

Hospitals have found themselves on the front lines. And while there is no "typical" opioid patient, medical experts in Massachusetts say individuals who overdose often follow a trajectory that involves many of the above agencies. Take, for example, Patient X. Upon overdosing, Patient X might be hurried to an emergency room by friends and "quite literally dumped at the ER door," as one social worker put it. Or he or she might be transported to the ER by ambulance or police car. While some first responders might have the ability to revive the patient with the anti-overdose drug Narcan (naloxone), many law enforcement officers do not have the training or experience to administer the drug, or lack dosages at hand. As a result, an overdose patient might arrive at a hospital unconscious or in the throes of being revived. Emergency room staffs must triage those patients to ensure that they receive appropriate urgent care. In some cases, opioid users have injected heroin in medical centers or emergency rooms, seeing it as a "safe space" to use drugs because they can be admitted immediately if they overdose.

Medical professionals must report overdoses to state authorities, and if the patient is found to possess heroin or illicit medication, they could be arrested. Police and prison officials, however, say they do not want to expend resources on small-scale arrests of users, and prosecutors and judicial officials would rather that patients be steered toward detox facilities and behavioral health providers. Their experience has shown that opioid users who are arrested or jailed rarely overcome addiction in the long term, and that stigmatizing them as "junkies" and criminals is counterproductive.

Dr. Monica Bharel, Commissioner of the Department of Public Health, put it this way: "As with any illness, we need to use the strength of data to bring together stakeholders, including those from law enforcement, public health, healthcare, education, and the recovery community, if we are going to turn the tide on this deadly disease."

While the state begins to make its emergency funding available to battle the opioid scourge, work has been underway at the community level. Several state-funded pilot programs are in place across Massachusetts. Most are in the formative stage, and their impact on relapses, hospital stays, ER and detox readmissions, and overall healthcare and criminal justice costs cannot be fully assessed. One effort underway in Plymouth, however, offers a promising collaborative model for involving as many parties as possible in curbing the damaging trends of the epidemic.

Case study: Beth Israel Deaconess Hospital-Plymouth

For nearly a decade, Peter J. Holden has seen the emergency department at Beth Israel Deaconess Hospital in Plymouth contend with a flood of new patients: people suffering opioid overdoses.

"We have had patients in our emergency room from the ages of 13 to 69, in three-piece suits or cutoff blue jeans," explains Holden, the hospital CEO. "This knows no age barriers, no class barriers, no racial barriers. It's just hideous."

It was clear to him that hospitals, and emergency departments in particular, were focal points of the opioid crisis. Holden and his staff faced a slew of problems.

The presence of patients needing help with opioid issues, for example, was interfering with the hospital's primary role as an acute care facility. Many of the new patients required anywhere from 24 to 72 hours of "boarding time" in the hospital to recover from overdoses. During boarding time, opioid users require comfort measures, ongoing treatment and added security. Costs of treating opioid patients ranged from $700 for simple emergency treatment, often with Narcan, an inhalant costing $75 per kit, to more than $10,000 for patients who required longer stays.

Hospital officials also noticed a high repeat rate among patients who had previously overdosed. And they realized they lacked health professionals in the emergency department with experience treating substance abuse and dependency. Additionally, they were frustrated by the fact that they could not immediately guarantee patients access to detox services and treatment beds in the community.

Plymouth County is hardly the only community afflicted by opioid deaths and emergencies. Holden is chairman of a Massachusetts Hospital Association (MHA) task force that has recommended nine best practices for managing opioids in emergency departments. The guidelines include refusing to replace lost or stolen controlled substances, and counseling patients on how to

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Too often, overdose patients were leaving the ER without receiving proper counseling and access to detoxification treatment, two factors that are pivotal to preventing recidivism and ending addiction.

store and dispose of medications. Crucially, patients who arrive due to an overdose should be immediately offered services like counseling and detoxification, and access to pharmaceutical treatments like the anti-addiction medications Suboxone (buprenorphine) or Vivitrol (naltrexone), both of which attach to opioid receptors in the brain to block the pleasurable feelings associated with taking opioids. (Both drugs have supporters and detractors.)

Holden and his staff started to crunch numbers to see what the opioid crisis was costing in money and manpower. They also began engineering an effort that encompassed not just county health and hospital services but the district court, the DA's office, the sheriff's office and county jail, local police departments, and educators.

"These are some of our most difficult patients and consequently our most expensive," Holden says. "And after they get treated, many of them just flee."

In doing research to apply for a $3.7 million state grant (known as a Community Hospital Acceleration, Revitalization & Transformation Grant, or CHART), half of which would be dedicated to behavioral health initiatives like opioid abuse, Holden and his staff focused on the 12 towns in BID-Plymouth's service area. The area already had a high rate of admission to state-funded substance abuse treatment programs, making new detox beds scarce, and the ER was seeing a 10 to 20 percent incidence of repeat overdoses by opioid users. One thing became clear: not enough money and manpower were focused on behavioral health. Too often, overdose patients were leaving the ER without receiving proper counseling and access to detoxification treatment, two factors that are pivotal to preventing recidivism and ending addiction.

As Sarah A. Cloud, the hospital's director of social work, put it: "They would sign out and leave as soon as they could. And the ones who go out into the system with no interest in education and counseling are more at risk and more likely to come back." She added that even those who stayed on for 48 to 72 hours of treatment, the ones "more motivated to get help then," were not receiving intervention, counseling and outpatient support.

In applying for the grant, Holden and his staff wrote: "Inpatient bed availability is scarce, costly and often ineffective toward the long-term goal of stabilization and recovery. Staff have recognized, through patients' stories and repeated visits to our emergency department, that they need assistance quickly and comprehensively."

That meant adding staff dedicated to attending to hospitalized overdose patients, so ER workers could focus on others in need of urgent care.

They added: "Post-discharge follow-up and drug compliance management models have proven effective in reducing hospital readmissions and ensuring drug compliance following a stay in hospital, thus contributing to improved patient outcomes."

That meant organizing a system by which hospital caregivers and community professionals could track down overdose patients and bring help to their doors.

The program was named the "Integrated Healthcare and Substance Use Collaborative." In simple terms, it ensures that opioid overdose patients are given multiple opportunities to gain access to detox programs, psychological counseling, anti-abuse drugs, and other services that have been shown to lower recidivism and, in time, return opioid users to more productive lives. So far, the grant has helped fund the hiring and training of the needed specialists not just in the ER but in primary care doctors' offices.

"There is such pressure on the ER doctors and how many people they have to see," Cloud says. "The system can be overloaded and the attending physicians are really eager to have the partnership of other professionals who can address that issue quickly."

In October 2015, after receiving the grant money, the hospital began a two-year effort to coordinate the needs of opioid-dependent patients in its emergency department. There are two notable innovations. First, BID-Plymouth has embedded a "behavioral health team" — nurse practitioners, social workers, and aftercare and substance specialists — in the emergency department to work immediately with arriving overdose patients. Second is Project Outreach, a collaboration involving the hospital's social workers, police departments in Plymouth, Carver and Middleborough, and substance abuse treatment centers that arrange for home visits to overdose patients within 12 to 48 hours of their hospital discharge. (See Figures 1A-C.)

Figure 1A

A HOSPITAL ON THE FRONT LINE OF THE OPIOID CRISIS

in heavily afflicted Plymouth, MA

Beth Israel Deaconess Hospital is pioneering a new, collaborative method of treating patients after an overdose or hospitalization

DIRECTOR

To address a spike in opioid overdoses, Peter J. Holden, president of BID-Plymouth, has helped established a collaboration involving Beth Israel Deaconess, partnered hospitals, social workers and clinical experts, health providers, detox facilities, law enforcement, and the court system.

"We have had opioid overdoses in our emergency room from the ages of 13 to 69, in three-piece suits or cutoff blue jeans. This knows no age barriers, no class barriers, no racial barriers. It's just hideous."

– Peter Holden

"The key is the ability to collaborate. It takes the whole community to turn the tide on the epidemic."

– Sarah A. Cloud, Director of Social Work, Beth Israel Deaconess Hospital-Plymouth

THE GOAL

The aim of the Beth Israel Deaconess Hospital-Plymouth Emergency Department's new Behavioral Health Team is to treat opioid patients and cut costs by "assessing, assisting and intervening with patients who have substance abuse issues as they arrive in the Emergency Department, and ensuring they are successfully connected with comprehensive community-based services after their visit."

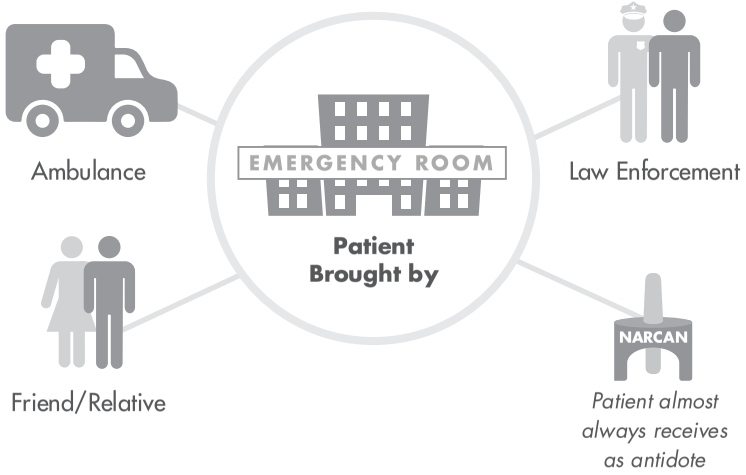
THE TEST

Will post-discharge follow-up by social workers and others, and the immediate availability of treatment beds, reduce E.R. readmissions and improve patient recoveries after hospitalizations? Will funding this collaborative system—including new facilities, resources and training—lead to lower costs for taxpayers, insurers, and the Medicare-Medicaid system? Will this collaboration offer a proactive solution to the opioid crisis afflicting the region?

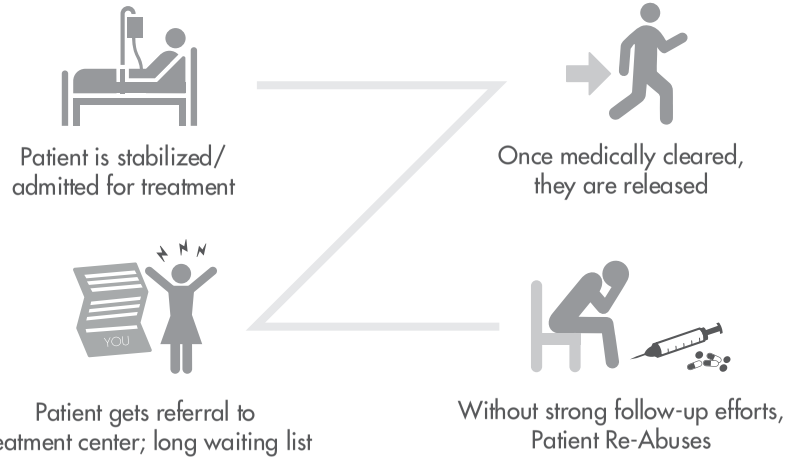
Figure 1B

TRADITIONAL APPROACH

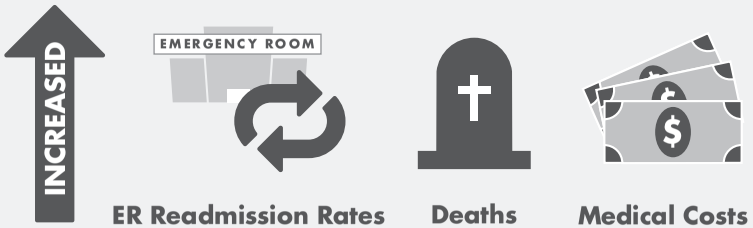
AN OPIOID OVERDOSE OCCURS



COMMON EMERGENCY DEPARTMENT RESULT



IMPACT



Costly Strains On

Insurance System	Jail System
Medicare-Medicaid system	Healthcare System
Court System	Families + Workplaces

Figure 1C

THE NEW APPROACH

PATIENT TRANSPORTED, ADMITTED AND STABILIZED IN ER (AS SHOWN ON TRADITIONAL APPROACH)

Social workers and clinical substance abuse counselors are embedded in ER team

Hospital social worker is alerted to patient's presence. Intervenes on-site

Patient's history is analyzed & detailed data is collected

Clinical experts have option to offer immediate detox or rehab care

POSSIBLE OUTCOMES

Patient Immediately accepts detox, counseling, or treatment options

They are assigned social workers and receive collaborative care and oversight

Patients refuse counseling or treatment & depart the ER

Project Outreach

Social worker + trained police officer visit home of the patient within 24 hours

Seek to talk with patient or family member

Can offer immediate placement in detox or recovery program. Provide on-site family counseling

EARLY RESULTS SHOW

REDUCTION

Relapses + New overdoses

Re-arrests

Re-hospitalizations

Other savings include

Projected annual savings **TBD**

Lower emergency-response + "boarding costs" for hospitals

boarding = time spent waiting in an ER for a bed or for transfer to another inpatient facility

EARLY RESULTS SHOW

85% accept treatment

Patients who enter detox are monitored by social workers as they move through recovery

Social workers provide access to therapy and other forms of support

If person has been **arrested**, they can choose to go to drug court and **enter rehab and accept monitoring** and other restrictions rather than doing prison time

Not part of the hospital-based outreach effort

LAST RESORT: Section 35 of Massachusetts General Law allows any police officer, physician, spouse, blood relative, guardian or court official to petition any district court or division of the juvenile court department to order the involuntary commitment of a person they have reason to believe has an alcohol or substance-use disorder.

Offering services to overdose patients who choose to stay in the hospital or who solicit help while being treated has a proven success rate, health experts and former addicts say. But approaching those who flee the hospital as soon as they've been revived is far more challenging. Cloud said the outreach concept arose after she was contacted by Plymouth police, who wanted more options than arresting and jailing opioid users. They found that a team of two – a social worker and a plainclothes officer – was an effective approach in an often volatile situation.

"Sometimes they are yelling at us, unreasonable and angry, and I always think they won't let us in the door," Cloud explains. "But we come across all situations. One time we were greeted by a mom of a 24-year-old. The street detective went in and encouraged him to come out to talk. We said, 'we have a bed, we will take you right now,' and I was also providing support to the mom."

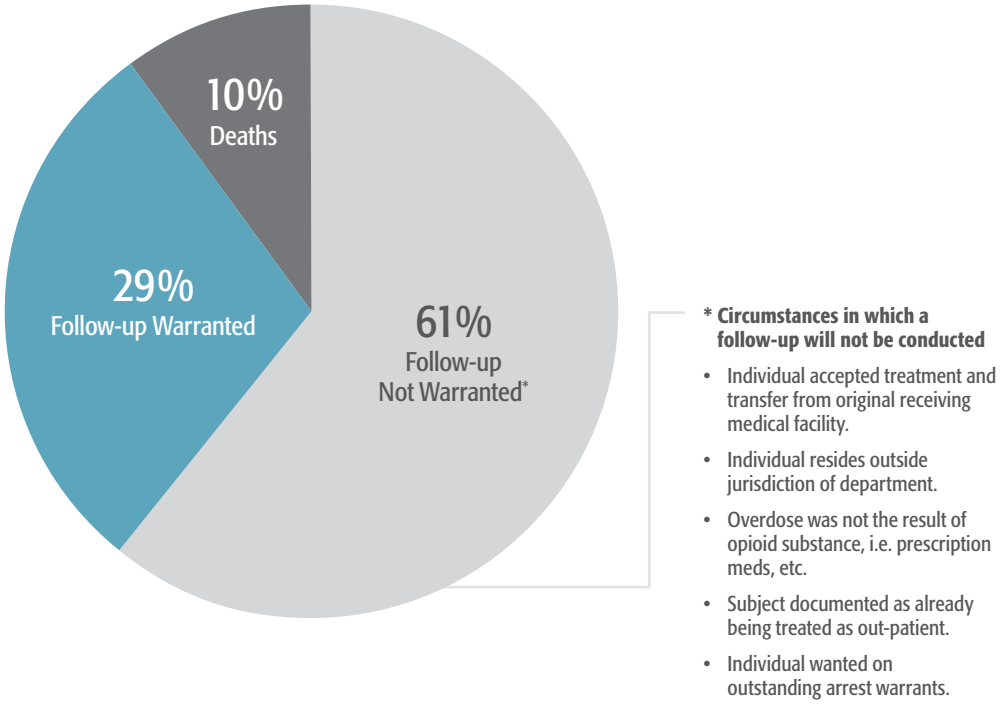
"There are occasions where there are people inside who hide and won't open the door," she added. "One time we left a business card and we got about a block away and he called. He went into treatment as well."

The approach has the support of Plymouth Police Chief Michael E. Botieri, who has recommended the program to fellow chiefs as a "best practice." Botieri believes the program will be adopted more broadly given its early results.

Performing the outreach requires community collaboration, Cloud said. Her team is alerted whenever an overdose patient arrives. She looks at the patient's records and contacts the police, who make the officer available. Sometimes they have to track down patients who are not living at the address they indicated at the hospital. Crucially, she says, she has a commitment from several local detox centers, so the drug user can be driven directly to a site that can treat their addiction cravings and other needs.

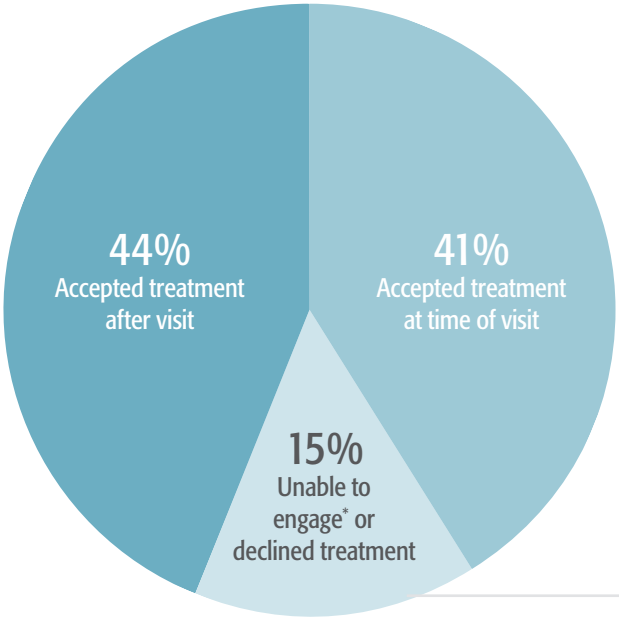
Although they are still in the initial stage of data collection, Cloud and Holden say their approach looks promising in terms of reducing hospital costs. They hope to have useful data within two years. So far, they say, about 85 percent of those visited after an overdose entered treatment (Figures 2A and 2B).

Figure 2A. Total Opioid Overdoses, Project OUTREACH, Plymouth, 12/1/15–3/31/16



Project OUTREACH Collaborators: Plymouth, Carver and Middleboro Police Departments, Beth Israel Deaconess-Plymouth, High Point Treatment Center, Gosnold, CleanSlate, and Plymouth District Court

Figure 2B. Community Follow-up Visit Outcomes, Project OUTREACH, Plymouth, 12/1/15–3/31/16



Any decline in emergency room services leads to an estimated savings of $3,000 to $4,000 per visit, according to a 2014 report from the state Department of Mental Health (DMH). Another state report found that of the 57,000 hospital visits attributed to opioid poisoning in 2014, about 22,000 were repeat visits. Beyond saving lives, cutting repeat visits offers indisputable healthcare savings.

More broadly, the state DPH reported that same year that "each dollar invested in prevention saves up to $7 in areas such as substance abuse treatment and criminal justice system costs, not to mention their wider impact on the trajectory of young lives and their families."

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Can outreach and hospital intervention work? A former opioid user's view.

A critical driver of BID-Plymouth's new approach to overdoses has been input from recovering opioid abusers, who say intervention by addiction specialists at the very moment when they are most sick and vulnerable is pivotal.

Liz Azevedo, a 30-year-old former Marine lance corporal and soccer team captain, says she became hooked on heroin and other opioids for almost four years after being prescribed Percocet and Vicodin in 2008, and was treated for overdoses three times. Now healthy and thriving in a new job, she recalled the anguish of trying to get off heroin.

"One time I was literally dead, not breathing, when they brought me back," she said. "Still, I discharged myself within three hours against medical advice because all I wanted to do was go out and get high again."

"Having that intervention step right away is so key, so critical," she added. "As an addict you instantly feel withdrawal from the drug. If there was a detox bed right away, or suboxone (the anti-addiction drug) right away, that would be a life-saving option, because withdrawal is extremely painful."

"ERs are at maximum capacity, so it's really a matter of catching addicts in time before they get out. Just having those steps of intervention — maybe even having a former addict there to talk to and say 'I've been through this and I want to help' — can make such a huge difference."

Azevedo said home visits "are also a great idea and a smart use of resources" because they offer drug users what they need most: "an immediate way out."

"Being in a situation where you are an addict and you believe no one cares and you're separated from everyone you know and love — to have somebody show up at your door and say 'we want to help you and take care of you' — that piece right there is so huge and critical. I can't even express how critical that is. As much as people might shut the door in their face, just as many or more are going to open the door and say 'yes I want help.'

"They could send a recovered addict with those people too. I learn more from people who have recovered than many others. It's easier to heed advice when the person looking you in the face has been through it all already."

"People need to know that we're not just a bunch of junkies or losers," she said. "We just need help. The power of the drug changes you."

Conclusion: Future hospital practices

Peter Holden is quick to point out that intervention after an overdose is just one tactic hospitals must use to battle opioid abuse. As chairman of the Massachusetts Hospital Association's Substance Use Disorder Prevention and Treatment Task Force, he has joined with other hospital leaders in encouraging and establishing new practices based on his experiences as a hospital CEO.

He recalls being horrified to learn that a South Shore drug dealer, in an anonymous interview, described how people were slipping into BID-Plymouth and stealing prescription pads from doctors' desks to forge opioid prescriptions. He says doctors and hospitals across the state are becoming far more vigilant about locking up the pads.

He also said hospitals like his need to cut back on the amount of prescriptions they write for patients. His own doctors told him they were "absolutely" providing more opioids than necessary, he said, because patients were perceiving the pharmaceuticals as wonder drugs and demanding to be free of pain.

Another problem, he said, is that "shoppers" go from hospital to hospital "and get as many scripts for as long as they can." That behavior has been enabled by an absence of any "real-time linkage between emergency departments" to track prescriptions.

With refreshing candor, Holden said during a March 2016 MHA webinar on hospitals and opioids: "The drug dealers were coming into our organization to get their stash, and here we are out in the community thinking we're part of the solution of better health and we're actually part of the problem."

After initiating efforts to curtail prescriptions, Holden compared data sets and found that a few basic steps reduced emergency department prescriptions by about 25 percent. "We saw that the problem revolved around these being medicines of convenience for us, and commerce to the drug manufacturers," he said.

BID-Plymouth has also installed a "MedSafe" drop box for unused medications to make it easier for the public to dispose of them. In one month, Holden says, more than 40 gallons of unused prescriptions — not all of them opioids — were collected "without the stigma of going to one's local police station to drop off medications."

Cloud said the cost of adding substance abuse counselors and other specialists to the ER and other hospital departments can be relatively modest. About $300,000 from the CHART grant has been used so far to help cover the costs of one outpatient social worker, three behavioral health counselors and one aftercare specialist.

Holden said several hospitals have begun to initiate intervention and outreach programs after seeing his early results in cutting back on boarding time (see Appendix A), limiting recidivism and reducing the flow of opioids from the hospital to the community. As state spending to combat opioid addiction ramps up and a wide range of programs and initiatives are put in place, data-driven efforts like those at BID-Plymouth will offer the best evidence of what works and where money is most appropriately spent.

Several hospitals have begun to initiate intervention and outreach programs after seeing his early results in cutting back on boarding time, limiting recidivism and reducing the flow of opioids from the hospital to the community.

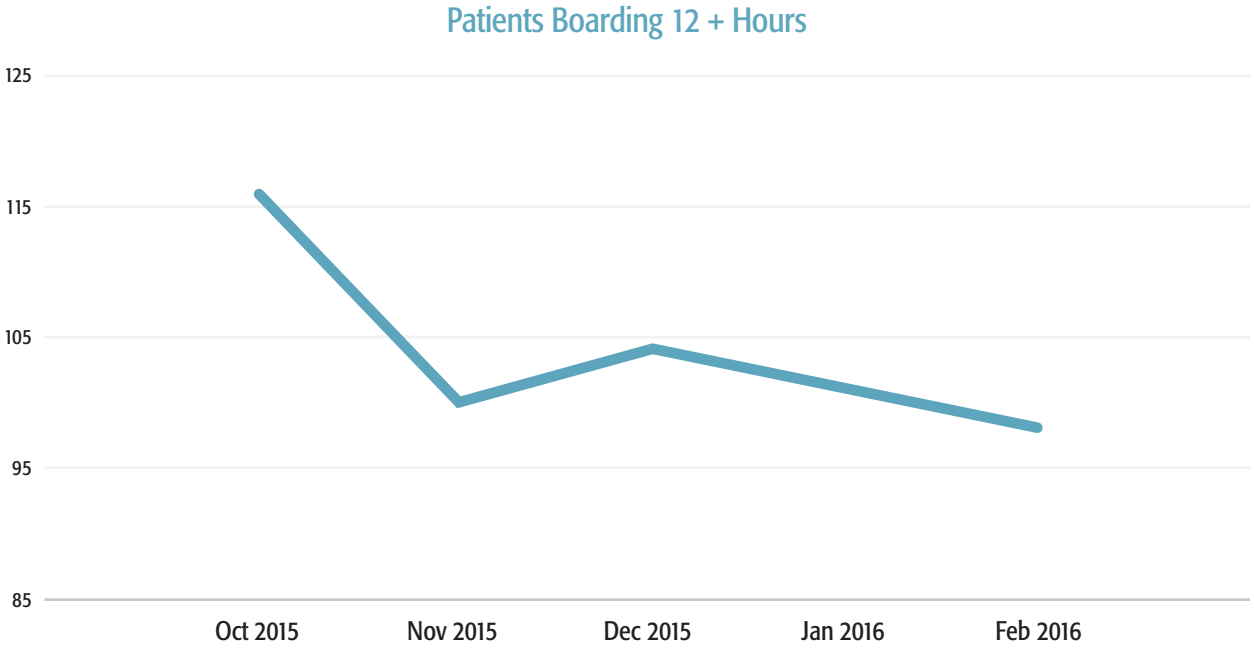
Recommendations

1. There is no question that educating patients and health care professionals about the addictive nature of opioid drugs while cutting back on pharmaceutical prescriptions can play a major role in reducing overdoses. Hospitals must closely track the amount of opioid drugs they are dispensing, with the goal of aggressively limiting prescriptions. More broadly, prescribers in all areas of medicine must accept the fact that the drugs are too dangerous and addictive to be dispensed cavalierly and rethink their prescribing practices.
2. Massachusetts hospitals must immediately devote money and manpower to establish real-time monitoring and tracking of opioid prescriptions handed out by their emergency departments and affiliated physicians. Given its quality health systems, Massachusetts should set a national standard for a centralized opioids database that includes hospitals, pharmacies and physicians. Such practices will reduce instances where multiple prescriptions fall into the hands of "shoppers" who use the drugs to get high or sell them on the street.
3. State officials should support hospital-based efforts to staff emergency departments with addiction specialists and others who can work immediately with overdose patients to intervene and offer them access to counseling and detoxification programs. They should also encourage municipal police departments to adopt the Project Outreach model of following up within 12 hours with overdose patients who leave hospital emergency rooms before they can be directed toward long-term detox treatment.
4. The state should improve information sharing between the Department of Correction, county sheriffs, and other agents in the criminal justice community and the hospitals that take in high volumes of parolees and probationers suffering from opioid addictive tendencies. It should support efforts like the one underway at the Plymouth County Correctional Facility, where Sheriff Joseph McDonald has set aside a dormitory that can house up to 60 men who have been ordered into drug treatment by judges. The program has reduced the number of inmates who return to drug use upon release and subsequently suffer overdoses requiring repeat visits to emergency rooms.
5. The state is committed to providing several hundred new detox beds in the next two years. Massachusetts health professionals say the lack of immediate access to residential treatment programs stalls efforts to reduce addiction and overdoses. State officials and medical experts should weigh the benefits of supporting more outpatient treatment efforts using the anti-opioid drugs Suboxone and Vivitrol. Frontline addiction workers say the drugs, while controversial because of fears that they can be diverted and abused, have a strong success rate in curbing cravings and helping wean patients off opioids.
6. The number of opioid-exposed newborns is a troubling and growing problem across the state, according to Massachusetts health data. From 2004 to 2013, incidence of neonatal abstinence syndrome (NAS) has increased from three per 1,000 hospital births to 16 per 1,000 births annually. Treating addicted infants is difficult and expensive. According to state data, average hospital charges range from $66,700 to $93,000 per child, compared with a national average of $3,500 for an infant born without complications. Government-funded health programs pay for 80 percent of the cases. Requiring blood testing for pregnant women is highly controversial. In consultation with physicians, law enforcement officials, social workers and privacy advocates, the state should reexamine its policies on substance abuse during pregnancy to encourage decriminalization, broader testing and the creation of detox programs dedicated to pregnant women.
7. Massachusetts should consider joining forces with the other New England states in demanding more contributions from major pharmaceutical companies involved in the opioids industry. Sales of opioids in the United States exceeded $20 billion annually in 2014, according to industry analysts. Two states, California and Illinois, are currently engaged in lawsuits against five major opioid manufacturers, seeking to recover drug and detox treatment costs incurred dispensing opioids to employees on workmen's compensation and to residents whose medical costs are funded by the states. Attorneys general in Massachusetts and other New England states should investigate suing drug makers to recover costs associated with the opioids crisis, applying criteria similar to those used in recovering smoking-related healthcare costs from Big Tobacco

Appendix A: Behavioral Health Patients Boarding in the Emergency Department

The term *boarding* refers to time spent waiting in an emergency room for a hospital bed or for transfer to another inpatient facility. As noted in the report, "boarding" is a costly practice, both financially and medically. Financially, according to the Treatment Advocacy Center (2012), behavioral health patients boarding in an ED can cost the hospital more than $100 per hour in lost income alone. In addition, the average cost to an ED to board a behavioral health patient is estimated to be $2,264.[1] Medically, psychiatric symptoms of boarding patients often escalate during boarding in the ED.[2] Applying the estimated cost of $2,264 per boarder to the decrease from October and February equals $40,752 savings over a 5-month period. (*Information provided by Beth Israel Deaconess Hospital – Plymouth.*)

BID-Plymouth's early results in cutting back on boarding time are represented in the figure below.



"Boarding" is a costly practice, both financially and medically

Financially

- Behavioral health patients boarding in an ED can cost the hospital more than $100 per hour in lost income **alone** (Source: Treatment Advocacy Center, 2012)
- The average cost to an ED to board a behavioral health patient is estimated at $2,264 (Source: Nicks B, Manthey D. *Emerg Med Int.* 2012)

Medically

- Psychiatric symptoms of boarding patients often escalate during boarding in the ED (Source: Nicks B, Manthey D. *Emerg Med Int.* 2012)

The term *boarding* refers to time spent waiting in an emergency room for a hospital bed or for transfer to another inpatient facility.

Applying the estimated cost of **$2,264 per boarder** + the decrease from **October – February** = **$40,752 savings** over a 5-month period

1. Nicks B, Manthey D. *Emerg Med Int.* 2012.
2. Nicks B, Manthey D. *Emerg Med Int.* 2012.

About the Author

Tom Mashberg is a veteran investigative reporter and editor specializing in coverage of the opioid crisis. He was a 2014 Pulitzer Prize co-finalist for The Record of North Jersey for reporting on opioid and heroin addiction in New Jersey. With fellowship funding from the McGraw Center for Business Journalism at the City University of New York's Graduate School of Journalism, Mashberg is examining the pharmaceutical industry's role in the opioid industry.

About Pioneer

Pioneer Institute is an independent, non-partisan, privately funded research organization that seeks to improve the quality of life in Massachusetts through civic discourse and intellectually rigorous, data-driven public policy solutions based on free market principles, individual liberty and responsibility, and the ideal of effective, limited and accountable government.

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