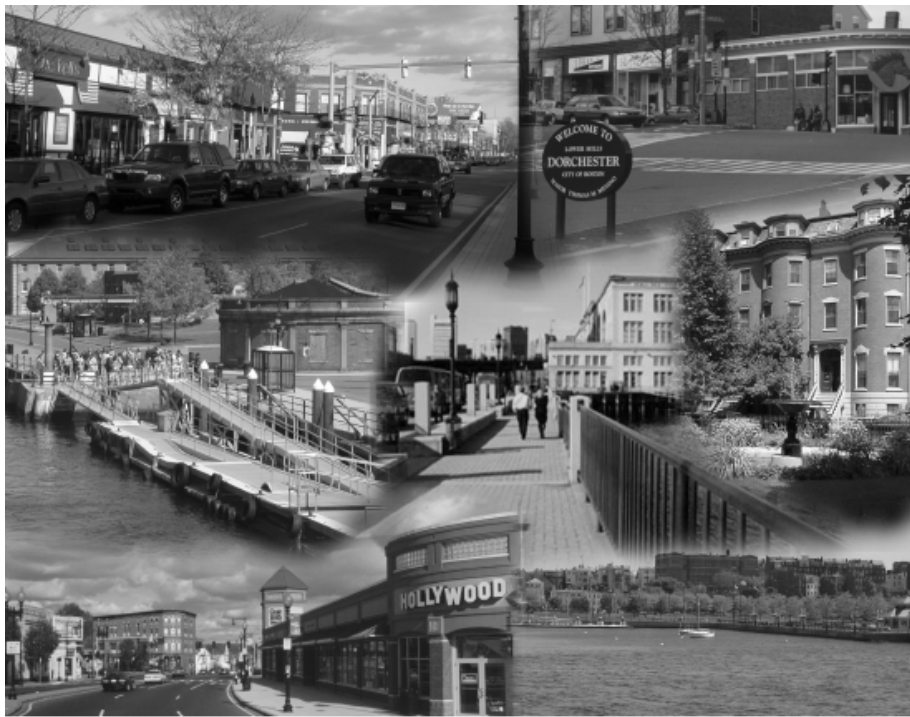


# **Opiate Overdose Prevention and Reversal Pilot Program using Nasal Narcan Report to the Board Boston Public Health Commission**



**Andy Epstein, RN, MPH  
Maya Doe-Simkins, MPH  
Boston Public Health Commission**

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## **Executive Summary**

Recognizing that fatal and non-fatal overdoses from opiates have played an increasing role in the mortality and morbidity of Boston residents, the Boston Public Health Commission embarked on a pilot overdose prevention program using nasal Narcan, in an attempt to reverse this trend. Narcan (Naloxone), is an opiate antagonist that is used to reverse the effects of an opiate overdose. It is both safe and effective and has no potential for abuse. It is not a controlled substance but is a scheduled drug that requires a prescription and is currently used by paramedics and EMTs in ambulances by standing orders or by emergency room clinicians. It prevents the narcotic from attaching to the part of the brain that is affected when too much opiates are used, causing respiratory depression and eventually death.

Centered at Boston Public Health Commission's Needle Exchange program, we enrolled 221 active injection drug users who were at risk of dying from an opiate overdose. Using an overdose prevention curriculum that stresses preventing and recognizing an overdose, calling 911, administering rescue breathing and lastly administering nasal Narcan, we received 27 self-reports of successful overdose reversals by participants. We determined that the cost per OD reversal at \$185 per episode.

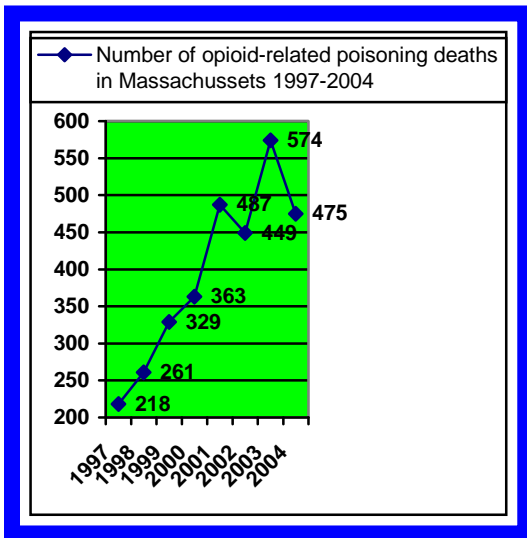
We conclude that interest in OD prevention is high by those at risk, training is well received and comfort with the prevention program and administration of Narcan program was achieved. There were no adverse effects related to the OD prevention program. In many instances, this intervention was a "teachable moment" whereby active injection drug users considered their addiction and were motivated to consider or enter detoxification to begin to address their addiction.

## **The Legal Basis for the pilot program**

The Board of the Boston Public Health Commission approved a regulation authorizing this pilot program on August 15<sup>th</sup>, 2006. M.G.L. c. 111, §31; M.G.L. c. 111, App. §§2-6(b), 2-7(a)(1), and 2-7(a)(15) recognizes the severity of the growing public health problem of fatal overdoses and gives permission for all health care providers or other individuals providing services under this regulation to be considered special employees of the BPHC pursuant to M.G.L., c. 112, §12C. It stated that BPHC shall assume legal liability pursuant to M.G.L., c. 258, related to the special employees' participation in the pilot program. With the BPHC assuming legal liability under the pilot program, the Executive Director of the Boston Public Health Commission was given authority to issue guidelines and policies for the administration of the pilot program.

Dr. Peter Moyer, medical director of Boston's Emergency Medical Services, agreed to be the legal prescriber for the medication.

### The Problem



Opiate related overdose (OD) is an increasing concern in the City of Boston. While evidence of this trend is supported anecdotally by opiate users and service providers as well as by existing monitoring and surveillance efforts, improved capacity for real time OD occurrences is necessary to fully understand ODs in Boston. Nonetheless, the information that is available indicates high levels of overdose. Statewide, opiate related fatalities have risen both in number and as a proportion of all poisoning deaths from 1997 to 2004. In 1997, there were 218 opioid-related deaths which peaked at 574 in 2003. Opioid-related poisonings as a proportion of all fatal

poisonings jumped from 43.9% in 1997 to 64.7% in 2004.

Locally, there is information available on overdose, both fatal and non-fatal, from heroin-related Emergency Medical Services (BEMS) calls. In fiscal year 2006, BEMS responded to 794 heroin overdoses. This translated to a rate of 13.48 per 10,000 population in the city as a whole. When the city is broken up into neighborhoods, there are clearly areas

that have a markedly increased rate of overdose and account for a disproportionately high number of the OD calls.



### Statewide Opiate Deaths 1997-2004

	1997	1998	1999	2000	2001	2002	2003	2004
Opioid Deaths	218	261	329	363	487	449	574	475
Other Poisoning Deaths	279	310	204	223	229	241	262	259
TOTAL POISONING DEATHS	497	571	533	586	716	690	836	734
% of opioid-related	43.9	45.7	61.7	61.9	68.0	65.1	69.0	64.7

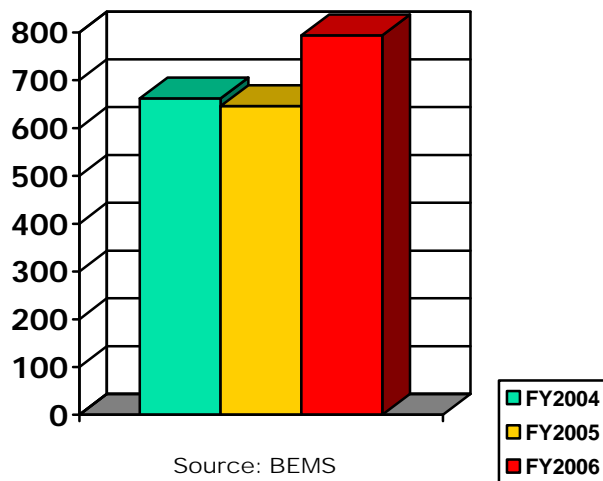
**Source:** Registry of Vital Records and Statistics, MDPH  
 Prepared by the Injury Surveillance Program, Center for Health Information, Statistics, Research and Evaluation, MDPH

The most recent available drug misuse death data available for greater Boston is from 2003. In that time period,

486 drug misuse deaths occurred. Heroin, Morphine, Oxycodone, Methadone and Fentanyl, alone or in combination were responsible for these fatalities.

NEIGHBORHOOD	FY 06 # BEMS HEROIN ODS	ENCOUNTERS PER 10,000 POP
ALSTON/BRGHTN	23	3.30
BACK BAY	46	8.78
<b>WEST END</b>	39	<b>28.52</b>
<b>NORTH END</b>	36	<b>29.71</b>
<b>CHRLESTWN</b>	51	<b>33.56</b>
EASTBOSTON	53	13.80
SOUTHBOSTN	70	23.38
<b>SOUTHEND</b>	<b>180</b>	<b>53.73</b>
ROXBURY	84	15.75
DORCH NORTH	74	8.89
DORCH SOUTH	23	5.08
MATTAPAN	10	5.07
ROSLINDALE	35	9.99
JAMAICA PLAIN	23	8.68
WEST ROXBURY	14	5.36
HYDE PARK	19	5.52
HARBOR ISLANDS	10	N/A
<b>CITYWIDE</b>	<b>794</b>	<b>13.48</b>

OD CALLS TO BEMS



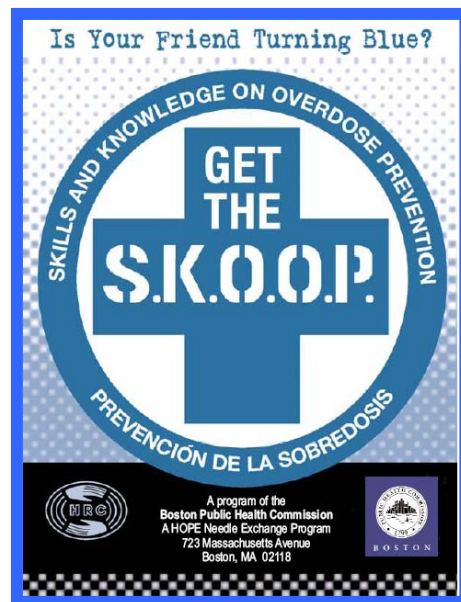
## The Pilot Program

In recognition of the high prevalence of overdose, Mayor Menino, through the Boston Public Health Commission (BPHC) encouraged an investigation into possible interventions designed to address this public health threat.

After an extensive review of the literature and research into existing programs, we identified several programs that could be adapted to work in Boston; programs whose aim is to reduce incidences of opiate overdose and death through prevention, education and naloxone (Narcan) distribution to opiate users for peer administration. Programs that we reviewed included a state-sponsored project in New Mexico, city-sponsored projects in Baltimore, San Francisco, Oakland, New York City, and non-profit projects in Chicago and Philadelphia.

Naloxone (known throughout this report by its trademarked name, Narcan) is a narcotic antagonist that is used to reverse the effects of an opiate overdose. It prevents the narcotic from attaching to the part of the brain that is affected when too much of an opiate-containing substance is used, causing respiratory depression and eventually death.

Because it is both safe and effective to use, and has no potential for abuse, overdose prevention programs that included Narcan distribution and training in its use began early in 2000. Cities with high overdose rates began pilot testing and later fully implementing Narcan training. There are now Narcan training programs in Chicago, San Francisco, New York City, New Mexico and in several international locations.



## Literature Review and analysis of other programs

### City-sponsored programs

In 2001, Narcan was distributed as part of a pilot program for overdose prevention in San Francisco. Over an eight-week period, 24 IDUs were trained in overdose prevention, CPR, and Narcan administration. Over the next six months, the trained IDUs witnessed 20 overdoses and reported intervention in 19 overdoses, administering either CPR (80%) or Narcan (75%) or both. None of the overdoses resulted in death (name date). Similar results were found in the initial trial of an overdose prevention and reversal program in New York City. An initial 25 participants enrolled in the project, and 22 participated in follow-up interviews. Of the 22, 50 percent reported witnessing a total of 26 overdoses, and Narcan was administered in 10 cases; all who received Narcan lived (name date).

### Non-profit organization programs

In Chicago, the Chicago Recovery Alliance instituted an educational training program in overdose prevention that included the distribution of 3,500 vials of Narcan to IDUs. Since the institution of the program, 319 peer reversals of overdoses have been reported. The Cook County Medical Examiner’s Office reports that a decade long trend of increasing opiate overdoses has also been reversed, with declines in overdoses reported of 20 percent in 2001, 10 percent in 2002, and 10 percent in 2003 .

### Our Program Design

We opted to begin our pilot at the City of Boston’s van based needle exchange program, (NEP) which has been in existence since 1994 and has been successful in reducing the incidence of HIV among active injection drug users. In addition, since the NEP has immediate access to a detox bed and facilitated entry into Methadone Maintenance, participants could take advantage of these services, if desired.

We designed our pilot using a nasal formulation of Narcan, which the BEMS had adapted in December, 2006 with success. Nasal Narcan allowed all levels of emergency practitioners to use this life saving medication. It eliminated the need for injection and the concomitant concern about safe needle disposal and risk of needle stick injury.



Medication, delivery device & atomizer

We gave each participant enrolled into the program two Luer-Jet™ Luer-Lock prefilled syringes of 2mg/2mL naloxone hydrochloride from Amphastar-International Medication Systems, Limited and two Mucosal Atomization Devices (MAD®) from Wolfe Tory Medical, Inc.

## The Curriculum

We adapted educational material that was developed by the Harm Reduction Coalition and the Drug Overdose Prevention and Education (D.O.P.E.) Project called “Get the S.K.O.O.P.: Skills and Knowledge On Overdose Prevention”. This literature has been tested and used successfully in city-sponsored projects in New York City and San Francisco, and is bilingual in Spanish and English. We chose to use already developed materials that are accepted and recognized by public health officials. We anticipate that more cities and states will adopt this model as local governments begin to examine methods of overdose prevention.

There are three main content areas of the educational portion of the enrollment process:

- Preventing overdose
- Recognizing and managing an overdose situation
- Characteristics of Narcan and how to assemble the device for use.

The strategies for avoiding an overdose are: being aware of personal tolerance changes; knowing drug purity; avoiding poly-drug use; avoiding using alone; personal control of the drug preparation and injection process; and using tester shots. The second portion of the educational piece includes:

- Identifying an opiate overdose
- The importance of calling 911 and strategies for encouraging calls to 911
- Rescue breathing
- Administering Narcan.



### 1. CALL 911 Llame al 911



### 2. RESCUE BREATHING Respiracion de Boca a Boca



### 3. GIVE NARCAN Administra Narcan

The last addresses Narcan in-depth, including: appropriate dosage; how to assemble the device (which includes time for the participant to practice assembling it); potential need to re-administer; and how to provide post-Narcan administration support.

After the OD prevention and reversal education, the participant gets a re-orientation to the spectrum of Harm Reduction services that can be accessed via the needle exchange program through referrals, including:

- Drug treatment options such as detoxification, methadone, acupuncture therapy, and recovery;
- HIV and Hepatitis C counseling and testing
- Hepatitis A & B vaccinations
- Harm Reduction-based individually tailored education.

Finally, we complete a brief medical and drug use history form that is later signed and placed in a secure location. Two boxes of Narcan are given with a prescription label attached<sup>1</sup>. The label allows for up to 6 refills. Participants are encouraged to return to the NEP for a refill in the event that the Narcan gets used, lost, stolen, or confiscated. At that time, the NEP staff asks the participant the details of the OD event in which they used the Narcan. The intent is to better understand how well the program is at teaching our clients to use this OD prevention strategy.

## **On the Ground**

Once the BPHC BOD passed the regulation assuming liability for the pilot, Peter Moyer, Medical Director of the Boston EMS and someone with extensive experience with Narcan, agreed to be the prescribing physician for the pilot. His prescriptive authority was exercised through Andy Epstein, RN and Maya Doe-Simkins, AHOPE's OD prevention specialist.

The NEP currently has about 1225 active (come to the exchange more than twice a year) unduplicated participants. We began the pilot at the two most active sites; Albany St (Boston Medical Center) and LaGrange St (Chinatown/theater district). Both of these sites had high responses that later leveled off once most of the interested "regulars" received their Narcan. In response to the leveling off, we also began offering OD prevention at East Boston and Shawmut Ave in Dudley Square. Similarly, initial interest was high for a time period and then leveled off once the site-specific populations were saturated. We noted that the NEP participants with the least chaotic drug use patterns tended to be among the first who were interested. Those whose patterns seemed to be more chaotic either took longer to make time to go through the education or didn't prioritize obtaining Narcan until there had been a traumatic event that they experienced or heard about which forced them to reprioritize the OD prevention initiative. During this pilot, seven van-based hours were available for the Narcan program.

Early in the pilot we recognized that we needed to increase the proportion of Black and Hispanic participants and therefore we approached programs that serve those populations. Roxbury Comprehensive Health Center’s Pathfinders group and Casa Iris group, two programs working with active IDU’s hosted us to present the project. We enrolled, educated, and distributed Narcan to those at risk. In addition, we received requests from the BPHC’s methadone clinic to present the project and offer to enroll all new methadone clients.

Primary care providers who serve IDUs have shown interest and Mass General Hospital’s Charlestown Health Center adult medicine Suboxone prescribers, received training in OD prevention. The doctors identify appropriate candidates for the program

<b>Characteristics of enrolled participants (N=221)</b>	
<b>Median age (years)</b>	42 (19 – 67)
<b>Gender</b>	
Female	31%
Male	68%
Transgender	<1%
Missing	<1%
<b>Race/Ethnicity</b>	
Asian	<1%
Black	13%
Hispanic	19%
White	65%
Missing	<1%
<b>Homelessness</b>	
Housed	81%
Homeless	16%
Missing	3%
<b>HIV</b>	
Positive	10%
Negative	48%
Never tested	2%
Don’t know/missing	40%
<b>Hepatitis C</b>	
Positive	50%
Negative	23%
Never tested	2%
Don’t know/missing	25%
<b>Regular medical care</b>	74%
<b>Reported recent drug use</b>	
Heroin	77%
Cocaine	46%
Benzodiazepines	31%
Prescribed opiates	13%
Fentanyl	6%
<b>Reported daily use</b>	72%
<b>Reported past personal OD</b>	60%
If yes, median #:	2
<b>Reported past witnessing OD</b>	82%
If yes, median #:	5
<b>Past treatment with Narcan</b>	
Yes	43%
No	44%
Don’t know/missing	13%
<b>Reported past abscess</b>	
Yes	35%
No	43%
Don’t know/missing	22%

and prescribe the Narcan and the nurses, trained by our OD prevention specialists, provide the training and education.

An additional arm of the overdose prevention pilot is the work that we have begun in treatment programs oriented to detoxification services. These agencies see high volumes of opiate users who will be at risk for overdosing if they resume drug use. The nature of addiction often required multiple admissions to various programs, and unfortunately, a significant proportion relapse and is at higher risk for OD due to tolerance changes. Dimock Detox and Centers for Addictive Behaviors host our OD prevention program and the nurses have been trained in Narcan administration.

Several homeless shelters have expressed interest as well, and they are being included in this pilot.

### Characteristics of the Participants (n=221)

The OD prevention pilot is a well-targeted public health intervention. We found that the risk behaviors of the people that decided to enroll in the pilot were consistent with those at high risk for overdose. The median age of participants is 42 (give range). Thirty-one percent are female and 68% male. The percentage of females is higher in the pilot compared to NEP participants.

Thirteen percent of participants are Black, 16% Hispanic, and 65% White. About 16% of those who enrolled in the

Overdose Prevention program reported being homeless at the time of enrollment, which is much lower than the NEP's general population (35% NEP participants report homelessness in 2006).

One potential explanation is that homeless individuals are at higher risk for police interactions than their housed counterparts and, while the Narcan is legal for them to carry, some decided that they would rather not have to explain this to law enforcement officials.

Ten percent of the enrollees reported being HIV+ and 50% disclosed positive HCV status. Indeed, most NEP clients have an abundance of access to both HIV and HCV counseling and testing and know their status.

We found that overdose risk is high among the group enrolled in the pilot. This is evidenced by the high rates of drug use, poly-drug use, and particularly benzodiazepine use. Experience with overdose is high as well; 60% of participants have had an overdose themselves, many more than once. Of those personally experiencing OD, the median number is two. Personal experience with OD is certainly related to opiate use, but there seems to be a strong relationship with benzodiazepine use as well—only 8% of those who reported regularly using benzodiazepines reported never overdosing. An even larger proportion -- 82% -- have witnessed an OD with the median number relatively high at five. They are also relatively familiar with Narcan; of those who have had an overdose, 43% have had Narcan administered by a medical professional. High risk drug use behavior is also evidenced by the fact that approximately 1/3 have had an injection related abscess.

*"You get nervous, you know – someone's blue, someone's dying. But you do it because we are all out here together and people are going out right and left."  
-Homeless man, age 29*

Qualitatively, participants were excited to have access to the program. Indeed many of them had been inquiring about Narcan to needle exchange staff for some time. Engaging in conversations with participants about their own experiences with overdose or witnessing an OD allows for a very unique opportunity to engage people in reflecting on their own drug use patterns and behaviors.

## Report-backs of Overdose Reversals with Narcan

We relied on self-report of use to collect information on overdose experience and management by program enrollees. During the educational session portion of the enrollment into the pilot, we asked that enrollees report back to needle exchange staff about their experiences with Narcan and to receive a refill.

Between the dates of September 18, 2006 and March 14, 2007, we received reports of 27 overdoses reversed with Narcan from 22 different individuals. This gives an approximate

report back rate of 11%, which is consistent with rates reported by other pilot programs in the country. Three people reported reversing two different overdoses each. All 27 overdoses were successfully reversed with no observable adverse outcomes. In 25 of the overdoses, one dose of intranasal Narcan was administered, in two events, two doses were administered. In all cases, the overdose was correctly diagnosed and managed including stimulation such as a sternal rub and/or rescue breathing by the person who administered the Narcan. In five events, 911 were called by the person managing the overdose and rescue breathing was performed in two. EMS was present in more than just these five events, as a result of someone other than the person managing the overdose calling 911 or otherwise accessing Emergency Medical Services. In four events, the person who overdosed was transported to the hospital by EMS, in one event the EMS concluded that transport was not necessary, and in another, the person refused transport. Finally, in one event, the person who had the overdose accessed drug treatment within 24 hours of the overdose.

People reported being satisfied and comfortable with using the Narcan, say that they would use it again, and report that they would want it used on them in the event that they themselves were overdosing.

***“He was out, I mean out... I got him up and he fell again. So I Narcaned him. I was pretty nervous, but I got it together and put it up one side of his nose and then the other. He came right out. I’m pretty sure I saved his life and I’m really proud of myself.”***

***-Female, age 47***

Qualitatively, the response to managing an overdose was overwhelmingly positive. People were proud of their ability to manage the situation and reported the overdose education and management that they received allowed them to act more calmly and function better when the OD occurred. Most reported that the person who had overdosed was grateful and did not have negative effects. Almost all participants who reversed an overdose emphatically claimed that they “saved someone’s life”.

Programmatically, the report back and subsequent refill proved to be the most difficult aspect of the intervention. We tried to be as consistent as we could with always offering Narcan at the same times every week so that people would get into the habit of planning for it. Once people did the initial enrollment in the program, we told them that they could come back and get a refill of Narcan if they needed it and it would not take as long as the initial enrollment.

## Cost

The cost of the pilot program was inexpensive due largely to the efficiency of incorporating it into the existing infrastructure of the BPHC and the NEP. The overdose prevention and reversal model was easily adopted as part of the daily operations of the NEP.

The Narcan costs \$7.70 per box, the MAD® (atomizer) costs \$2.19 each. We give two each to each enrollee, which equals a total pharmaceutical cost of approximately \$4420 for all enrollees. We estimate that cost for an OD reversal was approximately \$185 per *reported* successful reversal.

*“See this [tattoo]? It’s my brother who died last year. He came out of a program, doing good for a while, but then he relapsed. They said it was my fault because I was using and I’m the one who found him. But I swear I didn’t give him anything and when I found him, I knew he was gone, but I tried everything- I smacked him, did CPR, everything. I really went on a run after that- I didn’t even make it to the funeral, I just couldn’t deal, you know? But I’m going to take this[Narcan] and show my cousin how to use it, too. Because even though we are [screw]ing up right now, my mom can’t take another one- it would kill her. And, you know, I love my moms”*

*Male, age 22*

## Recommendations

- Approve OD prevention Pilot as a permanent BPHC-NEP program. The results of the pilot show this is feasible and inexpensive. Further, the program participants willingly accepted this intervention and reported its usefulness. While the resources are not available currently to perform an in-depth causal study of the effectiveness of this intervention, the reports of Narcan use point to the likelihood that the intervention is effective and safe.
- Target younger people both those who inject and those who don’t. The Needle Exchange program is a good site for intervention with active IDUs, however the median age for this pilot is 42. This leaves many high risk drug users who do not regularly access the NEP. Younger users may be a particularly high risk for overdosing because of their inexperience and the widespread availability of other drugs that increase OD risk. The venues at which this program is available should be expanded.
- Enhance surveillance data collection capacity state wide to produce data for use in real time. It has become clear over the course of this pilot program that, while many entities are interested in OD surveillance, there is actually a dearth of uniform, real time, available, and encompassing data. Included as an addendum to this report is a proposal for realizing improved OD surveillance capacity.

- MDPH in collaboration with BPHC could develop state-wide program. This would establish state wide policies and procedures to allow human service providers, health care agencies and others to establish this service in their area. The BPHC-NEP pilot demonstrates this is feasible and inexpensive. The challenge remains addressing the medico-legal barriers to operationalizing this program. One such answer to reducing the major barrier would be to reclassify Narcan to a less restrictive scheduled drug category. Temple University School of Law is researching strategies to develop a national model. Massachusetts would benefit from a collaboration with them
- Explore approaches that would reduce barriers to accessing EMS attention in the event of an OD. We consistently heard from program participants that IDUs feared arrest if they called for medical attention in OD situations. New York and New Mexico adopted two pieces of legislation that aim to reduce this barrier.
  - New York now offers legal protection to both the Prescriber and the Administer of the Narcan, even if the Administer is a lay person (as is implied, though not explicit with this program)
  - New Mexico's recent precedent-setting legislation is known commonly as the *911 Good Samaritan Bill*, it prevents the authorities from prosecuting on the basis of evidence "gained as a result of the seeking of medical assistance." It also provides that in the event of a drug prosecution based on outside evidence, the act of seeking aid for someone suffering an overdose "may be used as a mitigating factor" in a defense.
- Make Narcan available as part of a comprehensive OD prevention strategy for people who are likely to be required to respond to an ODs through their work, such as staff of drug treatment facilities, homeless shelters, and police. Essentially, any potential first responder in an OD event should have explicit training regarding recognizing and managing an overdose. The BPHC is training Staff of the BPHC Homeless Shelters, particularly at Long Island.

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## **Addendum 1: Regulation**

### **BOSTON PUBLIC HEALTH COMMISSION REGULATION**

#### **Authorizing an Opioid Overdose Prevention and Reversal Pilot Program**

**Whereas**, the City of Boston has a severe and growing public health problem with fatal overdoses resulting from the influx of cheap pure narcotics as well as the abuse of prescription drugs. The Massachusetts Department of Public Health found that drugs were deadlier than motor vehicles: narcotics caused 574 deaths, compared to 521 fatalities attributed to traffic accidents in 2003.

**Whereas**, the Mayor recognized this problem when he gave active help and encouragement through the development of local neighborhood efforts under the NoDrug Coalitions. Currently 14 coalitions are organized and are addressing this problem through community education, mobilization and treatment advocacy.

**Whereas**, the Boston Public Health Commission (BPHC) seeks to go beyond these education and prevention efforts and establish a preventive public health pilot program for active opiate drug users who are at risk of dying from fatal opiate overdoses.

**Whereas**, BPHC seeks to establish a pilot program that would train active opiate drug users in the techniques of overdose prevention and utilization of nasal Naloxone, an opiate antagonist that quickly reverses the respiratory depression that accompanies a heroin or synthetic opiate related overdose and can lead to death. The pilot program would be based at BPHC's needle exchange program (NEP, called AHOPE, Addicts Health Opportunity Program Exchange), which has been in existence since 1994 and is sited in Boston, run by the Boston Public Health Commission.

**Therefore**, the Boston Public Health Commission enacts the following public health regulation to be adopted for the purpose of establishing a preventive public health pilot program for the distribution of nasal naloxone to active opiate drug users for the prevention of drug overdoses in the city of Boston.

#### **Section 1.00 Pilot Program**

BPHC shall establish a pilot program to train active opiate drug users in the techniques of overdose prevention, the utilization of nasal naloxone and to dispense naloxone to

program participants. The pilot program will be based at BPHC's needle exchange program.

### **Section 2.00 Appointment of special employees**

All health care providers or other individual providing services pursuant to this regulation shall be considered special employees of BPHC. These special employees shall include, but not limited to, physicians and nurse practitioners licensed in the Massachusetts with authority to prescribe naloxone to participants in the pilot program. Services provided to the pilot program by the special employees shall be done in furtherance of administering a protective public health program pursuant to M.G.L., c. 112, §12C. BPHC shall assume legal liability pursuant to M.G.L., c. 258, related to the special employees' participation in the pilot program.

### **Section 3.00 Guidelines and Policies**

The Executive Director of the Boston Public Health Commission may issue guidelines and policies, setting forth the administration of the pilot program.

### **Section 4.00 Effective Date.**

This regulation shall take effect immediately upon the date of enactment.

Authority: M.G.L. c. 111, §31; M.G.L. c. 111, App. §§2-6(b), 2-7(a)(1), and 2-7(a)(15).

**Addendum 2. Medical History form**

**CONFEDENTIAL  
Narcan Medical History**

SITE \_\_\_\_\_  
NEP code: \_\_\_\_\_ Age (in years): \_\_\_\_\_ Race/ethnicity:  
\_\_\_\_\_

Gender: **M F FTM MTF**

Neighborhood where live: \_\_\_\_\_ Neighborhood where usually  
inject \_\_\_\_\_  
(If not Boston, record cities)

Have you used any of these drugs, called opiates, in the last 30 days (read list, circle all that  
applies)?

**Heroin Methadone Oxycontin Morphine Fentanyl Opium Anything other opiate?**  
\_\_\_\_\_

On how many **days** in the last 30 days did you use an opiate? \_\_\_\_\_ (days)

In the past year, how many **times** have you gone three or more days without using  
opiates? \_\_\_\_\_

Reason?  
\_\_\_\_\_  
\_\_\_\_\_

In the past year, which of these other drugs, non-prescribed to you, have you used regularly (more  
than 1-2 times per month)(read list aloud)?

“Benzos” (Klonopin, Xanax etc)	Y N	Methamphetamine	Y N	MDMA(ecstasy)	Y N
Cocaine	Y N	Ritalin/Adderall	Y N	Other drug (list)	Y N
Alcohol	Y N	Clonidine	Y N	Other drug (list)	Y N

How many times in your lifetime have you OD'd? \_\_\_\_\_ (If>0) Date of the last time?  
\_\_\_\_\_/\_\_\_\_/\_\_\_\_

On what? \_\_\_\_\_ Where (neighborhood)? \_\_\_\_\_ Received medical care the  
last time? Yes No

Ever received Narcan because you were overdosing? Yes No DK

In your lifetime, # times you witnessed an OD? \_\_\_\_\_ Of those, # of times 911 was called? \_\_\_\_\_

In your lifetime, # times you had an injection-related abscess? \_\_\_\_\_

Are you taking any prescribed medications (to you)? Yes No (If yes) What drug or class of drugs? \_\_\_\_\_

Date of last HIV test \_\_\_\_/\_\_\_\_/\_\_\_\_ Date of last HCV test? \_\_\_\_/\_\_\_\_/\_\_\_\_ Want to be tested? Yes No Maybe

Do you have a regular source of medical care? Yes No **At?:** Clinic Health Center  
Other: \_\_\_\_\_

Do you think you could use Narcan during an overdose, or would you like to practice again?  
Yes Practice Again

**Comments:**

## Narcan Checklist & Order to Dispense

Staff initials

	<p><b><u>Refill and Follow-Up Orientation</u></b>          Refills available on the van          Come to the van to tell us of your experiences</p>
	<p><b><u>Overdose prevention techniques</u></b>  <b>Educate those you use with!</b> Purity testing, tie-release, gradual injecting, know the source          Risk factors: mixing drugs, abstinence</p>
	<p><b><u>Signs of Overdose</u></b>          Slower/stopped breathing; Not responsive to verbal or physical stimulation; Turning blue  <b>Call 911</b></p>
	<p><b><u>A&amp;B of life: airway and breath</u></b>          Airway: remove gum, food, anything in mouth          Breath: if stopped or slowed breathing, <b>you must breath for them (rescue breathing)</b>          If you must leave the person, call 911 and place in <b>recovery position</b></p>
	<p><b><u>Rescue Breathing</u></b>          On back          Lift chin to straighten airway          Clear mouth          Pinch nose          Seal mouth over theirs          Two breaths to begin, then one every five seconds</p>
	<p><b><u>Narcan</u></b>          Store away from light and at room temperature          Keep Narcan with your works          Spray about half up each side of the nose          Breath for them until it starts working          If not working after five minutes try another dose          If second dose doesn't work in five minutes, something else is wrong:  <b>call 911</b></p>
	<p><b><u>Return of Overdose</u></b>          Narcan lasts 30-90 minutes          Heroin overdose could last two hours          Methadone overdose could last 24 hours: <b>get to a hospital</b>          Multi-drug OD (alcohol, benzos, cocaine) could be more dangerous:  <b>get to a hospital</b></p>

### **Addendum 3. Surveillance Suggestions for future data collection using existing databases**

One ongoing problem is that there is limited statewide data on fatal and non-fatal opiate-related overdoses. In order to evaluate a statewide program of overdose prevention and reversal, some statewide indicator that shows trends in rates of opiate overdoses would be useful, although by itself is not a definitive indicator of the success or failure of the program.

The Medical Examiner provides data on fatal overdoses, but it is the non-fatal overdoses, occurring much more frequently, that are a critical indicator of the need for and the potential impact of a statewide overdose prevention program. There are three existing sources of data on opiate-related overdoses that, taken together, could provide indicators of trends in non-fatal opiate overdoses. Three resources could be used:

- 1) The Massachusetts Division of Health Care Finance and Policy maintains the Massachusetts Hospital Discharge Database. Here you can find the discharge diagnosis codes for admission reasons, procedure codes, demographics, zip codes and cost information for persons admitted to all Massachusetts hospitals (except the VA). By searching on the code for “opiate poisoning,” one could get a sense of those who were admitted to the hospital (i.e. who lived) for opiate poisoning. This category would include all opiate poisonings such as potential suicides by opiate, medication errors, and unintentional opiate poisonings with illegal opiates. Despite the breadth of the category, the data would provide a useful indicator of overdoses severe enough to warrant hospital admission.
- 2) Since 2003, Massachusetts Division of Health Care Finance and Policy has maintained a Massachusetts Emergency Department Database that collects data from all 77 Emergency Departments in the state. This database is parallel to the Hospital Discharge database, and has the same elements. Only data for patients not subsequently admitted to a hospital is reported, thus the two systems are parallel but unduplicated. Taken together, one could summarize data for non-fatal “opiate poisoning” overdoses, whether Narcan was administered after contact with the health care system, demographics and community location of overdoses.
- 3) The Overdose Prevention and Reversal Program (the Narcan education and distribution program) maintains reports by injectors of peer-reversals of overdoses and whether 911 was called. This will supply data on opiate overdose reversal in which the health care system was not involved.

Taken together, this will provide imperfect, but relatively complete, indicators on trends in opiate overdoses and whether Narcan was administered. These should be evaluated annually to assess trends using existing resources.