



Data Brief

Overdose Education and Naloxone Distribution Programs

Massachusetts Department of Public Health

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Background

The increased presence of fentanyl in the drug supply, as evidenced by post-mortem toxicology analyses, has been a key factor in overdose deathsⁱ. A critical tool in the effort to reduce overdose deaths has been an intentional focus on prevention and access to naloxone. Naloxone is an opioid antagonist that acts as an antidote, temporarily reversing the effects of opioids when administered during an opioid overdose. The actions of naloxone are temporary, lasting for about 30-90 minutes.

Since 2018, Naloxone has been available in all MA pharmacies to individuals without a prescription via the [statewide standing order](#); and is most often utilized by individuals who are likely to witness an opioid overdose including people who use opioids, emergency responders, direct care staff members, and family and friends of people who use opioids.ⁱⁱ Naloxone has no potential for abuse and does not cause adverse health effects.

Overdose Education and Naloxone Distribution Program

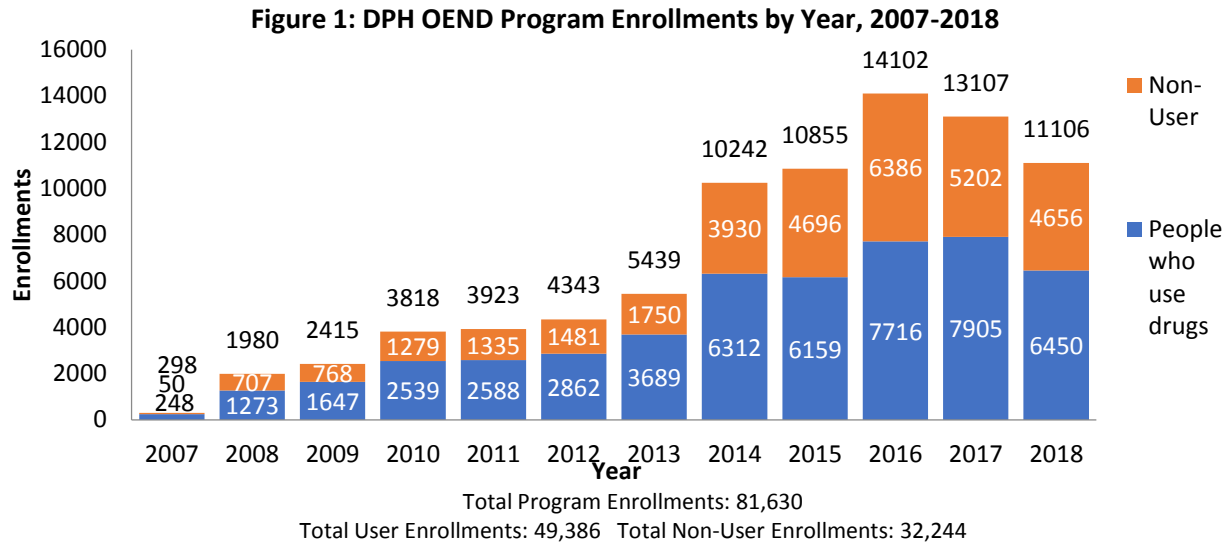
The Overdose Education and Naloxone Distribution (OEND) program is the primary overdose prevention effort funded by the Department of Public Health (DPH). OEND is a targeted intervention program designed for the people who are the highest risk of experiencing or witnessing an opioid overdose. The OEND programs operate out of state-funded Syringe Services Programs (SSPs) and other community-based organizations. A local pilotⁱⁱⁱ helped lay the foundation for DPH to establish OEND pilot programs in 2007^{iv}. Today, the Department funds 20 OEND programs with over \$9 million, serving a network of communities throughout Massachusetts.

OEND programs operate out of fixed sites, mobile sites, street outreach, and other venues such as drop-in centers, shelters, and substance use disorder treatment programs. In addition to training and naloxone access, OEND programs offer access and referrals to infectious disease prevention education, risk and harm reduction counseling and education, screening for HIV/HCV/STIs, referrals to substance use disorder treatment, referrals to primary care services, and infectious disease case management.

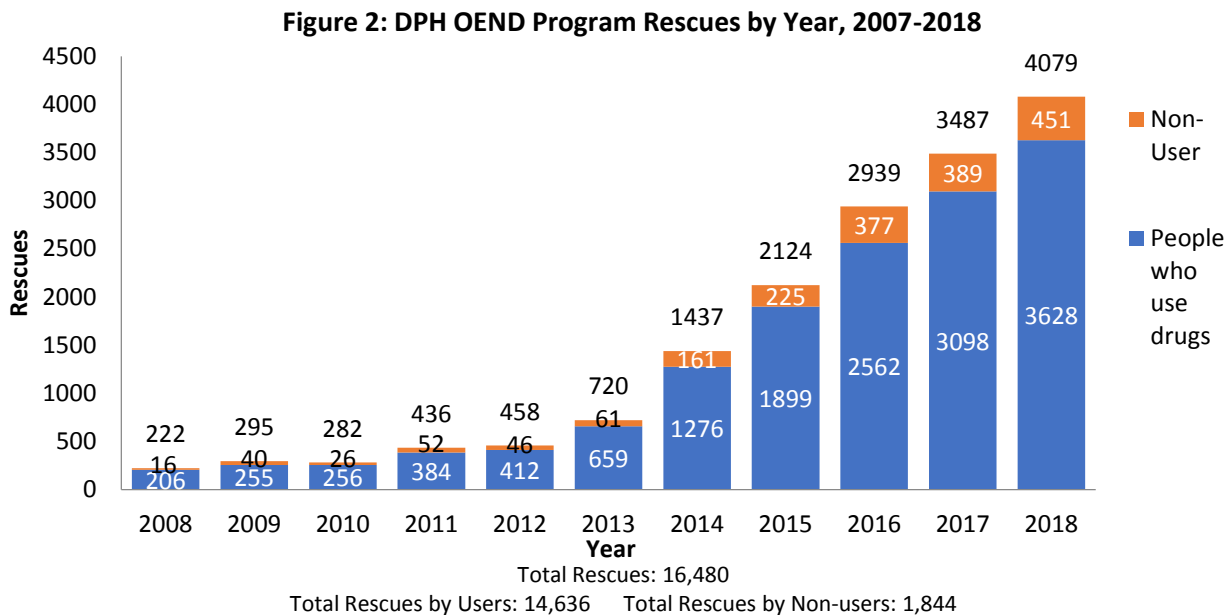
Since 2007, data collection and evaluation has been a critical element of the OEND program. When a bystander is trained and provided a naloxone kit, the individual is enrolled in the program and an enrollment questionnaire is completed by OEND staff. When that person returns to the OEND program to receive a refill and/or report a rescue, a refill questionnaire is completed. All participants have a unique identifier that ensures that there is no duplication and allow the linking of enrollment and refill forms at the individual level but preserving participant anonymity. Several studies have been completed using the OEND program data that have shown that communities where naloxone rescue kits are distributed have lower rates of opioid overdose death^v, naloxone rescue kits distribution is feasible among people in methadone maintenance programs^{vi}, naloxone rescue kits are used successfully to save lives by both people who are trained and not trained^{vii}, and families of people who use opioids are an important group to equip with naloxone rescue kits^{viii}.

Here we provide a data-based description of the program as a Data Brief supplement to the MDPH quarterly opioid-related overdose report. The OEND Data Brief supplement will be updated on an annual basis.

Enrollment and Rescue Characteristics: Full Program History

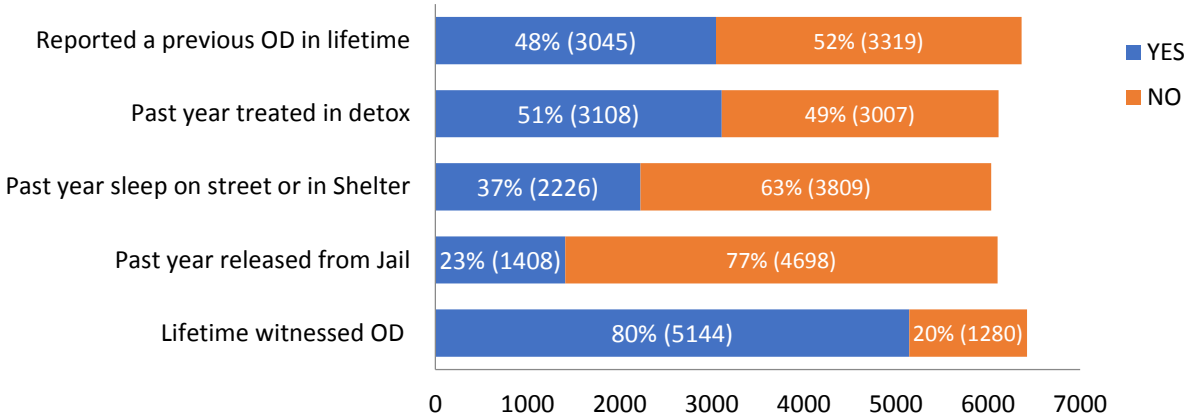


Key Points: Between 2007 and 2018, over 81,000 unique individuals newly enrolled in OEND and were trained in overdose prevention and equipped with naloxone rescue kits. Overall, 61% of people self-identified as actively using, in treatment, or identify as being in recovery and 39% percent identified as “non-user”, meaning they are family members, such as those enrolled through Learn to Cope, friends of people who use opioids, or human services staff. The number of refills to those who have already been enrolled continues to increase each year (data not shown).



Key Points: Over 16,000 rescues were reported by bystanders who administered naloxone to a person who was overdosing. The majority of the overdose rescues reported to OEND programs (89%) are reported by people who identified as people who use drugs.

Figure 3: Risk Factors among People Who Use Drugs and are Equipped with Naloxone in the DPH OEND Program, 2018



Key Points: Individuals using opioids who were enrolled in the DPH OEND program in 2018 had a high burden of overdose risk. Having witnessed an opioid overdose was very common (80%). Previous overdose experience, receiving treatment in a detoxification program, experiencing homelessness, and having been released from incarceration were other reported risk factors.

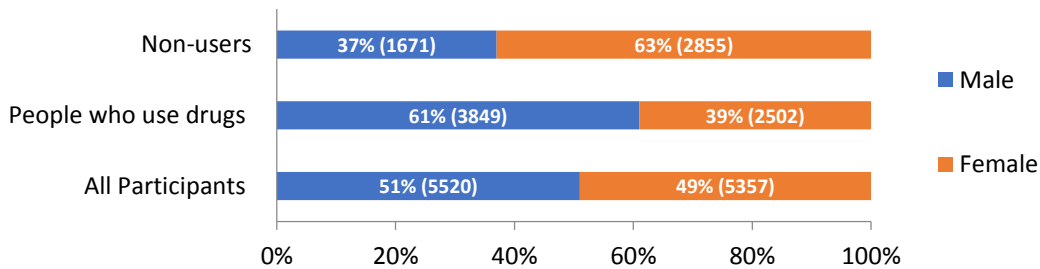
Table 1. Where DPH OEND Rescuers Obtained Naloxone, 2018

	OEND Program	Friend/Family	Pharmacy with/without Prescription	Other	Total
All Participants	12,632 (96%)	161 (1%)	62 (0%)	244 (2%)	13,099 (100%)
People who use drugs	11,192 (96%)	135 (1%)	59 (1%)	217 (2%)	11,603 (100%)
Non-Users	1140 (95%)	26 (2%)	>5 (0%)	25 (2%)	1194 (100%)

Key Points: The majority of people who have reported overdose rescues to the OEND programs (96%) report having received their naloxone from an OEND program.

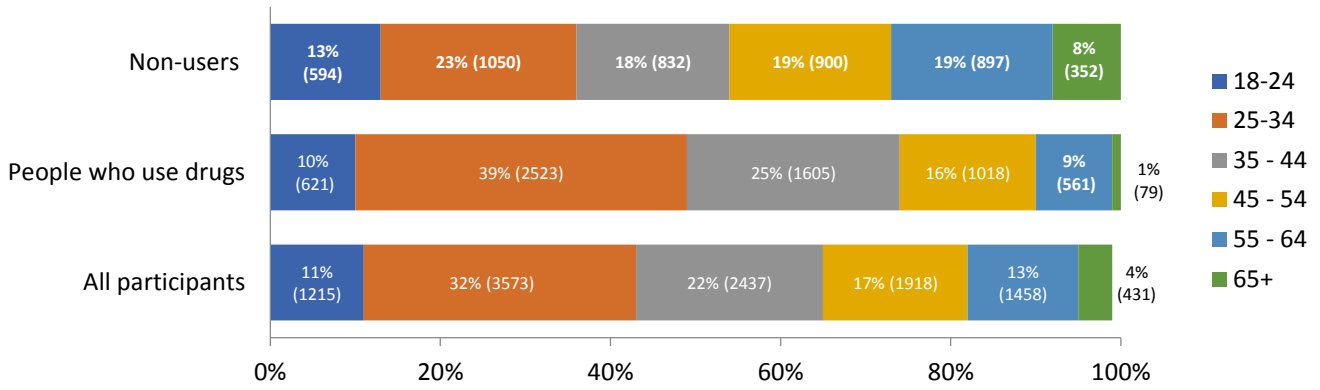
OEND Enrollment Characteristics: Gender, Age, Race/Ethnicity

Figure 4. DPH OEND Participants by Gender, 2018



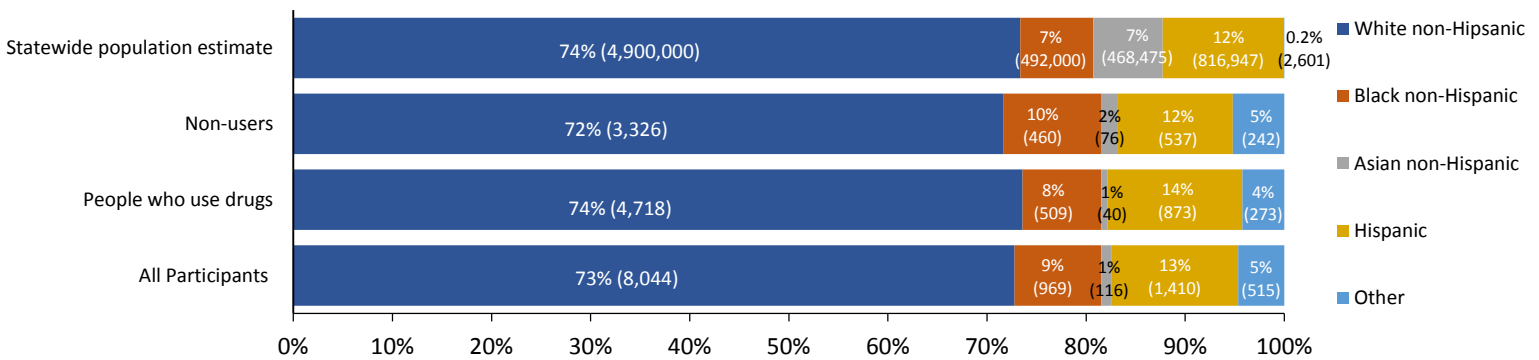
Key Points: 51% of 2018 program participants were male and 49% were female. The majority of enrolled people who use drugs were male (60%) and the majority of enrolled non-users were female (62%).

Figure 5. DPH OEND Participants by age, 2018



Key Points: The majority of program enrollees are between the ages of 25-44 years. The median age of enrollees is 35 years. The majority of people who use drugs are between the ages of 25-44 years, whereas the age of non-users is more evenly spread across the ranges of 25-64. The median age of non-users is 43 years. The median age of people who use drugs is 35 years. The majority of confirmed opioid-related overdose deaths occurred between the ages of 25-44 years.^{ix}

Figure 6. DPH OEND Participants by Race and Hispanic Ethnicity, 2018



Key points: The majority of OEND participants are White non-Hispanic. Enrolled people who use drugs and non-users reflect similar race and ethnicity. Program enrollee’s race and ethnicity generally reflect the statewide population estimates, with the exception of those identifying as Asian, non-Hispanic.^x

Why is this important?

OEND programs play a critical role in addressing the opioid epidemic, as the programs provide targeted services to people who use drugs and who are reluctant to go to pharmacies, clinical sites, or other programs to access overdose education, naloxone rescue kits, or other services. OEND program participants are more likely to be marginalized, experience stigma, experience housing insecurity and homelessness, and be at greater risk of infectious disease.

OEND programs operate under the model of harm reduction. Harm reduction utilizes person-centered techniques to engage people who use drugs to support any positive change to improve or protect their health. Harm reduction practitioners work with people who use drugs to find practical methods and develop individualized strategies that reduce risk, minimize damage, and optimize health in the moment. Harm reduction techniques include but are not limited to knowing how to prevent and respond to an overdose, preventing skin infections, and preventing the spread of infectious diseases.

OEND program staff train people who use drugs and/or are in treatment program settings on overdose prevention and response^{xi}. OEND program staff also train families of people who use drugs ([Learn to Cope](#)) as well as staff of DPH/BSAS-funded substance use disorder treatment programs. The training, at minimum, provides guidance on how to prevent, recognize, and respond to an overdose. Overdose prevention training includes risk factors and harm reduction strategies. Overdose response training includes how to recognize the signs and symptoms of an overdose, the importance of calling 9-1-1, how to perform rescue breathing, how to administer naloxone, staying with the person until help arrives, and education on the [Good Samaritan Law](#). After the training, the trained bystanders receive a kit that typically includes 2 doses of naloxone as well as a [how-to guide](#).

DPH also encourages residents who are concerned about opioid overdose to ask for naloxone at the pharmacy. Please see <https://www.mass.gov/service-details/ask-a-pharmacist-about-getting-naloxone> for more information. The Department has issued a [statewide standing order](#) for naloxone so it is available at all retail pharmacies in the Commonwealth.

References

ⁱ Ciccarone D, Ondocsin J, Mars SG. Heroin uncertainties: Exploring users' perceptions of fentanyl-adulterated and -substituted 'heroin'. *Int J Drug Policy*. 2017;46:146-155.

ⁱⁱ MDPH Statewide Standing Order, <https://www.mass.gov/policy-statement/2018-04-naloxone-dispensing-via-standing-order>

ⁱⁱⁱ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2667836/>

^{iv} State Health Department and Community Agencies Save Lives by Teaching Potential Bystanders to Recognize and Respond to Opioid-Related Overdoses, AHRQ Service Delivery Innovation Profile, 2014, <http://innovations.ahrq.gov/profiles/state-health-department-and-community-agencies-save-lives-teaching-potential-bystanders>

^v Walley AY, Xuan Z, Hackman HH, Quinn E, Doe-Simkins M, Sorensen-Alawad A, Ruiz S, Ozonoff A. Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. *British Medical Journal*. 2013 Jan 30;346:f174.

^{vi} Walley AY, Doe-Simkins M, Quinn E, Pierce C, Xuan Z, Ozonoff A. Opioid overdose prevention with intranasal naloxone among people who take methadone. *Journal of Substance Abuse Treatment*. 2013 44(2):241-7

^{vii} Doe-Simkins M, Quinn E, Xuan Z, Sorensen-Alawad A, Hackman H, Ozonoff A, Walley AY. Overdose rescues by trained and untrained participants and change in opioid use among substance-using participants in overdose education and naloxone distribution programs: a retrospective cohort study. *BMC Public Health*. 2014 Apr 1;14:297.

^{viii} [Bagley SM](#), Forman LS, Ruiz S, Cranston K, Walley AY. Expanding access to naloxone for family members: The Massachusetts experience. *Drug and Alcohol Review* 2017 Apr 20.

^{ix} <https://www.mass.gov/files/documents/2019/05/15/Opioid-related-Overdose-Deaths-Demographics-May-2019.pdf>

^x Small Area Population Estimates 2011-2020, version 2017, Massachusetts Department of Public Health, Bureau of Environmental Health. Population estimates used for years following the decennial census were developed by the University of Massachusetts Donahue Institute (UMDI) in partnership with the Massachusetts Department of Public Health, Bureau of Environmental Health.

^{xi} MDPH OEND Program Core Competencies, <https://www.mass.gov/files/documents/2019/02/21/mdph-oend-program-core-competencies.pdf>