

# The Overdose Education and Naloxone Distribution Program at a VA Hospital

Alyssa M. Peckham, PharmD; and Douglas L. Boggs, PharmD, MS, BCPP

A pilot program was developed to distribute naloxone kits, educate patients on opioid use risks, and reduce the number of overdose deaths.

Fatal opioid overdoses have quadrupled in the U.S. from 1999 to 2013.<sup>1</sup> In 2013, 43,982 deaths in the U.S. were attributable to drug overdoses, and 37% of them involved opioids.<sup>1</sup> Data from 2005 suggested that veterans are at an increased risk with a 2-fold rise in overdose observed.<sup>2</sup> In 2013, there were 17,124 encounters at VA facilities for the treatment of opioid overdose.<sup>3</sup> In response to this opioid epidemic, individual VA facilities began implementing Overdose Education and Naloxone Distribution (OEND) programs in 2013.<sup>4</sup> In May 2014, the Under Secretary for Health mandated the implementation of OEND programs across all VA facilities, and the VA became the only health care system in the U.S. with a national OEND program.<sup>4</sup>

## NALOXONE

Naloxone is a pure opioid antagonist that competes with and displaces opioids at opioid receptors. In an overdose, opioids occupying opioid

receptor sites can lead to respiratory depression, which can lead to death. Patients can experience rapid reversal of respiratory depression and opioid overdose with the first dose of naloxone 0.4 mg. Naloxone has a short half-life relative to opioids, whereas opioids can bind to opioid receptors once again after naloxone is eliminated, risking the reemergence of overdose symptoms. For this reason, a second dose of naloxone is often given. When administered appropriately with close monitoring, naloxone can provide a safe and effective way to reverse a potentially life-threatening opioid overdose.

## Availability

In April 2014, Evzio, an intramuscular/subcutaneous formulation of naloxone, was FDA approved as an emergency treatment for known or suspected opioid overdose. Shortly after, in November 2015, Narcan, a nasal spray formulation of naloxone, also was approved. Each formulation has been instrumental in fulfilling an unmet medical need in the U.S. Both Evzio and Narcan have been used in opioid-overdose prevention programs to train health care professionals and

lay persons to respond in the event of suspected overdose and administer naloxone.

Maxwell and colleagues implemented a naloxone distribution program in Chicago, Illinois, in January 2001 after a 4-fold increase in heroin-related overdose deaths was observed.<sup>5</sup> Within a year, Chicago experienced a 20% decrease in heroin-related overdose deaths, and this trend continued with additional 10% reductions in heroin-related overdoses in 2002 and 2003. Similarly, Piper and colleagues implemented a naloxone distribution program and found that 82% of injection drug users felt “comfortable” to “very comfortable” administering naloxone in the event of an overdose, and 86% of subjects reported they would want naloxone in the event of an overdose.<sup>6</sup>

Naloxone is available for over-the-counter purchase in Rhode Island, which is a bordering state to VA Connecticut Healthcare System (VACT). In 2015 new legislation permitted the training and certification of Connecticut community pharmacists to prescribe naloxone. Furthermore, in May 2016, Connecticut passed

**Dr. Peckham** is a PGY2 psychiatry pharmacy resident, and **Dr. Boggs** is a mental health clinical pharmacy specialist, both at VA Connecticut Healthcare System.

legislation to permit qualified individuals to carry naloxone and administer it to another person that he or she, believes is experiencing an opioid-related drug overdose. Given the increase in naloxone availability both nationally and locally, VACT sought to implement a naloxone distribution program to offer the same access to veterans. The primary objective of this article is to describe the development, implementation, and preliminary results of this OEND program.

## DEVELOPMENT

In accordance with VA guidance, the VACT OEND program development and implementation process included 4 steps that required program coordinators to identify target populations, garner support, train staff members, and implement the OEND program.

A multidisciplinary team of representatives from pharmacy, mental health (MH), and substance abuse (SA) departments was established to draft hospital policy. The hospital policy detailed job functions related to the OEND program for prescribing, educating, verifying, and dispensing naloxone. This policy also served as a document to identify the target population.

With resources from the National VA Pharmacy Benefits Manager, the target population for VACT listed veterans with an opioid use disorder, prescription opioid use disorder, and injection opioid use disorder. Also listed were veterans at risk of an opioid overdose, such as those encountered in medication-assisted treatment programs for opioid use disorder, recent inpatient withdrawal management for opioid use disorder, HIV education/prevention programs, syringe access programs, outpatient and residential opioid use disorder treatment programs, community meetings/sup-

port group programs for opioid use disorder, emergency departments for opioid overdose or intoxication, domiciliary care or community-based treatment for homeless veterans, and primary health care for follow-up of recent opioid overdose or intoxication. The aim of the broad description of veterans was to ensure that naloxone access remained inclusive.

The program overview and hospital policy were presented to the VACT medication management committee (MMC), which approved a small pilot project for veterans engaged in SA treatment from January 2015 to April 2015. Barriers to implementation were encountered at this time, which included a belief that only MH or SA providers should prescribe naloxone rescue kits. Reasons for this were largely related to the belief that MH and SA providers are more familiar with substance use

the OEND program that were discussed with the veteran. Embedded within the template is a hyperlink to the Substance Abuse and Mental Health Services Administration Opioid Overdose Prevention Toolkit booklet, which serves as an education guide and take-home material for the veteran.

Once the naloxone kits were assembled and the template created, SA providers were able to engage in OEND program training. Training required providers to attend a 60-minute, 75-slide PowerPoint seminar, highlighting risk factors and prevention strategies for opioid overdose, proper identification and management of an opioid overdose, appropriate administration of naloxone, and monitoring parameters after administration. Providers were not screened for baseline knowledge, nor was a posttraining

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disorders. These barriers were addressed by increasing education to providers by detailing previous success stories regarding naloxone programs to highlight that the benefits outweighed any associated risks.

## IMPLEMENTATION

Naloxone kits were assembled in preparation for program implementation. Each kit contained 2 vials of naloxone (each vial contains 1 dose), 2 needleless luer-lock syringes, and 1 atomizer with visual instructions for product assembly. Next, a template was created for entry into the veteran's electronic health record (EHR) each time a naloxone kit was dispensed. The template tracked diagnosis, history of naloxone kit use, and aspects of

proficiency evaluation performed. However, providers were allowed to ask questions and request further clarification about any unclear aspects of training.

Each month, data were collected on the number of providers trained and naloxone kits dispensed. Implementation began in January 2015, and veterans were either educated during individual or group sessions led by a trained OEND provider. An institutional review board-approved quality improvement (QI) process ran concurrently that sought to improve the OEND program. Phase 1 of this QI project anonymously surveyed OEND providers to evaluate knowledge, comfort, attitude, and fear of consequences regarding naloxone distribution in

an attempt to understand barriers to program implementation or success.<sup>7</sup> In phase 2, veterans who received a naloxone kit will be interviewed regarding knowledge retention of OEND program education and subsequent opioid abuse and naloxone use after receiving a naloxone kit.

### RESULTS

From January 2015 through preliminary data analysis in April 2015, the facility trained 19 providers and dispensed naloxone kits to 49 veterans. In the first 4 months of program implementation, there were no reports of attempted opioid overdose reversals with naloxone in the 49 veterans who had received a naloxone kit. Of note, past studies have demonstrated that 1 death is prevented for every 227 naloxone kits distributed.<sup>8</sup> Therefore, it is possible that the analysis was too early to detect an impact.

As of October 2016, VACT has dispensed 538 naloxone kits to 441 veterans, as some patients have received naloxone kit refills for various reasons (ie, lost, used, confiscated, stolen, etc). The OEND program implementation team has been made aware that at least 5 of the 441 veterans have used naloxone kits, though it is unclear whether naloxone kits were used on the veteran themselves or someone else. This is likely an underestimate of naloxone kit use, as veterans could be sent to alternative hospitals in the event of an opioid overdose, or veterans may not disclose actual use of naloxone kit to VACT providers. Phase 2 of the QI project is designed to extract an estimation of actual naloxone kit use in the VACT veteran population.

### DISCUSSION

Naloxone, a pure opioid antagonist, is readily available in many commu-

nities. In order to extend the same continuity of care to veterans, VACT implemented the OEND program to increase access to naloxone kits. This program serves as an opportunity to educate veterans regarding safe practices with opioids and provides a life-saving measure in the event of an overdose.

The 4-step approach to implementation was a feasible method of quickly implementing an OEND program. Despite ongoing prescriber interest in participating in the OEND program, barriers to implementation were encountered. The largest barrier was provider concerns related to an increase in opioid use given the availability of a reversal agent. However, the medical literature suggests that opioid use tends to decrease when naloxone programs are implemented. Additionally, OEND implementation barriers were internally analyzed in an effort to foster a successful OEND program with continuous evaluation and improvement.<sup>7</sup>

Clark and colleagues examined 19 published studies regarding community-based naloxone programs in order to assess whether naloxone distribution reduced fatal and nonfatal overdose rates.<sup>9</sup> Naloxone was used successfully across 1,949 patients, and 8 studies reported survival rates of 83% to 96% after naloxone, while 11 studies reported 100% survival rate. The authors of a study of the Chicago Recovery Alliance program found an overall decrease in heroin overdose, and the initial downward trend was seen during the year of naloxone implementation.<sup>9</sup>

In addition, the cost of program implementation was minimal at the local level. Given that implementation of OENDs is a national VA mandate, all naloxone kits are pro-

vided to individual VA facilities at no cost from the Consolidated Mail Outpatient Pharmacy, which is the only foreseeable tangible cost. Therefore, intangible costs may include time spent implementing the OEND program, time spent maintaining naloxone inventory, time spent discussing and educating patients on naloxone, and time spent dispensing naloxone kits to patients. However, the intangible costs of the program are predicted to be reduced or offset by the cost-savings measure of reduced emergency department visits and hospitalizations for opioid overdose.

By implementing the OEND program at VACT, veterans are able to engage in primary prophylaxis via education regarding safe practices of opioids. These veterans are also able to obtain tertiary prophylaxis by receiving a naloxone kit and associated training. It is predicted that deaths due to opioid overdose will decrease in this veteran population with the expansion of the OEND program.

### Scientific Significance

The OEND programs increase naloxone access and can potentially decrease the incidence of opioid misuse and fatal opioid overdose.

### CONCLUSION

An OEND program can be easily implemented to dispense naloxone kits and deliver education regarding safe opioid use. ●

### Author disclosures

*The authors report no actual or potential conflicts of interest with regard to this article.*

### Disclaimer

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