

Take A.C.T.I.O.N: Opioid Overdose Prevention Curriculum for Medical Students

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Background

- United States
 - 2018: 67,367 deaths, nearly 5% decrease from 2017
 - Synthetic opioids (other than methadone) still the culprit
 - Nearly 47,000 deaths were due to opioids
 - Accounts for about 70% of all drug overdose deaths
 - WE STILL HAVE AN OPIOID EPIDEMIC



Gaps in Medical Education

HEALTH

Medical students demand better training to tackle opioid crisis

By MELISSA BAILEY / MAY 17, 2016

[Reprints](#)



Harvard Medical School students hold out naloxone, an overdose-reversal drug, that they bought from pharmacies.

COURTESY MICHAEL DYKSTRA

- However, still a gap in education...
- 2012-2018: Naloxone was only co-prescribed with 1 out of every 69 high dose opioid prescription (Guy Jr, et al., 2019)
- Recent push for naloxone training to be incorporated into the medical curricula (Berland et al., 2017, 2019; Oldfield et al., 2019)

History



Purpose

- Evaluate the impact of in-person naloxone training on medical students' knowledge, feelings of preparedness, and confidence to teach others

OBJECTIVES



take ACTION

REMEMBER TO TAKE
A.C.T.I.O.N.



1: AROUSE (3 "S")

Shout their name
Shake shoulders vigorously in attempts to arouse
Sternal rub



2: CHECK FOR SIGNS OF OVERDOSE

Slowed or no breathing
Blue/gray lips or fingernails
Deep snoring/ Gurgling noises
Unresponsive to pain



3: TELEPHONE 911

Call 911



4: INTRAMUSCULAR/ INTRANASAL NALOXONE

Give naloxone



5: OXYGEN

Do rescue breaths: 2 breaths initially, then 1 breath every 5-6 second OR Start CPR if you know how OR follow dispatch instructions



6: NALOXONE AGAIN

Repeat naloxone in 2-3 minutes if the person does not resume breathing. Recovery position (side lying) if you must leave the person unattended or the person vomits.

Stay with the person if safe to do so until help arrives.



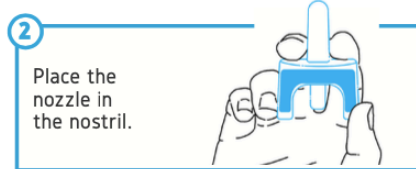
INSTRUCTIONS FOR narcan[®] nasalspray

Narcan[®] does not require assembly.



1

Peel open the package.



2

Place the nozzle in the nostril.



3

Push the plunger to spray.

* Do NOT push the plunger until the nozzle is in the nostril. NO TEST SPRAY is needed. If still not breathing in 2-3 minutes, use the 2nd spray.

WHAT NOT TO DO IN OVERDOSE

- Do not DELAY calling 911
- Do not put the person in a bath or in shower
- Do not give the person anything to drink
- Do not inject the person with anything
- Do not pour water over the face or slap too hard
- Do not leave the person till help arrives

- Modified from existing Take ACTION curriculum for first responders and laypeople
- 30-45 min in person education
- Content:
 1. Epidemiology
 2. Myths/facts
 3. Legislation
 4. Risk factors
 5. Pharmacokinetics of naloxone/opioids
 6. Overdose response
 7. Co-prescribing naloxone
 8. Teaching patients

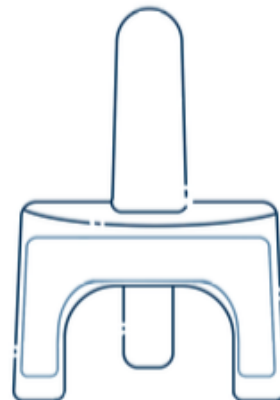
Methods

- Pre-post Qualtrics surveys with 3-month follow-up survey
- Demographics – 4Q
- Prior experience with naloxone and co-prescribing – 4Q
- Knowledge – 7Q
 - Naloxone
- Attitudes (1-5 Likert)
 - Feelings of Preparedness
 - Respond to OD
 - Co-prescribe
 - Talk with patients about naloxone
 - Train others on how to use naloxone
 - Confidence to Teach Others
 - Risk factors
 - Recognize signs of OD
 - Respond to OD
 - Use naloxone
 - Post-OD care
 - Co-prescribe naloxone

- Descriptive statistics and paired samples t-tests were used to analyze the changes
- Total of 156 medical students took the training
 - 119 completed pre-survey
 - 81 (68%) responded to post-survey
 - 17 (14%) completed the 3-month

	N (%)
Gender	
Male	60 (50)
Female	59 (50)
Anticipated Specialty	
Internal Medicine	25 (20)
Emergency Medicine	20 (16)
Surgery	13 (13)
Anesthesiology	10 (8)
Pediatrics	6 (5)
OB/GYN	5(4)
Family Medicine	4(3)
Ophthalmology	4(3)
Psychiatry	1(1)
	Mean (SD)
Age	27 (2.7)

Prior Experiences	N (%)
Ever witnessed an overdose	27 (22)
Ever given naloxone	4 (3)
Counseled a patient on naloxone	12 (10)
Witnessed an attending co-prescribe naloxone	35 (29)



Types of naloxone illustrations by Songhausen, W.

Results

	Pre-Test	Post-Test	3 Month- Post Test	Pre-Post Difference	Post-3Mon Difference
	M (SD)	M (SD)	M (SD)	P value	P value
Knowledge (out of 7)	4.8 (1.2)	6.5 (1.0)	5.7 (.92)	<.001	<.001
Preparedness					
• Respond to an OD	3.1(.89)	4.3 (.70)	3.9 (.66)	<.001	.01
• Co-Prescribe	2.6 (.91)	3.8 (.95)	3.3 (.69)	<.001	.09
• Talk with Patients	3.2 (1.0)	4.3 (.69)	3.9 (.66)	<.001	.02
• Train Others	2.2 (.98)	4.2 (.75)	3.5 (.80)	<.001	<.001
Confidence to Teach Others					
• OD Risk Factors	2.2 (.94)	4.2 (.69)	3.5 (.86)	<.001	.006
• Signs of OD	3.7 (.89)	4.4 (.68)	4.3 (.78)	<.001	.048
• Respond to OD	3.2 (.85)	4.2 (.66)	3.0 (.79)	<.001	.09
• Use Naloxone	2.7 (.94)	4.3 (.67)	3.6 (.86)	<.001	.001
• Post-OD care	2.6 (.89)	4.2 (.66)	3.8 (.73)	<.001	<.001
• Co-Prescribe	2.5 (.95)	3.7 (.89)	3.1 (.83)	<.001	.006

Conclusion

- Brief in-person naloxone training improves knowledge, preparedness, and confidence to teach others among medical students
- Increases in knowledge, feelings of preparedness, and confidence to teach others were relatively large in magnitude
- 3 month follow up suggests some decay in knowledge, feelings of preparedness, and confidence to teach others.
- Future work should focus on maximizing study retention over time to identify optimal time points for refresher training

