

# Web-Based Naloxone Training for Law Enforcement Officers: A Pilot Feasibility Study

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## ABSTRACT

**Background:** Training and equipping law enforcement officers (LEOs) with naloxone to reverse overdoses is one national preventive strategy to reduce overdose deaths. Web-based interventions can offer convenience, flexibility of use, and can be readily-disseminated.

**Objectives:** This paper describes our community-academic partnership in developing and evaluating a web-based naloxone training for LEOs.

**Methods:** Using a community-engaged approach, we created a web-based training ([www.overdoseaction.org](http://www.overdoseaction.org)) and conducted a pilot feasibility test using surveys and individual interviews with ten LEOs.

**Results:** The median time to complete the web-based naloxone training, including the pre- and post-tests, was 45 minutes (range 37-80 minutes). A significant difference in the pre-test and post-test scores of overdose knowledge was observed. The LEOs found the training helpful in responding to overdoses and sustained their attention.

**Conclusions:** This study demonstrates the feasibility of a web-based naloxone training for LEOs that can be easily disseminated and alternative to in person trainings.

**KEYWORDS:** Opioid Overdose, Naloxone, Law Enforcement Officers, Web-Based, Community Health Partnerships, Community-Based Participatory Research

## BACKGROUND

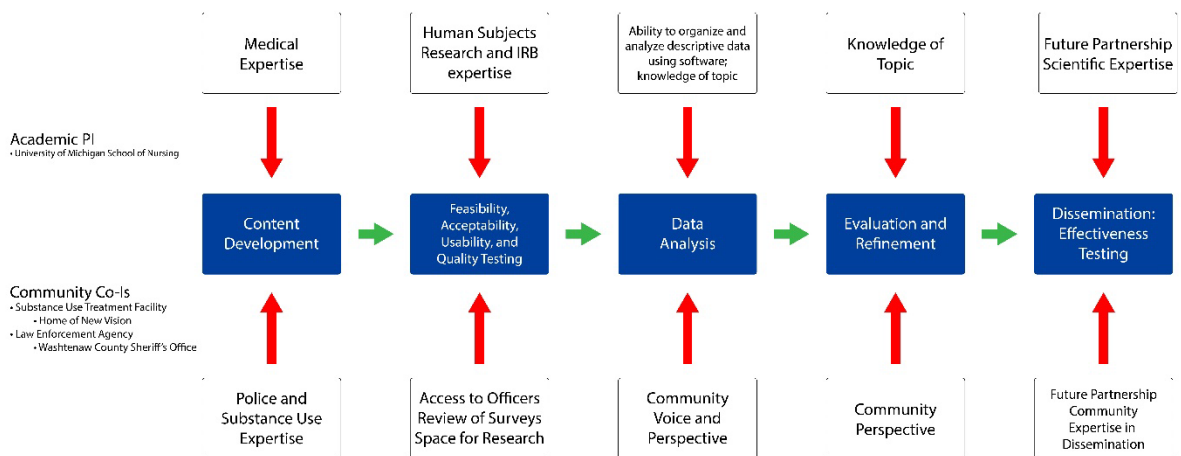
Deaths from drug overdoses have reached epidemic levels in the United States. In 2020, the United States experienced 91,799 drug overdose deaths, with synthetic opioids being the primary driver for overdose deaths.<sup>1</sup> One evidence-based strategy to prevent overdoses is targeted overdose education and naloxone distribution.<sup>2</sup> Naloxone is an emergency rescue drug that temporarily reverses respiratory depression caused by opioid ingestion. Increasing access to naloxone and equipping first responders and community laypeople is a national strategy to save lives.<sup>3,4</sup> Studies have shown that law enforcement officers' (LEOs) knowledge and attitudes improve after naloxone trainings<sup>5-7</sup> and they are able to retain overdose prevention knowledge over 6 months.<sup>8</sup> Furthermore, equipping LEOs has reduced overdose mortality.<sup>9</sup>

First responders in Michigan have administered naloxone since 2014 under the emergency medical services order.<sup>10</sup> In Washtenaw County, Michigan, overdose fatalities from doubled from 29 overdose deaths in 2011 to 65 deaths in 2014.<sup>11</sup> As a public health response to reduce fatal overdoses, the University of Michigan School of Nursing (UMSN) partnered with Washtenaw County Sheriff's Office (WCSO) and Home of New Vision (HNV) to begin training LEOs on overdose prevention in the summer of 2015. The WCSO is a law enforcement agency that serves a population of over 350,000 residents across 25 local units of government. WCSO became the first law enforcement agency in Washtenaw County to provide naloxone training for all their LEOs. HNV is a non-profit organization that provides comprehensive substance use and mental health treatment services. HNV is a fully licensed and accredited core substance use treatment provider for Washtenaw County.

Our core team was represented by a member from each community agency and academic partner (Figure 1). The first author is affiliated with UMSN and co-taught with second and third

authors in training LEOs on how to reverse overdoses. Our community-academic partnership has been published previously and continued with this feasibility study.<sup>12</sup> At the time of the study, the third author, LK, was a lieutenant for WCSO who had served over 30 years in the police force and had extensive community education experience. The second author, AM, was a recovery outreach specialist for HNV and the director of the community outreach program for HNV. EK (the fourth author), a public health graduate student, joined the community-academic team in 2017.

Figure 1: Community-Academic Partnership Research Process and Roles



As a result of our successful partnership in delivering in person naloxone trainings, our team trained multiple law enforcement agencies inside and outside of Washtenaw County. From 2016-2017, our community-academic team trained >500 first responders and community laypeople with over 50 naloxone saves reported in this one-year period. This demand for training pivoted us to thinking strategically of how to disseminate our training more broadly. We decided to strengthen our successful community-academic partnership by revising our in-person naloxone training to include additional content related to reducing the stigma associated with naloxone, and to develop a web-based training. The decision to include stigma-related content

was based on our community experiences through delivering multiple in person trainings across various law enforcement agencies.

Our decision to move to a web-based format was based on the need to train LEOs in Washtenaw County and beyond efficiently and effectively while reducing implementation barriers. These implementation barriers included availability of trainers to deliver the training for LEOs working different shifts and trainer costs to deliver the in-person trainings. In addition, a web-based intervention is an encouraging technology-mediated approach that can be readily disseminated at relatively low cost,<sup>13</sup> offers convenience and flexibility of use, and reduces the issues associated with in-person interventions.<sup>14</sup> The latter is particularly important because training people to effectively deliver evidenced-based interventions is a time intensive process that requires ongoing training and supervision.<sup>15,16</sup> In contrast, web-based interventions can ensure high fidelity in intervention delivery, and are effective in reducing other substance use-related disorders.<sup>17–19</sup> The ability to certify and re-certify LEOs on overdose prevention and to develop a sustainable educational program were important factors for WCSO.

This paper describes our community-academic partnership in developing our web-based naloxone training and evaluating the feasibility, acceptability, usability, and quality of the training for LEOs using surveys and in-person interviews.

## METHODS

From July 2016 to July 2017, monthly meetings were held with community-academic partners to: 1) Review principles of community-engaged research, 2) Discuss ideas for a web-based training, 3) Review qualitative data collected from a prior study of LEO interviews to identify additional educational content, 4) Discuss future grant mechanisms, 5) Write initial

scripts for web-based training videos, and 6) Identify LEOs and community advocates for videos.

After receiving funding, our study occurred in four phases: 1) Detailed script development for the web-based naloxone training, 2) Creation of web-based naloxone training, 3) Assessment of feasibility, acceptability, usability, and quality of the web-based naloxone training through surveys and in-person interviews with LEOs, and 4) Revision of the web-based naloxone training. Although the academic partner was the principal investigator of the grants, the community partners were co-investigators with our respective research roles identified in Figure 1. The manuscript was led by the first author and edited and reviewed by all authors. Specifically, the community authors played a role in providing the information and insights in the Lessons Learned section and with detailed editing of the manuscript to ensure accuracy of information and timeline presented. Institutional review board approval was obtained from University of Michigan.

### *Module Content and Video Script Development*

Key community-academic stakeholders, along with national and regional naloxone content experts worked together to develop a detailed script for the videos in partnership with a local multimedia team and the content for modules to be included in the web-based naloxone training for LEOs. The WCSO lieutenant and education training manager provided content on the Police Module (policies and procedural guidelines, legislation, police testimonies, post-naloxone use procedures). The HNV partners provided content on the Substance Use Module (myths and facts about addiction, recovery testimonies, and substance use treatment resources). The UMSN partner contributed content to the Medical/Naloxone Module (physiology of

overdose, risk factors for overdose, naloxone pharmacology, opioid overdose response protocol). After the content modules were built, we sought additional feedback from two national and regional experts in overdose prevention and naloxone distribution. In addition, all partners developed and reviewed the video scripts and identified and trained their respective volunteers to act in the videos. The volunteers were recruited by the community partners from their respective agencies who were willing to be in the training videos.

### *Video and Web-Based Development*

We had five WCSO LEOs and four people in recovery act in the four videos. The first video (naloxone first responder training) is a video that depicts how an officer would respond in an overdose situation. The second video is a discussion-based video with officers answering four common misconceptions about overdoses, naloxone, and their experiences with using naloxone in the field. The third video features a separate discussion with people in recovery about three common misconceptions about overdoses. The second and third video were created to address stigma associated with using naloxone and overdoses. In addition, a module titled, “Reducing the Shame and Stigma Associated with Opioid Use/Overdose,” was developed. The fourth video trains a community layperson to respond to an overdose scenario and includes the LEO at the end of the video. Each video ranged from three to four minutes.

The community-academic partners developed the content which was used to develop the modules for the web-based naloxone education with the multimedia team. The first responder web-based training contained 20 modules that incorporated pre- and post-tests and an evaluation survey of the web-based education. The modules included lessons on the epidemiology of the opioid epidemic, legislation surrounding overdose prevention, opioid pharmacology, risk factors

to an overdose, signs and symptoms of an overdose, how to respond to an overdose, exposure to fentanyl, what not to do during an overdose, how to dispose of naloxone, reducing stigma, and myths and facts regarding naloxone, addiction, and overdoses. One revision that was made after consulting with our experts was to keep the police policies and procedural guidelines general so that they were not agency specific to increase the generalizability of the training. It was important for WCSO to include pre- and post- tests with a certificate of completion that the officers can submit to their department as proof of training. All videos and web-based training can be found online for free at [www.overdoseaction.org](http://www.overdoseaction.org).

## Pilot Testing

### *Sample and Setting*

We used a purposive sampling strategy to recruit LEOs (N=10) who: 1) Had never received any naloxone training previously (n=5) and 2) Had used naloxone previously and received our in-person naloxone training (n=5). Our law enforcement partner assisted in recruitment of participants who met the selection criteria. All participants were selected from WCSO.

### *Measures*

*LEO Demographic:* We collected: 1) Race/ethnicity, 2) Number of times they used naloxone in the field, 3) Age, 4) Sex, 5) Number of years as an officer.

*Feasibility:* Feasibility was assessed through an officer's ability to create an individual login and the time each officer took to complete the web-based training and certification. This included a 30 item pre- and post-test overdose knowledge and attitude survey embedded into the



training. The pre- and post-test overdose knowledge and attitude survey was modified from our train-the-trainer survey used previously for our in-person trainings.<sup>20</sup> This pre-post survey contained 21 knowledge (mix of True/False, single and multiple answers), 5 confidence, and 4 attitude questions based on a 5-point Likert scale (See Appendix for a list of questions).

*Acceptability:* Acceptability was measured using selected questions from the Adapted Acceptability E-scale (AAE) that had been tested previously to assess patients' impressions of a computerized quality of life screening program<sup>21</sup> and other questions to understand the helpfulness of the content delivered through the web-based training and its design. The AAE has six questions answered on a 5-point numerical response scale, and it has demonstrated strong internal consistency reliability (Cronbach's  $\alpha = 0.76$ ). For the purposes of our study, we extracted three questions to assess for enjoyment, perceived acceptability of training length, and helpfulness of the training from the AAE and additional six questions to assess the helpfulness of the web-based content and its design. Higher scores indicate greater enjoyment, acceptability of training length, and helpfulness.

*Usability:* Usability questions were taken from the System Usability Scale.<sup>22</sup> It is a 10-item widely-used, reliable, and validated survey that provides a broad view of assessing a system's usability. Higher scores indicated greater perceived usability of a product. The word "system" was replaced by "website" for this study.

*Quality Assessment:* Quality assessment questions were measured using the Client Satisfaction Questionnaire Adapted to Internet-Based Interventions. This questionnaire consisted of 8 items based on a 1–5 Likert scale that measured global satisfaction with web-based interventions.<sup>23</sup> The satisfaction score ranged from 8 to 32 with higher scores indicating higher

satisfaction. Minor word modifications were made to the items to be more specific to the web-based naloxone training.

*Overdose Knowledge:* 21 multiple choice, true/false, and scenario questions were asked related to overdose, naloxone, and legislation.

*Qualitative Interview Questions:* Seven questions were asked in the LEO interviews. These included: 1) What qualities did you like best about the online training? 2) What qualities did you like the least? 3) Was anything particularly confusing or unclear? 4) Any information you feel is missing? 5) How was the training visually? 6) Was there anything that needs more focus? 7) Anything else to add/change?

#### *Data Collection and Analysis*

From November-December 2018, a graduate student research assistant (GSRA) reviewed the study purpose, the confidentiality statements, answered any questions, and obtained informed consent prior to participation. The testing was conducted in a private office space at WCSO from a computer. Each participant entered the website address and completed the web-based training as designed. The GSRA took notes if the participants had specific comments throughout the web-based training and while completing the surveys. After completing the web-based training, the GSRA provided a link to the participant to access a Qualtrics survey that consisted of a 6-item demographic survey and a 39-item survey that evaluated the feasibility, acceptability, usability, and quality of the web-based training based on 5-point Likert scale. Immediately after completing the surveys, the LEOs participated in an in-person interview with the GSRA. The GSRA used a semi-structured interview guide that consisted of 7 questions to assess the participants' perceptions about the quality of the web-based training and to identify any

information that was unclear or missing from the web-based training. After the interview, participants were given \$50 compensation.

### *Descriptive Analyses*

Descriptive statistical analyses were performed and analyzed using SPSS v25. A paired samples t-test was conducted to compare opioid overdose knowledge pre- and post-test scores among the LEOs.

### *Qualitative Analysis*

All interviews were audio-recorded, transcribed, and de-identified prior to analyses. The de-identified transcribed interviews were analyzed using content analysis by the GSRA and the PI. Content analysis is a systematic method to interpret the content of text data by process of coding and identifying themes and patterns.<sup>24</sup> Each line of transcript was read word-for-word with specific words highlighted that captured key thoughts. Themes were identified that captured the participants' general perceptions about the web-based training with specific recommendations that needed revisions. A series of meetings with the first and fourth authors were conducted to establish consensus and revisions needed for the web-based training. The themes and recommendations for revisions were reviewed with the community partners for further refinement of the web-based training.

## RESULTS

### *Participant Characteristics*

All participants were male (N=10), predominantly White (n=8, 80%; n=2, 20% African American), with a mean age of 28 (SD=5.8). The mean number of years as a LEO was 3.3 (SD=3.8) and the mean number of times naloxone was used by the officers who had prior training was 3.7 (SD=6.3).

### *Feasibility, Usability, Acceptability, Satisfaction Scores*

The median time to complete the web-based naloxone training, including the pre- and post-tests, was 45 minutes (range 37-80 minutes). A Wilcoxon Signed-Ranks Test indicated that post-test overdose knowledge score was statistically significantly higher than pre-test knowledge scores  $Z = -2.8, p < .005$ . We did not see a statistically significant differences in pre- and post-test scores among new and experienced LEOs ( $Z = -.14, p = .89$ ). We also did not see a statistically significant differences in pre- and post-test confidence and attitude scores in any of the questions (See Table 2).

The mean total usability score was 82.3 (SD=8.9) and the mean total satisfaction with the web-based training was 35.7 (SD=4.2). The average System Usability Scale score from 500 studies has been a 68.<sup>22</sup> Thus, a System Usability Scale score above a 68 would be considered above average and anything below 68 is below average. Thus, our usability score of 82.3 indicated above average usability. For the satisfaction score, higher scores indicate greater satisfaction.<sup>23</sup> A mean score of 35.7 out of 40 indicated high satisfaction with the web-based naloxone training. The participants enjoyed completing the web-based naloxone training ( $M=4.2, SD=.5$ ), found it helpful in responding to opioid overdoses ( $M=4.4, SD=.7$ ), the website was visually appealing ( $4.4, SD=.5$ ), and the training sustained their attention ( $M=4.3, SD=.7$ ) (See Table 1).

### *Qualitative Evaluation*

We identified 16 revisions that needed to be made based on participants' interviews, including changes to wording on pre-test items, clarifying the difference between Narcan and naloxone, explaining the varying potencies of fentanyl and analogues, and how often naloxone

needs to be used, adding phrases such as “Do not test spray,” “If you are a first responder, you are 911,” changing the font style for ease of reading, adding content on the role of hand sanitizer, disposal information, post-naloxone administration responses, clarifying steps on the role of cardiopulmonary resuscitation, and navigating the website (See Appendix B).

Four themes were identified from novice and experienced LEOs in regards to the web-based training: 1) Easy to use, 2) Relevant and useful information, 3) Videos of actual officers and people with lived experience were helpful, and 4) Offers flexibility (See Table 3). Generally, the authors noted that the experienced LEOs provided greater insight to the usefulness and applicability of the training and provided more feedback on revisions to the website.

## DISCUSSION

This article describes the development and feasibility testing of a web-based naloxone training for LEOs. The development of the web-based naloxone training was the result of a two-year community-academic partnership to help law enforcement agencies educate officers to save lives in the event of opioid overdoses by decreasing the administrative costs of in-person training and rapidly equipping officers to deliver the life-saving medication naloxone.

Compared to the prior two-hour in person naloxone training, the mean completion of the web-based training was 45 minutes. The officers perceived the website was visually appealing, sustained their attention, and were highly satisfied with the web-based training. In addition, the officers found the website to be of high quality and found it to be a usable website. Lastly, improvements in overdose knowledge scores were observed based on the pre- and post-test overdose knowledge scores. The qualitative interviews confirmed the survey results and provided additional insights into refining the web-based naloxone training.

Post-feasibility testing, the web-based naloxone training alone as of December 2021 has trained over 860 first responders and community laypeople. Future direction includes evaluating the effectiveness of the web-based training.

## LESSONS LEARNED

The community-academic partnership that was initially formed was based on the primary purpose of reducing opioid overdose mortality for Washtenaw County. This unified vision facilitated an eagerness and openness to collaboration. Each community-academic partner brought their unique perspectives and knowledge to build a comprehensive training that would address overdose knowledge, achieve competence in administering naloxone, and de-mystify myths associated with naloxone and overdose. Receiving grant funding to develop the content and the web-based training reduced the financial burden of the community partners and provided faculty release time for the academic partner. The community partners who were experts in their respective organizations provided educational insights in building the web-based training. The law enforcement agency partner knew the requisite protocols for educating the officers, and the community partner specializing in substance use education provided a framework of how to respond to common misperceptions about naloxone and addiction. In addition, listening to each other's needs for training helped to shape the training. For instance, the law enforcement partner determined that a test needed to be included for certification and a process to communicate the information to their superiors. These features were included in the website. Each community partner was able to identify and recruit people from their respective agencies to participate in the training videos.

One challenge of the community-academic partnerships was the length of time required to build the content and create the videos for the web-based training. Coordinating schedules for

all partners who were already busy in their respective agencies and adding to their workload was a challenge. LEOs work around the clock and finding a time for all the partners, actors, and the multimedia team to film the video took three months. Despite the scheduling difficulties, the relationships that formed and the commitment to finish the work carried the group. Our community-academic partnership, though not formally assessed, has been long-standing in which the PI continues to engage with both community partners. In fact, the PI has partnered with HNV to develop another community-level post-overdose intervention<sup>25</sup> and the WCSO and other LEO agencies currently utilize the web-based naloxone training to train all their deputies. In addition, recruiting people in long-term recovery who were trained in recovery messaging were critical to reduce the stigma associated with addiction. Each person knew one another and was familiar with one another's recovery story and messaging.

Although we used measures that were previously tested, the modification of the questions to adapt to our study is a limitation to the content and construct validity of the scales. Despite this, the LEOs were all successfully able to navigate through the training and rated the training as usable, acceptable, and highly satisfied. In addition, our efforts to reduce stigma were not significant in our pilot sample. Future testing should include a larger population to determine if our training impacted stigma. Another limitation is that the GSRA was present throughout the data collection; thus, subject to social desirability bias. However, we believe the GSRA's presence had minimal effect on the officers' responses as evidenced by their number of suggestions to revise the website and their forthright responses from the interviews. In addition, the GSRA was a younger female civilian; thus reducing the influence of inferential power imbalances.

## CONCLUSION

Through our community-academic partnership, we developed an evidence-based naloxone training curriculum and conducted feasibility testing of our web-based naloxone training that can be used to certify and re-certify LEOs. The web-based naloxone training can lead to a greater number of LEOs trained locally and nationally, and it will build capacity for law enforcement agencies to sustain their training efforts in fighting the opioid overdose crisis and in saving lives. Future studies will evaluate the effectiveness of the web-based naloxone training of LEOs.

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**Table 1: Law Enforcement Officer Evaluation Results for Naloxone Web-based Training (N=10)**

**Overall Evaluation and Website Usability**

Questions <sup>1</sup>	Mean (SD)	Median	Min	Max
It was clear which buttons to click throughout the sign in process.	4.8 (.4)	5	4	5
I found the font in the sign in process easy to read.	4.8 (.4)	5	4	5
I found the images used in the sign in process helpful.	4.8 (.4)	5	4	5
I would recommend this web-based naloxone training to a friend if he or she were in need of similar opioid overdose education.	4.7 (.5)	5	4	5
The web-based naloxone training provided effective opioid overdose education.	4.5 (.5)	4.5	4	5
Overall, I am satisfied with the web-based naloxone training.	4.5 (.5)	4.5	4	5
I am confident using naloxone after completing this web-based training.	4.6 (.9)	5	2	5
The web-based training I completed was of high quality.	4.3 (.7)	4	3	5
Website Usability Score in percent	82.3 (8.9)	85	70	90

Notes: All items were scored from 1-5 (Strongly Disagree to Strongly Agree)<sup>1</sup> except for the Website Usability Score which was expressed in percentage with highest usability at 100%.

**Acceptability**

Questions	Mean (SD)	Median	Min	Max
How much did you enjoy using this web-based naloxone training? <sup>2</sup>	4.33 (.5)	4	4	5
How acceptable was the time it took to complete this web-based training? <sup>3</sup>	4.4 (.7)	4.5	3	5
How helpful was this web-based naloxone training in describing how to respond to an opioid overdose? <sup>4</sup>	4.6 (.5)	5	4	5
The law enforcement mythbusters conversation videos were engaging. <sup>5</sup>	4.6 (.7)	5	3	5
The persons in long-term recovery mythbuster videos were engaging. <sup>5</sup>	4.7 (.7)	5	3	5
This training helped me to change my perception about people who use drugs. <sup>5</sup>	3.5 (.9)	3	2	5
Overall, the website was visually appealing. <sup>5</sup>	4.4 (.5)	4	4	5

Overall, the web-based naloxone training sustained my attention. <sup>4</sup>	4.3 (.7)	4	3	5
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Notes: All items were scored from 1-5 (Not at all enjoyed to extremely enjoyed,<sup>2</sup> very unacceptable to very acceptable,<sup>3</sup> very unhelpful to very helpful,<sup>4</sup> and strongly disagree to strongly agree.<sup>5</sup>

#### Client Satisfaction

Questions <sup>6</sup>	Mean (SD)	Median	Min	Max
The web-based naloxone training I completed was of high quality.	4.3 (.6)	4	3	5
I received the kind of web-based naloxone training I wanted.	4.3 (.6)	4	3	5
The web-based naloxone training has met my needs.	4.5 (.5)	4.5	4	5
I would recommend this web-based naloxone training to a friend, if he or she was in need of similar opioid overdose education.	4.7 (.5)	5	4	5
I am satisfied with the amount of opioid overdose education I received through the web-based naloxone training.	4.5 (.5)	4.5	4	5
The web-based naloxone training provided effective opioid overdose education.	4.5 (.5)	4.5	4	5
In an overall, general sense, I am satisfied with the web-based naloxone training.	4.5 (.5)	4.5	4	5
I would come back to such a web-based naloxone training if I were to need opioid overdose education again.	4.4 (.7)	4.5	3	5
<b>Total Satisfaction</b>	<b>35.7 (4.2)</b>	<b>35.5</b>	<b>29</b>	<b>40</b>

Notes: All items were scored from 1-5 (Strongly Disagree-Strongly Agree).<sup>6</sup>

**Table 2: Pre and Post-Test Confidence and Attitudes Scores (N=10)**

<b>Confidence Questions</b>	<b>Pre-Test Median</b>	<b>Post-Test Median</b>	<b>Z</b>	<b>p</b>
I am confident that I can recognize signs and symptoms of an opioid overdose.	4.5	5	-.45	.7
I am confident that I know how to respond to an opioid overdose	4.5	5	-1.3	.2
I am confident that I know how to give naloxone	4.5	5	-1.6	.1
I am confident that I can train others in how to use naloxone	4.5	5	-1.6	.1
I am confident that I know what to do after giving naloxone	4.5	5	-1.6	.1
<b>Attitude Questions</b>	<b>Pre-Test Median</b>	<b>Post-Test Median</b>	<b>Z</b>	<b>p</b>
If I administer naloxone, I am enabling the person to continue to use more drugs	1	1	-.6	.6
It is a waste of resources to save a person with naloxone since the person will overdose again and again	1	1	-1.1	.3
I am afraid that I may cause harm if I use naloxone on someone	1.5	1	-1.6	.1
I believe using naloxone will delay entry into drug treatment	1.5	1	-1.9	.06

Notes: All items were scored from 1-5 (Strongly Disagree-Strongly Agree).

Table 3: Qualitative Themes with Exemplar Quotes from Experienced and Novice Officers

Themes	Experienced Officers Quotes	Novice Officers Quotes
Easy to use	<i>"It was fairly easy to use, minus the few technical issues that came up that we already talked about. But I mean I like that you can pretty much breeze right through it and you don't have to read everything. Simple."</i>	<i>"It was easy to use, the information was right there, it was easy to decipher. It was quick, there wasn't a whole lot of fluff to it. Basically it's right down to the necessary information, which was nice."</i>
Relevant and useful information	<i>"There was a lot of information, a lot of useful information within the training. You target different styles of learning within the training, you had the visual, you had some for people who like to read, but you also throw some audio in within the videos as well...So I thought very useful, I didn't see anything that would that's not worth keeping."</i>	<i>"...it seemed like any question I ever would have had was pretty much answered with what was presented in the training."</i>
Videos using actual officers and people in recovery helpful	<i>"I liked the officers talking about first hand experience, then the former users talking about recovery. A lot of the first hand, I think goes farther, people can relate to that a lot more then they can the research."</i>  <i>"I liked the people in the long-term recovery (video.) I liked actually hearing their voices because I think that makes it more of a human problem. Because a lot of police officers when they start this job addiction isn't high on the list of something we care about. So that puts more of a human stamp on it."</i>	<i>"I liked that the videos were used it in, so it wasn't just all information, it was kind of blocked, or split up with videos, which I thought broke it up and kept me entertained."</i>
Offers flexibility	<i>"I work 4pm to midnight, so it's something the whole department can go through. We can assign it to people who are working 4pm-midnight, or 8pm-4am, and they don't have to worry about coming in for a special training just for the short block it was."</i>  <i>"This will save a lot of time for departments. This is much easier than, this could take up to an hour, an hour and a half if that to go through this training."</i>	<i>"I liked that it was kind of a "Do it yourself" thing rather than go and listen to someone talk about it, and you know space out for a minute on accident or something. So you get to catch everything when you go over it. Like I said, it's better than sitting in a classroom and having someone talk about it."</i>



## Appendices

### Appendix A: Pre/Post-Test Questions and Responses

#### **KNOWLEDGE**

**1. When using intranasal naloxone (Narcan), you should do a test spray. (True or False)**

- 1) True
- 2) False
- 3) Don't know

**2. If the first dose of naloxone has no observable effect after 2-3 minutes, a second dose can be given. (True or False)**

- 1) True
- 2) False
- 3) Don't know

**3. Naloxone may cause withdrawal symptoms. (True or False)**

- 1) True
- 2) False
- 3) Don't know

**4. Although the risk is low, a person can overdose again after having received naloxone. (True or False)**

- 1) True
- 2) False
- 3) Don't know

**5. Naloxone's duration (how long it lasts in the body) is shorter than the duration of heroin. (True or False)**

- 1) True
- 2) False
- 3) Don't know

#### **OVERDOSE RESPONSE Q6-8, 10**

**6. Drag and sort the statements below to complete the following sequence when managing an opioid overdose.**

- 1) Arouse the person: shout, shake, sternal rub
- 2) Check for signs of overdose
- 3) Telephone 911 (for first responders, you are 911)
- 4) Intranasal/Intramuscular naloxone administration
- 5) Oxygen: 2 rescue breaths initially, then 1 breath every 5 seconds and/or CPR, or follow dispatch instructions
- 6) Naloxone again in 2-3 minutes

**7. You come upon a person who is stumbling while he walks and is obviously high. You should administer naloxone.**

- 1) Yes
- 2) No, not yet at least
- 3) Don't Know

**8. You come upon a person turning blue on a park bench with very slow breathing. Should you administer naloxone?**

- 1) Yes
- 2) No, not yet at least
- 3) Don't Know

#### LEGISLATION

**9. Michigan legislation protects you from civil and criminal liability in the event you administer naloxone in good faith to someone you suspect is experiencing an opioid overdose. (True or False)**

- 1) True
- 2) False
- 3) Don't know

**10. You are called to a domestic dispute and the wife says, "He did some drugs and now he is aggressive and going crazy." After he is secured, should you give him naloxone?**

- 1) Yes
- 2) No
- 3) Don't know

**11. Which of the following is NOT an opioid? (Select all that apply)**

- 1) Heroin
- 2) Fentanyl
- 3) Methadone
- 4) Alprazolam

**12. Incidental skin contact with fentanyl may occur during daily activities. Harmful effects are not expected if the contaminated skin is promptly washed off with soap and water. (True or False)**

- 1) True
- 2) False
- 3) Don't Know

#### RISK FACTOR

**13. Which of the following increases a person's risk for an overdose? (Select all that apply)**

- 1) Prior history of an overdose
- 2) Using drugs with friends

- 3) Transition from oral use to injection use
- 4) Higher purity of the drug
- 5) Age greater than 40 years
- 6) Mixing drugs such as alcohol and anti-anxiety medications with opioids
- 7) Prior criminal history
- 8) Changes in tolerance (such as recently discharged from jail or detox facility)
- 9) Education less than high school

**14. When encountering an unknown substance (white powder, pills, capsules, blotted paper) at the scene, you should (check all that apply):**

- 1) Touch the unknown substance with your bare hands
- 2) Sniff the unknown substance to check out the smell
- 3) Taste the unknown substance to see if it's powdered sugar
- 4) Be aware of the environment
- 5) Always wear gloves, minimize skin contact, and avoid actions that may cause powder to become airborne. If needed, wear other personal protective equipment, such as eye protection and approved N95 or P100 respirator mask.

**SIGNS**

**15. Which of the following are signs and symptoms of an opioid overdose? (Select all that apply)**

- 1) **Slow, erratic, absent breathing**
- 2) **Bluish purple lips and fingernails; ashen grey if darker skinned**
- 3) **Unresponsive to pain stimulus**
- 4) Seizures
- 5) Pupil dilation
- 6) **Choking sounds, or snore-like gurgling noises**
- 7) **Unconscious**
- 8) Agitated behavior
- 9) Bloodshot eyes
- 10) **Pinpoint pupils**
- 11) Rapid heartbeat
- 12) Profuse sweating

**16. After administering naloxone, the officer should:**

- 1) Follow the referral process to treatment and further medical care if established within your county
- 2) Complete the appropriate police documentation
- 3) All of the above

**17. In an opioid overdose, the most dangerous side effect of taking too many opioids is...**

- 1) Respiratory Depression
- 2) Headache

- 3) Nausea and Vomiting
- 4) Tremors

**18. The Good Samaritan Law protects the overdosing drug user from possession charges and illicit use of controlled substances when seeking help for him/herself or calling for medical assistance for someone else. (True or False)**

- 1) True
- 2) False
- 3) Don't know

**19. What is naloxone used for?**

- 1) To reverse the effects of an opioid overdose (heroin, fentanyl, methadone, etc.)
- 2) To reverse the effects of a methamphetamine overdose
- 3) To reverse the effects of a cocaine overdose
- 4) To reverse the effects of any overdose
- 5) Don't know/not sure

**20. How long does naloxone take to start having an effect?**

- 1) 2-5 minutes
- 2) 6-10 minutes
- 3) 11-20 minutes
- 4) 21-40 minutes
- 5) Don't know/not sure

**21. How long do the effects of naloxone last for?**

- 1) Less than 20 minutes
- 2) 30-120 minutes
- 3) 1 to 6 hours
- 4) 6 to 12 hours
- 5) Don't know/not sure

**CONFIDENCE**

**22. I am confident that I can recognize signs and symptoms of an opioid overdose (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

**23. I am confident that I know how to respond to an opioid overdose (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral

- 4) Agree
- 5) Strongly Agree

**24. I am confident that I know how to give naloxone (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

**25. I am confident that I can train others in how to use naloxone (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

**26. I am confident that I know what to do after giving naloxone (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

### **ATTITUDE**

**27. If I administer naloxone, I am enabling the person to continue to use more drugs (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

**28. It is a waste of resources to save a person with naloxone since the person will overdose again and again. (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

**29. I am afraid that I may cause harm if I use naloxone on someone (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
- 2) Disagree
- 3) Neutral
- 4) Agree
- 5) Strongly Agree

**30. I believe using naloxone will delay entry into drug treatment (Note: there is no "wrong" answer).**

- 1) Strongly Disagree
  - 2) Disagree
  - 3) Neutral
  - 4) Agree
  - 5) Strongly Agree
-

## Appendix B: Revisions to Website Based on Officers' Feedback

1. Question 15 on pretest: Change "overdose in car" to "park bench" or something with less potential other responsibilities (such as putting the car in park, etc.)\* ‘
2. Question 13 on pretest: make clear that person should not drink alcohol or continue to use substances Erika DONE
3. Possibly include difference between Narcan and Naloxone
4. Have further explanation on how larger prevalence of fentanyl in substances affect how often narcan needs to be used
5. Make clear between how often one needs to reuse narcan and when the 30-120 minute clock starts for having someone in the revival stage???
6. Add information along with do not use hand sanitizer, about vionex wipes
7. Add, (If you are a first responder, you are 911)
  - a. Possibly edit the Take ACTION to show understanding that LEO's are 911, and what they should do specifically on the scene, compared to CLP needing to call 911\*
8. Add, (Do not test spray Narcan)
9. Make font on picture on page 17 more easy to read
10. Add what to do with items when finished (can you just throw them away?) -content added #19, do we need to do anything else to be visual?
11. #9 Image: Change title, Process happens over seconds to minutes to hours
12. Post Naloxone Administration Section Image
  - a. Step 1: Change officer,etc: ANYONE
  - b. Step 2: Change Crisis line to Crisis team
13. Include more information around steps on when to do CPR\* - create a new section after #14
  - a. In an overdose, you may find the person still breathing, but blue, cold, and unresponsive. If the person has a pulse, perform rescue breathing. 2 initial rescue breaths until chest rises, then 1 breath every 5 seconds
  - b. If the person has NO PULSE, perform CPR, 30:2
14. Some people had trouble knowing to click the "mark complete" button around the pre/post test\* - click mark complete and then go directly to the next page
15. Provide way to clearly go back to main menu to be able to click to a certain part of the training easily
16. Communicate to the layperson that the police will not charge you for calling for help.