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Guide to Naloxone

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Abstract

The Access Support Network is a non-profit organization that provides services to those impacted by HIV and Hepatitis C. The Access Support Network runs the one and only syringe exchange program in the Monterey County. Many clients seen at the syringe exchange program face many hardships such as opioid overdoses. The opioid epidemic has become a national public health crisis which has caused many overdosed deaths. Opioid overdoses occur from prescription drugs as well as illicit drugs, such as heroin, meth, and fentanyl. Naloxone is the medication that is used to counter and combat opioid-induced overdoses. Naloxone reverses the effects of an opioid overdose for a limited amount of time, which provides enough time for victims to seek medical attention. The Access Support Network provides free naloxone and training to all participants at the syringe exchange program. The Guide to Naloxone is a presentation and guide that promotes and educates the use of naloxone for those who are at-risk and exposed to those in danger of having an opioid overdose. This project was implemented and is continuously available through the Access Support Network's website in hopes that it will reach and educate more people on the existence and use of naloxone. The success of this project was measured through pre and post surveys by gauging the viewer's knowledge of naloxone before and after viewing the guide.

Keywords: HIV, naloxone, Narcan, opioid, overdose, fentanyl

Guide to Naloxone

Agency and Communities Served

The Guide to Naloxone is a project created for the use and benefit of the Access Support Network. This project will be implemented through their website. The Access Support Network is a non-profit organization located in Monterey County. Their mission is to save and “enhance the lives of people in our community impacted by HIV and Hep C. We provide access to comprehensive critical services that empower our clients” (Access Support Network, 2018).

The Access Support Network supports the Monterey County community through a variety of services such as benefits counseling, health counseling, housing services, and financial assistance. Benefits counseling assists clients with accessing insurance and benefits programs available to them. Many clients are not aware of the kinds of programs available to them and which they actually qualify for. Benefits counselors aid clients in utilizing these services and programs to their advantage.

The health counseling services provided at the agency allow clients, their families, and the public the opportunity to learn about current treatment information for HIV and AIDS. Health counselors at the Access Support Network are also “a link to the medical community for the agency and, for clients, is able to give referrals to physicians, discuss drug side effects and disease progression” (Access Support Network, 2018).

HIV disproportionately impacts those who are economically disadvantaged and some often have hardships with having stable housing. Due to this, the Access Support Network provides housing services for their clients. The housing services specialist finds and locates

suitable, stable, affordable housing for the clients that need it the most. The housing specialist will also assist clients with applying and obtaining Section 8 housing. The agency's housing services also assist clients with their utility payments that they are struggling to pay for.

The financial assistance offered to the Access Support Network's HIV-positive clients is possible through the Housing Opportunities for People with AIDS program, also known as HOPWA (Access Support Network, 2018). These financial assistance services include assistance from anything with transportation for medical appointments, health insurance, utility assistance, rental assistance, and help with enrolling into the AIDS Drug Assistance Program which helps pay for medication that aids those with HIV/AIDS (Access Support Network, 2018).

An additional program provided for the community is a syringe exchange program. The syringe exchange program is available to anyone to exchange syringes. The exchange program provides harm reduction supplies, such as sterile water, cotton balls, alcohol swabs, and band-aids. All of these different services and programs assist the Monterey County community who are affected by HIV and Hepatitis C by providing essential aid for those who cannot afford to help themselves.

The community that the Access Support Network serve is incredibly diverse. Specifically, the Access Support Network provides their services for those impacted by HIV and Hepatitis C. They serve clients as young as 13 years old, no matter what race or ethnicity they are. Of the community they serve, 65% range from 45-64 years old, 24% from 25-44 years old, 10% are 65 years or older, and 1% being 13-24 years old. Majority of clients, 54%, are Hispanic, with 29% being White, 10% were Black, 6% is Asian, and 1% were Native Hawaiian/Pacific Islander. This data is not even including the data of clients the Access Support Network serves at

their syringe exchange program, which provides its services to anyone, regardless of their HIV/Hepatitis C status.

Problem, Issue or Need

The high number of opioid overdoses in the United States has turned into a national crisis. Many different drugs fall under the classification of opioids. Many opioid drugs are prescription medications used to relieve pain. The role of opioid drugs is to “bind to opioid receptors on cells in the brain and throughout the body” (National Institute, 2016). These opioid receptors control a person’s digestion and pain. When someone takes an opioid, that opioid numbs that person’s perception of pain which makes it effective as a pain reliever. However, opioids can become addictive as opioids can flood the brain with a euphoric feeling, also known as getting “high” (National Institute on Drug, 2016). The illegal drug, heroin, is also classified as an opioid and is used to get an extreme high, “that doesn’t last very long – so it isn’t much use for pain relief, but it *is* easy to get addicted to” (National Institute, 2016). Due to the addictive component of opioids, there has been an uptick of opioid addiction and overdoses in the United States.

According to Dr. Casey Grover with the Community Hospital of the Monterey Peninsula, “we’re seeing about one drug overdose of some sort a day...the ambulance is giving about one dose of naloxone every day or every other day” (Hicks & Castillo, 2017). Drug overdoses are not just an issue in Monterey County, but an issue that is seen on the national level and has been deemed a public health crisis. In the United States, more than 115 people die from an opioid overdose every day (National Institute, 2018). Opioid overdoses can be caused by “the misuse of and addiction to opioids – including prescription pain relievers, heroin, and synthetic opioids such as fentanyl” (National Institute, 2018).

The high prescription rates of prescription opioids and the surge of fentanyl has caused many opioid overdoses. The prescription rates for prescription opioids are incredibly high. In 2015, there were approximately 573 prescription opioids per 1,000 residents in Monterey County (Monterey County Opioid, n.d.). These high prescription rates have taken a toll on teenagers in the community. Monterey County drug addiction recovery organizations have seen “teenagers reaching into their parents’ cabinets to get the drugs or even going for over-the-counter cough syrup” (Whittaker, 2017). A student from Salinas High School has even seen “students bringing their parents’ prescription drugs to school to sell to other teenagers” (Whittaker, 2017).

Prescription opioids are not the only methods that people are overdosing on.

Heroin users are also experiencing a rise in opioid overdoses. In addition to the opioid epidemic, there has recently been a fentanyl epidemic. Fentanyl is a synthetic opioid that is 50 to 100 times stronger than heroin. Drug users have begun finding traces of fentanyl in their heroin drug supplies after the increases in overdoses. Injecting heroin without the knowledge that fentanyl is laced in it, can cause accidental overdose due to the potency of fentanyl. The fentanyl epidemic has drastically made the opioid epidemic worse. Taken from the Centers for Disease Control and Prevention, “preliminary data estimates that nearly 72 thousand people died of accidental drug overdose in 2017. That’s more than a 10 percent increase from 2016...fentanyl continues to creep into the illicit drug supply and drive drug overdose” (O’Brien, 2018). The fentanyl epidemic has killed 29,406 people last year which was 50% more than 2016 (Editorial Board, 2018).

The consequences that come with high numbers of opioid overdoses include high medical costs for the nation and an increase to the spread of blood-borne illnesses such as HIV and Hepatitis C. Opioid overdoses are estimated to cost the United States \$78.5 billion a year, this

includes “the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement” (National Institute, 2018). The other consequence of opioid overdoses is that many who inject heroin or other intravenous opioid drug are more prone to transmitting HIV and other blood-borne pathogens to others. Many HIV positive individuals are also intravenous drug users. With more opioid overdoses occurring, it does provide more opportunities for HIV to be transmitted if needles are being shared and used for drug intake.

Contributing Factors	Problem	Consequences
<ul style="list-style-type: none"> • High opioid prescription rates • Fentanyl epidemic 	<ul style="list-style-type: none"> • Opioid overdoses in the United States is too high. 	<ul style="list-style-type: none"> • High financial cost to the nation. • Increase in the spread of blood-borne pathogens (HIV & Hepatitis C) through needles.

Capstone Project Description and Justification

This capstone project is called the Guide to Naloxone. The Guide to Naloxone is going to be an online Prezi presentation that will educate viewers on naloxone. Naloxone is a “prescription medicine used for the treatment of an opioid emergency such as an overdose or a possible opioid overdose with signs of breathing problems and severe sleepiness or not being able to respond” (ADAPT Pharma, 2017). The presentation will describe what naloxone is and how it is used. The goal of this project is to implement the naloxone presentation on the Access Support Network’s website as a way to streamline the existence, use, and knowledge of this life-saving medicine. This project would also be a great visual tool for the agency as a presentation for those who are intrigued or unaware of naloxone.

The purpose of this Guide to Naloxone is to, hopefully, save more lives by educating others on what this medicinal drug is and how to effectively use it on those who are in near-death

situations. The Access Support Network hopes to spread the word on what naloxone is and how to use it, as well as encourage those at-risk or those around people who are at risk of overdose to carry naloxone. The purpose of this project is to decrease the number of deaths caused by opiate overdoses. In the past two years, deaths caused by overdoses have been steadily increasing in the United States. Overdoses caused by "opiates, cocaine and methamphetamines shot up by 35 percent in the United States between the year ending in May 2015 and that ending in May 2017" (Bartolone, 2018). What is worse is that this percentage will continually increase due to the rising presence of synthetic opiate, fentanyl, which is heavily saturating the market on the east coast (Bartolone, 2018). Fentanyl is a real danger for injection drug users since fentanyl is often "laced within other drugs without the user's knowledge, is 100 times stronger than morphine, and as much as 50 times stronger than heroin" ("The American Fentanyl Epidemic", 2018). According to Forman (2018), "researchers estimate fentanyl was present in close to 50 percent of overdoses, outpacing heroin, which is involved in 37.4 percent" in 2017. The more people who are equipped with and properly trained to administer naloxone, the lower the rates of deaths by overdoses in the United States.

This project will not only benefit the agency but will also benefit the communities they serve. This project will provide the agency with a tool in which to present and educate others with on the basics of naloxone. The naloxone guide will also positively affect the injection drug user community by arming and educating others, and the communities themselves, of how to use naloxone which will, in turn, save more lives. More so than not, the term Narcan is used in reference to naloxone. Naloxone is the active ingredient and drug, whereas Narcan is the branding most commonly used. Another brand name of naloxone is Evzio (Mayo Clinic, 2018). Narcan has proven to revive 93.5% of people when administered (Kounang, 2017). This statistic

was gathered from emergency medical services data from Massachusetts after administering 12,000 dosages. More lives could be saved if those who are at-risk and those around them were trained and equipped with naloxone. Everyone, from emergency medical staff to family members, is encouraged to carry naloxone if they are around those who are at-risk. This is encouraged since “laws in every state allow the drug to be administered by anyone” (Kounang, 2017).

This project will be implemented through the agency's website. The implementation of the website will be as easy as embedding a link to the presentation on the website. In this age of social media and technology, the goal of this implementation method for this guide is to reach more people at a rapid pace.

Task	Supporting Staff (Optional)	Timeline/Dates	MLO(s) Addressed
Shadow and understand how the Syringe Exchange Program (SEP) operates	Dani & Paris	September 2017	C, CR/N, CCC, KHHS, L, PC, PD, PE, SM
Test clients for Hepatitis C antibodies and HIV/AIDs		Fall semester 2017	C, CCC, KHHS, L, PC, PD, PE
Put in a supply order, learn where and who we get supplies from		October 2017	C, CR/N, FM, IM, KHHS, PC, PD
Inputting data from SEP into Survey Monkey		Ongoing	IM, KHHS, PD, S/RM

Learn grant writing process/who we receive grants from		Fall semester 2017	C, FM, IM, KHHS, PC, PD,
Learn how to deliver Naloxone	Dani	September 2017	C, CCC, L, PC, PD
Shadow and help w/ Food Pantry		Fall semester 2017	C, CCC, KHHS, L, PC, PD, PE, SM
Shadow and help w/ Benefits Counseling		Fall semester 2018	C, CCC, KHHS, IM, PC, PD
Learn ARIES		TBD	C, IM, KHHS, PD
Familiarize me/learn LEO		TBD	C, IM, KHHS, PD
Shadow/Learn ADAP	Ryan	TBD	C, IM, PD, KHHS
Work on Guide to Naloxone		Fall 2018	C, IM, PC, PD, KHHS, S/RM

In the midst of working on this project the hardest part about it is figuring out how much or how little information to include. A long presentation is not desirable and makes it more difficult for interested parties to stay focused. Having a long presentation will also increase the likelihood of people not going through the whole presentation. Finding the right balance between

important information and enough information is key. Another challenge of this capstone was getting feedback from the agency. Instead of getting feedback from the agency, which was becoming difficult and stagnant, feedback was taken from those who viewed the guide. This was done through pre- and post- surveys given to participants.

Project Results

The expected outcomes for this project are for participants to have a better understanding of naloxone and have them want to be armed and equipped with the medication. This project's main goal is to educate and promote the use of naloxone in its two forms, injection and nasal. This project's secondary objective is to equip more people, whether they are clients or not, with naloxone from the agency. Having more people armed with naloxone is imperative to the survival of opioid drug users.

This project's progress and success were measured through a pre/post survey given to the audience. This survey is a physical survey which measured the audience's knowledge about naloxone before and after the presentation. This survey gauged how much the audience learned from the presentation and made it easier to identify what needs to be improved upon in order for it become as successful as possible. Overall, the Guide to Naloxone was a success. The guide was a success in the sense that it was able to educate the audience on what naloxone is.

Before viewing the Guide to Naloxone, participants were given a pre-survey in order to gauge their existing knowledge of naloxone, if they had any. After viewing the guide, participants are then given a post-survey to complete to determine whether their knowledge on naloxone had changed. In a sample size of 25 participants, only 8% of participants were already aware of what naloxone was. By the end of the guide, this number jumped to 100%. All participants were able to say with confidence that they knew what naloxone was. Other questions

that were asked included being able to recognize signs of an opioid overdose. According to the surveys taken, 66% of participants were disagreed and said they could not recognize signs of an opioid overdose. After viewing the Guide to Naloxone, every single participant marked that they could recognize signs of an opioid overdose. The results of the surveys taken before and after Guide to Naloxone gives confidence in that it succeeded in educating and promoting the use of naloxone.

A strength of the Guide to Naloxone is that it is completely digital. The Guide to Naloxone is a PowerPoint presentation that will be available to anyone with access to the internet. In this technological age, people are incredibly attached to their phone or computer and are just surfing the web. The hope is that this technological approach to education and promotion will reach more at-risk people than just relying on pamphlets and word-of-mouth between individuals.

One of the biggest limitations and challenges of this project is the actual implementation of the project onto the agency's website. If the initiative is not taken by someone at the agency with access to the website to implement and embed the guide to the website, then this will all be for nothing. Currently, the agency website has yet to even be updated to reflect the current staff. This causes worry in relation to whether or not someone at the agency will implement the guide on the website.

Conclusion and Recommendations

The Guide to Naloxone is an important presentation that was made in an attempt to address the problem of opioid-induced overdosed deaths within the community. Due to this, the project should be continued. This means having the agency use the presentation outside of the

website itself. The agency is recommended to use the Guide to Naloxone as a presentation tool and visual at a possible lecture and outreach events.

In terms of doing things differently for this specific project, not much can be done. However, in terms of taking a different approach in addressing the health issue at hand, a suggestion would be to make an informational and tutorial video for naloxone. The Guide to Naloxone can be something beneficial for those who learn better by reading while an actual video recording may be more beneficial for another person. People learn in different ways, and as such, the information should be presented in different ways to reach the most people.

Personal Reflection/Final Thoughts

This journey and project as a whole have enlightened me on the problem of opioid overdoses in the United States. Being an outsider from the world of opioid drugs and intravenous drug users, I was ignorant to many things that I was exposed to at my agency. Working on the Guide to Naloxone has allowed me to research and learn more on the issue that these people face on a daily basis. The opioid epidemic is not only incredibly addictive but is frightening and fatal. One thing I learned from this project was how accessible and common it is for people to receive opioids, such as getting opioid medication prescribed from a doctor. Prescription rates are so high, not only in Monterey County but in the United States as a whole, that this has allowed teenagers access to opioids through their parent's medicine drawer. Horrifically, I learned that teenagers are also getting addicted to these opioids and are trading opioid pills with each other in school. This issue is a major problem even in Monterey County, as paramedics are reporting that they are administering an average of at least one dose of naloxone every day. Every dose of naloxone that is administered is a life that could have been lost to opioids. It is with this knowledge and mindset that I realized how incredibly important and current this issue is. Even

throughout my entire time at the agency, I was learning something new every day. I was there at the syringe exchange program to help the clients, but at the same time, the clients were there to teach me something new every day.

Working at the syringe exchange program was the foundation of my project. Working at the syringe exchange program exposed me to a different world. In turn, it taught me about naloxone and how it saves lives. However, it was at the same time that I noticed that many of the clients were in the dark about naloxone just like I was. Due to this, I realized that there was a need for more exposure to naloxone. Naloxone is saving lives without even the person knowing it was naloxone that had saved them. Even though my Guide to Naloxone is strictly online and will be difficult to determine its effectiveness once it is officially implemented onto the agency website, it did benefit the clients and agency as a whole.

Fortunately, working on the Guide to Naloxone has engaged and allowed me to apply my newfound knowledge at my agency. In order to make the guide, I had to do lots of research about naloxone. I had to determine what information were the most critical to include in the presentation and what information was not. By doing so, I became incredibly familiar with how it worked and what naloxone was as a whole. This benefitted my role at the agency because I was the one who led the naloxone training program at the syringe exchange program. After all the research I had done in efforts of completing the Guide to Naloxone, it had also equipped me with more knowledge in order to fulfill my role at the agency to a better degree.

I hope future interns for the agency will also take this route and do additional research on naloxone in order to become proficient in training and educating others on the topic. Additional advice I would give to future interns would be to take initiative. Taking initiative and being a self-starter is incredibly important for this site. No one at this agency will hold your hand. Interns

are often left without direction which is extremely difficult, as it was for me. If you do not take initiative, you will not gain much from this internship experience. I would also suggest asking lots of questions. Questions are generally appreciative at the agency and show a genuine interest in what the agency does as a whole. Additionally, I would advise future interns to focus on the syringe exchange program and to try to tie their capstone project to that. This is due to interns being utilized and needed the most at the syringe exchange program. The last advice I would give to future interns would be to have an open mind, to have fun, and to make the most out of the experience because before they know it, it will all be over.

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Appendix A

Guide to Naloxone Pre-Survey

- 1. I know what naloxone is...**
 - a. Yes
 - b. No
- 2. I'm aware of how to administer injectable naloxone...**
 - a. Strongly disagree
 - b. Disagree
 - c. Agree

- d. Strongly Agree
- 3. I'm aware of how to administer nasal naloxone...**
- a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 4. I can recognize signs of an opioid overdose...**
- a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 5. I know when to administer naloxone...**
- a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 6. I know where to get FREE naloxone...**
- a. Yes
 - b. No

Appendix B

Guide to Naloxone Post-Survey

- 1. I know what naloxone is...**
- a. Yes
 - b. No
- 2. I'm aware of how to administer injectable naloxone...**
- a. Strongly disagree
 - b. Disagree
 - c. Agree

- d. Strongly Agree
- 3. I'm aware of how to administer nasal naloxone...**
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 4. I can recognize signs of an opioid overdose...**
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 5. I know when to administer naloxone...**
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 6. I know where to get FREE naloxone...**
 - a. Yes
 - b. No
- 7. The terms Narcan and naloxone are used interchangeably...**
 - a. True
 - b. False
- 8. Naloxone is an extremely safe medication...**
 - a. True
 - b. False
- 9. I have learned something new about naloxone...**
 - a. Strongly disagree
 - b. Disagree
 - c. Agree
 - d. Strongly agree
- 10. How can this presentation be improved?**
 - a. _____