

# Combating the Opioid Crisis on College Campuses: A Harm Reduction Approach

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## **The Opioid Update: for College Students**

### **Problem Statement**

As of 2016, opioids have killed more than 42,000 people in the United States, according to the CDC (2017). One in 10 Americans between the ages of 18 and 25 report the nonmedical use of opiates (McCabe, et. al. 2005). Instead of punishing those who struggle with opioid use disorders, with my deliverable, I propose the use of harm reduction. By adopting practices included in harm reduction, such as naloxone training and distribution, college campuses can create a safer environment to allow its students to decide to make positive changes autonomously on their own timeline. My deliverable will be a toolkit that I will provide for QC Harm Reduction which will be a presentation geared towards college students and faculty. After I develop my toolkit, I will host an opioid crisis education and naloxone training seminar for Junior Augustana students and faculty. This will help inform, educate, and empower the Augustana community, and provide QC Harm Reduction with a presentation that is created specifically for a college community.

### **Background**

#### **Settings**

Quad City Harm Reduction in Davenport, Iowa aims to inform the community about the opioid crisis, opioid dependence disorders, and opioid overdose, as well as, train members of the community on how to identify overdose and reverse overdose using naloxone. Kim Brown, my preceptor and the founder of Quad City Harm Reduction, started outreach work after her oldest son, Andy, died of a heroin overdose. Compelled to save lives and improve the overall health of her community, she started QCHR to create a safer environment for the Quad Cities community and individuals who live with opioid dependence disorders. At Quad City Harm reduction, we aim to provide a safe environment for those struggling with opioid use and injection drug disorders. We do this by meeting people where they are at mentally and approaching them in a way that will allow them to feel enough support to hopefully encourage them to make a positive change in their lives on their own timeline.

During my time at QCHR I spent most of my time preparing take-home naloxone kits and participating in community outreach. QCHR does most of their outreach at homeless shelters, methadone clinics, and meal sites, but Kim believes that it is important to reach out the younger populations of the Quad Cities areas. Kim held a training for my PUBH 350 class prior to my internship, a training for a PUBH 100 class during my internship which I assisted with, and another training at Augustana after my internship. Based on Kim's interest in approaching college communities about this issue and equipping them with naloxone kits, I decided to create a "The College Toolkit to Combat the Opioid Crisis" in the form of a PowerPoint presentation that educates college communities about the opioid crisis, their risk for opioid misuse, followed by a naloxone training. In addition to the toolkit, I will hold a naloxone training seminar where I use my new toolkit to present to Junior Augustana students, who will be living off campus for their senior year, and faculty members who are around students every day.

There are several possible stakeholders who would be interested in my deliverable, two naloxone education and training seminars. First, there are people currently struggling with opioid use disorders or people who know someone struggling with opioid dependence or misuse disorders. This includes individuals who are struggle with drug misuse, friends and fellow students of these individuals, roommates of people who experiment with drugs, and family members of those who struggle with opioid use disorders. In addition to the groups I have mentioned, the school's administration would also be important stakeholders in my deliverable. A primary responsibility of the Dean of Students is to look out for the well-being of the students and to make their campus as safe as possible. If more administrators and students were educated on the threat of opioids and overdose on campus, I believe that the students would feel safer at Augustana College.

### **Literature Review**

The opioid epidemic is not a problem that has just been exposed. In 2007, the American Journal of Public Health stated, "Drug overdose is a public health concern, and the opioid class of drugs is a significant cause of overdose-related fatalities (Klein et. al, 2007). Both prescription pain killers and recreational drugs, such as fentanyl-laced heroin, has been the culprit of more than 15,469 death in 2016 (CDC, 2017). By 2016, Opiate-induced overdose became the number one cause of death in the United States (Daniels-Witt et al., 2017). To help combat this epidemic, some cities are shifting to a different methodology to handle the opioid misuse issue in the United States, called harm reduction.

#### **Opioids and Opiates.**

Opioids and opiates can be both very helpful and very dangerous. Some opioids and opiates are prescribed by doctors for pain management, like Vicodin and Dilaudid. When used properly as directed by a healthcare professional, opioids and opiates can be used to treat moderate to severe pain and allow those who struggle with surgically related and chronic pain to live a more normal life and perform day-today tasks (CDC, 2017). Other opioids and opiates, like heroin, have no clinically proven medical use and are illegal. Heroin, specifically, has the highest addictive potential compared to other commonly used drugs such as cocaine, methamphetamine, nicotine, and marijuana (Daniels-Witt et al., 2016). Unfortunately, the misuse and abuse of both legal and illegal opiates and opioids have created an epidemic of opioid abuse disorders and opioid related overdose and death. The CDC found that, as of 2016 18 out of 100 Americans have used illicit drugs or misused prescription drugs. This has also led to an extreme increase in death due to overdose, 66% of which have involved opioids (CDC, 2017).

There are several varieties of opioids and opiates. Although they have a very high potential for abuse and addiction, it is important to understand the difference between the two because they have different effects on the body's opioid system. They encompass different classes of analgesic drugs, which are used primarily to treat pain by blocking pain sensations and alleviating pain symptoms. Many natural opiates are from the opium poppy plant's alkaloid compounds. The National Institute on Drug Abuse states that opiates work by stimulating neurotransmitter production in the brain, central nervous system, and gastrointestinal tract ("Opioids Vs. Opiates", 2016). Opiates trigger the release of neurotransmitter chemicals, called endorphins, by stimulating the opioid cell receptor sites in the brain,

central nervous system, and gastrointestinal tract. Endorphins are the chemicals of the body that make you “feel good”. Some examples of opiates are Morphine, Codeine, Thebaine, and Opium (“Opioids Vs. Opiates”, 2016).

The human body is equipped with its own opioid system that regulates pain sensations throughout the central nervous system. Opioids can come in the forms opioid agonists and opioid antagonists. Opioid agonists are produced to have opiate-like effects and can be synthetic or semi-synthetic formulations of natural opiates. Opioids interact with the body’s environment the same way as natural opiates, but synthetic opioids can produce different effects than natural opioids. Some opioid agonists are Fentanyl, Percocet, Demerol, Oxycodone, Hydrocodone, and Hydromorphone. Synthetic opioid agonist compounds can also be used for addiction treatment as a type of drug replacement therapy by producing opioid effects slowly, but without the “high”. Some of the drugs used for opioid-agonist therapy are Methadone, Suboxone, LAMM, and Subutex (“Opioids Vs. Opiates”, 2016).

Opioid antagonists block opioid cell receptor sites to prevent them from being stimulated. These opioid antagonists are synthetic and are useful in helping people who are recovering from chronic opiate addictions, they help reduce risk of relapse in addiction therapy. They work by binding to different opioid cell receptors, so the opioids are unable to bind (“Opioids Vs. Opiates”, 2016; CDC, 2017). These are also used to reverse the effects of opiates and opioids. These are lifesaving in the event of an overdose. Some opioid antagonists are Narcan, Naltrexone, Zynol, Vivitrex, and Naloxone.

#### **Harm Reduction and the Opioid Crisis.**

The most common course of action when dealing with those with opioid use disorders is incarceration followed by forced detoxification while in incarcerated. By the time they are released, those with opioid use disorders have developed a lower tolerance, therefore are at a higher risk of overdose (Jauncey et al., 2017; Daniels-Witt et al., 2017). This punishment-based system has proven to fail to deter drug use and does not convince drug users to seek rehabilitation (Knopf, 2017). A different method of action used to respond to this crisis is called harm reduction, and it has been adopted by some U.S. cities. Harm reduction organizations work to inform members in the community about the crisis and supply the community with tools to help improve the safety of others in their community. New York City, NY; Baltimore, Md; and Chicago, IL are just some cities in the United States where they have established harm reduction programs to combat the opioid overdose epidemic. The Recover Alliance is Chicago’s big harm reduction organization; they have been so successful that their founder, Dan Bigg, was awarded Chicagoan of the year in 2017 (Pollock, 2017).

These areas have turned to harm reduction methods to reduce the negative consequences associated with drug use. Harm reduction is an evidence-based approach to fighting the opioid crisis (Knopf, 2017). Harm reduction programs provide several services for injection drug users and those with opioid use disorders. Some of these services include syringe exchange programs, hepatitis C testing, and referrals to drug treatment centers. The development of opioid overdose prevention programs provide a means to inform others on the signs, symptoms, and risks of overdose. Teaching rescue breathing techniques, how to administer naloxone, and outreach to health professionals on ways

to accommodate and work with those who have opioid use disorders are other options (Klein et al., 2007; Pollock, 2017). Harm reduction organizations aim to provide a safe environment for people struggling with opioid use disorders so that they can make positive changes when they are ready to do so.

### **Naloxone in Harm Reduction.**

Naloxone has been in the spotlight for its success for harm reduction. The use and distribution of take-home naloxone kits have been implemented in 15 countries as of 2016 (McDonald et al., 2016). There have been over 26,000 successful overdose reversals thanks to naloxone. Naloxone is not useful for addiction therapy, rather, it is used in the case of an overdose (“Opioids Vs. Opiates”, 2016; Jauncey, et al. 2017, McDonald et al., 2016). The Chicago Recovery Alliance reversed 4,000 overdoses just in 2017 and has handed out 100,000 naloxone kits in 2017 (Pollock,2017). The opioid antagonist, naloxone, has a fast onset and a short half-life. It takes a few minutes to work when it is administered intramuscularly but can also be administered intravenously and subcutaneously. If an individual is administering naloxone outside of a medical setting, they will usually inject the drug intramuscularly. Medical professionals may prefer to administer naloxone intravenously or subcutaneously (Jauncey et. al 2017). When naloxone is administered, it displaces the opioid on the receptor which reverses respiratory depression which causes death in an opioid overdose. Naloxone cannot be used to achieve a “high”. If it is administered without the presents of opioids, there will be no effect (Jauncey et. al 2017). Most people who use drugs do not use alone, but because of the fear of being arrested most drug users will not call an ambulance or the police. Because of this, naloxone kits in the hands of those who do drugs or have friends that do drugs can save a life. Because of these reasons, naloxone has become a huge success in the harm reduction world.

The World Health Organization encourages that people who are likely to witness an opioid overdose should be educated on how to use naloxone and have it available to them (McDonald et al., 2016). It is rather easy to be trained to administer naloxone. Research has shown that someone with no prior medical experience can be trained in 5-10 minutes to appropriately identify an overdose and intervene (Jauncey et al., 2017). Some signs of an opioid overdose are reduced or shallow breathing, blue lips, reduced responsiveness or unconscious, and small pupils. A very thorough naloxone training would explain the following process: position the person to open their airway, give a few quick breaths if willing and able, call an ambulance, administer the dose of naloxone into a large muscle like a deltoid or thigh, continue rescue breathing, administer additional doses of naloxone every 2-3 minutes until the person starts to wake up (Jauncey et al., 2017). Studies on the consistency of naloxone use after being properly informed have proven to have a positive trend in repeated action (Mcdonald et al., 2016).

### **Increased Risk.**

Opioids have been an increasing issue in the United States, but there are areas and age groups that are at higher risk than the general population. Individuals between the ages of 18-25, the Midwest region, and metropolitan areas have been proven to be at an elevated risk of opioid misuse and overdosed. The Midwest region of the United States has experienced more deaths due to opioid

overdose than any other region in the United States. The Midwest has experienced almost 450,000 deaths due to just heroin overdose in 2013 ("America's Awareness of the Heroin Epidemic 2017; Daniels-Witt et al., 2017). The ages of those most at risk for opioid misuse and overdose is not very surprising. Eighteen to 25-year-olds are commonly in college, starting new jobs, and moving out from under their parents' roof. This is an age range that is typical for risky behavior, and opioid misuse is no exception (CDC, 2017; Daniels-Witt et al, 2017). As of 2014, 4.8 million Americans 12 years-old and older report having used heroin at least once in their lifetime. 4.8 million is the greater than the entire population of the state of Louisiana ("America's Awareness of..." , n.d.).

Based on this data, it appears that college campuses in metropolitan areas of the Midwest region are at an exceptional risk for opioid use and overdose. In addition to these components that make for a target population who is at the highest risk, those who have had or currently has an addiction to other controlled substances also have an increased risk of becoming addicted to opioids. Someone who is addicted to alcohol is two times more likely to abuse opioids. Someone who is addicted to marijuana is three times more likely to abuse opioids. An addiction to cocaine makes you fifteen times more likely to abuse opioids. Someone who is addicted to opioid pain killers is forty times more likely to start using heroin. (CDC 2017).

#### **Addressing the Crisis on Campus.**

Because college campuses have an increased risk of opioid misuse, the country has made steps towards making our college campuses a safer place for everyone. It is very important that college campus faculty, staff, students, and other stakeholders join in the efforts to prevent opiate abuse at the primary, secondary, and tertiary levels of prevention. Between 1993 and 2005, the use of opiates by college students increased 343%, and 50% of college students will be offered a prescription drug for nonmedical use by their second year of college (Daniels-Witt et al., 2017). In 2004, a study of undergraduate students found that 17.4% of male college students and 15.7% of female students admitted to lifetime illicit use of pain medication (DeMaria et al., 2008).

Four years prior to this study, the Drug Addiction Treatment Act of 2000 was passed to allow drug agonist treatment on college campuses for those with opioid dependencies. The Act allows physicians with the certification to prescribe and treat with buprenorphine for the treatment of opioid dependence. Buprenorphine is a partial opioid agonist which can be a substitute for other opioids and suppress opioid withdrawal. Suppressing withdrawal is important because when someone with an opioid use disorder goes through withdrawal their body goes through so much stress and pain that it inhibits people from performing daily tasks and can even cause death. Because buprenorphine is long acting it can be dosed daily. Buprenorphine can also be paired with naloxone to eliminate the possibility of someone diverting it and abusing it to gain a "high". Now buprenorphine can be prescribed by a college health center, unlike methadone, a common drug used for therapy (DeMaria et al., 2008).

A study that explored implementing levels of prevention of opiate/opioid abuse on college campuses utilizing methods that were successful in addressing other forms of substance abuse. By addressing this problem at the primary, secondary, and tertiary stages, other behaviors associated with

opioid/opiate misuse can be reduced as well. This includes the transmission of hepatitis C through the communal use of needles (Daniels-Witt et al., 2017). The Primary stage includes educating of students, faculty, and staff on opiate/opioid misuse, increasing community awareness of addiction disorders, and forming drug addiction prevention organizations for students. The secondary stage includes finding at-risk students through screenings, implementing confidential incidence reports, making referral pathways available, and holding faculty training sessions on how to help guide students to needed services. The tertiary stage includes the formation of an on-campus narcotics anonymous group, trainings on the procedures for overdose emergencies, 24-hour on-campus security, providing trainings for naloxone administration, and equipping campus police and emergency staff with naloxone kits (Daniels-Witt et al., 2017). If these actions are met, there will be an increase in awareness, understanding, help, and safety on college campuses.

### **Presentations for College Students.**

To make a beneficial and engaging PowerPoint presentation to promote harm reduction it is important to make sure that the PowerPoint presentation is engaging and gives opportunities for the participants to interact in the form of “active lecturing”. “Active lecturing” refers to interacting with students while lecturing, and to integrating student-centered teaching methods with lectures, allowing students to become more actively involved in constructing and using knowledge (Inoue-Smith, 2016). To create a successful PowerPoint, create opportunities for students to discuss, answer questions, and demonstrate. Vanderbilt University promotes that successful PowerPoint presentations uses the central executive which combines the phonological loop, visuo-spatial sketchpad, and episodic buffer. The phono-logical loop includes any auditory information, Visuo-spatial sketchpad includes information we see and how its layout, and the episodic buffer combines information across the different senses and communicates with long-term memories (Mcdaniel, 1970).

When designing a PowerPoint presentation, there are some things to try to stay away far. Some of the things to avoid include: too many words on a slide, clip art, transition movements, and too many colors on slides (Mcdaniel, 1970). There are certain aspects of PowerPoints that students genuinely like and believe make presentations better. These beneficial components include: Graphs, bulleted lists to organize ideas, when PowerPoint presentations structure lectures, and verbal explanations of pictures and graphs (Mcdaniel, R. (1970). Verbal explanations of pictures and graphs also allow students to interact and discuss the content with contributes to active learning.

### **Methods**

My goal for my deliverable is to create a comprehensive toolkit that can be used by QCHR on various college campuses to educate college communities about the opioid crisis, how naloxone can be used by ordinary people to save lives, make these communities aware of the risk of opioid misuse among college students, and help combat the stigma associated with opioid dependence disorders. I will achieve these goals by compiling research on opioids and opiates, opioid use disorders, at risk populations for opioid misuse disorders and overdose, and Naloxone to create a toolkit in the form of a PowerPoint that targets college students and faculty. After creating “The College Toolkit to Combat the



Opioid Crisis” I will conduct a naloxone training and opioid education seminar for Junior students and faculty at Augustana College and equip participants with take-home naloxone kits. Finally, I will present the toolkit to QCHR so that they can use it to educate and train college students and faculty in the Quad Cities area.

### **Health Behavior Theory**

The Health Behavior Theory that I chose for my deliverable is the harm reduction method. This method was most fitting for my deliverable and internship because QCHR uses harm reduction as the foundation of their organization and outreach. Harm Reduction refers to policies, programs and practices that aim primarily to reduce the adverse health, social and economic consequences of the use of legal and illegal psychoactive drugs without necessarily reducing drug consumption. Harm reduction benefits people who use drugs, their families and the community (*What is Harm Reduction*, 2010). By informing people about naloxone and making it readily available to the Augustana community, those who misuse opioids can live long enough to decide to make a positive change in their life, and those who have loved ones who misuse opioids can make sure their loved ones remain safe until they choose to make a change.

## **Results**

### **Deliverable**

My final deliverable is a twenty-seven slide PowerPoint presentation that contains charts, educational graphics, information about the opioid crisis and naloxone, a video addressing stigma, and a training on how to identify an overdose and administer naloxone. I created this toolkit to engage college communities and inform them about opioids and opioid dependence disorders. I delivered this toolkit to a group of 26 Junior Augustana students and faculty members. I chose faculty members because they are around students every day, and form relationships with many of their students. I chose Junior students because they will be living off campus next year where most parties occur. Having naloxone present in Junior’s houses, will make off campus houses safer where opioids and other drugs may be present. Having professors equipped with naloxone will make academic buildings a safer place in case students use drugs on campus.

### **Essential Services of Public Health**

Inform, Educate, and Empower People about Health Issues and Mobilizing Community Partnerships and Action to Identify and Solve health problems are essential services of public health that I addressed in my project. My training seminars will educate and inform those who attend on what opioids and opiates are, risk factors of misusing opioids, what opioid overdoses look like, and how they can reverse an overdose and save someone’s life. I will use slides to present my research and information on these topics. This presentation aims to empower those who attend to take action if they see someone who has overdose. If a few members of a community feel empowered to make a difference, they will then go out and tell others about the benefits of learning about the opioid epidemic and carry naloxone, and then hopefully, more people will become interested in carrying naloxone.

By educating the Augustana community, the students and faculty will be more aware of the health issues that have become such a heavy burden on the United States, and specifically, college aged students. If those who participate in recreational drug use, they can be aware of the increase of fentanyl in the areas, and therefore, the increased risk of overdose.

### **Discussion and Next Steps**

After "The College Toolkit to Combat the Opioid Crisis" is presented to QCHR, it can be used as a for training seminars whose participants are college students, faculty members at a college, or the family of those who are attending college. Kim plans on continuing a relationship with Augustana, as well as, expanding efforts to St. Ambrose University. As Kim and QCHR continue to host seminars for these campuses, she can use this PowerPoint presentation to address the Opioid Crisis within College Communities. Since I believe that this is an exceptional place for a senior inquiry internship, I hope that future interns can add onto this presentation or even change it as time changes. I think it would be beneficial for future interns to add more about QCHR and their save and Naloxone distribution statistics. I would love to have future interns use my presentation in a series of trainings held at Augustana, or to implement the training of Residential Life employees on Naloxone.

### **Limitations and Advantages**

I think that my deliverable accomplished most of the goals that I had. Creating and presenting my PowerPoint went very well. I included a lot of information that was not included in QCHR's original PowerPoint presentation. I included info-graphics to help get across more information in a visually satisfying way. Those who attended my seminar were engaged and participated. I was surprised how many people were interested in participating.

Some limitations to my deliverable is that my presentation is best for Midwest colleges. Because I targeted risk factors that relate to the Midwest region of the United States, it may not be as engaging to colleges communities in other regions of the United States. The only other limitation to my presentation is, because the high prices of naloxone in the form of the nasal spray and Evzio autoinjector, the only form of naloxone QCHR can supply to the community is vial and syringe. Syringes may make people nervous, therefore they may be hesitant to use it.

### **Conclusion**

My deliverable consists of two parts. The first part is a toolkit, in the form of a PowerPoint presentation, that both educates participants on opioids and the Opioid Crisis, and a training of how to identify an overdose and administer Naloxone. The second part of my deliverable is presenting my toolkit to a group of stakeholders. The stakeholders I chose were Augustana Junior students and Augustana faculty. I designed my presentation to target college students because a goal of QCHR is to conduct outreach to college communities. QCHR aims to create a safe environment for people who are dependent on opioids and their loved ones, until those who struggle with opioid dependence disorders make the decision to make a positive change in their life at the pace that works best for them. This toolkit is targeted towards college students because of the specific risk factors that are included in the PowerPoint. Training college students on how to administer Naloxone is important due to the fact that

Fentanyl has been cut into drugs such as heroin, cocaine, and Xanax. Recreational drug use is common on college campuses, therefore having students and faculty equipped with Naloxone can make college communities a safer place.

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