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Naloxone Administration by Law Enforcement: Policy and Public Health Nursing's Implications

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NALOXONE ADMINISTRATION BY LAW ENFORCEMENT:
POLICY AND PUBLIC HEALTH NURSING IMPLICATIONS

by

Thomas Stegnicki

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of the Requirements for the Degree of

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Abstract

Opioid overdose has become a public health epidemic, and the use of naloxone by law enforcement personnel has recently become a controversial policy issue. This pilot research project addresses the question of attitudes regarding addiction, overdose, naloxone administration training, and the expanding role of law enforcement in naloxone administration by law enforcement personnel who have been trained in the administration of naloxone to those experiencing an opioid overdose. A comprehensive literature review was conducted relating to the topic of opioid use and overdose and the use of naloxone by law enforcement. The Theory of Planned Behavior was the theoretical framework chosen to guide this project. The methodology used was an exploratory qualitative approach with individual face-to-face interviews as the data collection method. The results are presented and analyzed including findings of a need for “hands-on” naloxone training, perception of empowerment by some officers since being trained to administer naloxone, and perception of empathy for those who overdose, especially toward the younger victims. Recommendations and implications for nursing practice, policy, research, and leadership are presented including a plan for dissemination to nursing, interprofessional stakeholders, and policy makers.

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NALOXONE ADMINISTRATION BY LAW ENFORCEMENT

Background/Statement of the Problem

Opioid use, abuse, and overdose have all recently been recognized as a national public health epidemic. One factor which has contributed to the crisis are the high levels of prescriptions of legal pain medication by health care providers. In 2012, the rate of prescriptions for opioid pain relievers (OPR) was 82.5 per 100 people in the United States (US). Legal prescription of benzodiazepines by health care providers was also high at 37.6 per 100 people (Paulozzi, Mack, & Hockenberry, 2014). For both OPR and benzodiazepines, prescription rates were higher in the Southern states, but the Northeast had the highest percentage of long-acting/extended release (LA/ER) OPR use (Paulozzi, et al., 2014). As of October 2015, over 5.6 million doses of benzodiazepines were prescribed in Rhode Island (R.I.), ranking the state 4th in benzodiazepine use in the United States (RI Department of Health, 2016).

Many individuals start using opioid analgesic as a prescribed medication for a legitimate medical condition related to acute or chronic pain and the use or misuse continues even after the pain subsides leading to a cascade of addiction, dependence, and eventually, sometimes overdose or death (Hill, Rice, Connery & Weiss, 2013). The problem has become apparent across the US, especially in the Northeastern states, including Rhode Island, where drug addiction and overdoses have become a recurring tragedy. The CDC (2014) reports, “Persons in the United States consume opioid pain relievers (OPR) at a greater rate than any other nation. They consume twice as much per capita as the second ranking nation, Canada” (Paulozzi, et al., p.1 para.1, 2014).

Canada and the US recorded the highest levels of opioid consumption globally, and opioid use has risen steadily from 1989-2009. In 2009, the use of opioids in the United States and Canada rose to a staggering rate of nearly 40,000 daily users per million and 20,000 daily users per million, respectively. In comparison, Mexico recorded 85 users per million in 2009 (United Nations, 2011, p.19, para.1). According to the CDC (2014), prescriptions per person for long-acting or extended release (LA/ER) high dose painkillers, such as oxycontin (Oxycodone), were highest in the Northeast, especially Maine and New Hampshire (Paulozzi, et al., 2014).

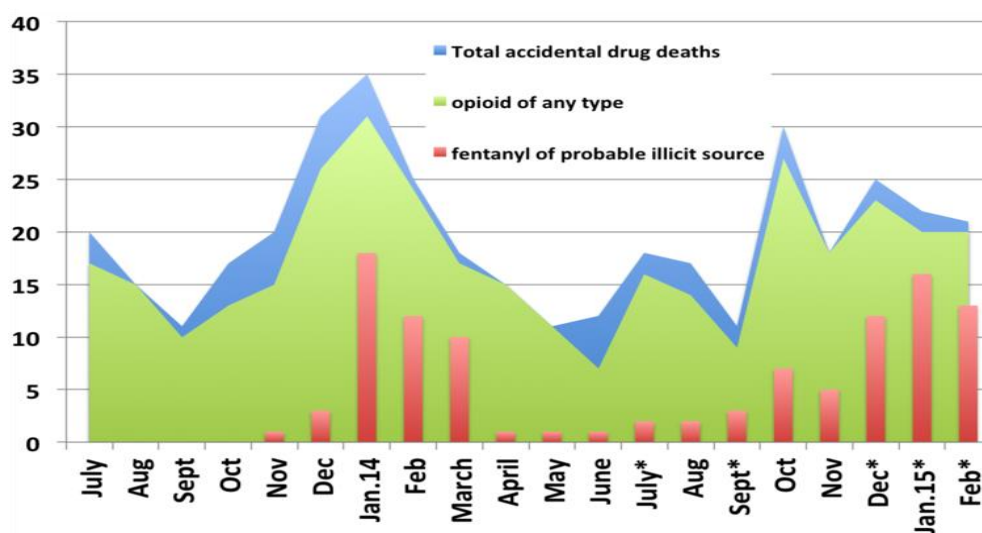
According to the CDC (2016), during 2014, 47,055 drug overdose deaths occurred in the United States. In 2014, 61% or 28,647 of those deaths were opioid-related (including heroin), which is a 200% increase in the rate of opioid overdose deaths since 2000 (Rudd, Aleshire, Zibbell & Gladden, 2016). In a CDC report (2014), LA/ER OPR's were more prone to be abused and more likely to result in overdose and death compared with all OPR together (Paulozzi, et al., 2014).

On a state level, from November 2013-March 2014, twice as many drug overdose deaths were reported in Rhode Island during the same period as in previous years. Most deaths were among those that were considered injection-drug users, and a large percentage involved fentanyl, which is an opioid 50-100 times more potent than morphine (Mercado-Crespo, Sumner, Spelke, Sugerman, & Stanley, 2014). In Rhode Island in 2014, 239 drug overdose deaths took place during that period. Of the 231 cases screened, 208 (90%) were positive for opioid drug and/or opioid medication. Also, 83 (37%) of 225 cases screened involved fentanyl. This affected men and women of all ages and ethnicities from 31 different towns and cities in R.I. and four towns in Massachusetts.

It should be noted that 80% of drug overdose deaths were illicit drug-related in 2015, which is up from 67-70% from previous years. In addition, 50% of overdoses in 2015 were fentanyl-related, which is up from 37% in 2014 and far eclipses previous years, where less than 5% of deaths involved fentanyl (*Rhode Island's Strategic Plan on Addiction and Overdose: Four Strategies to Alter the Course of an Epidemic*, 2015 November 10). See Figure 1 below:

Figure 1.

Rhode Island's Total Accidental Drug Deaths/Opioid & Fentanyl Deaths July 2014-Feb 2015

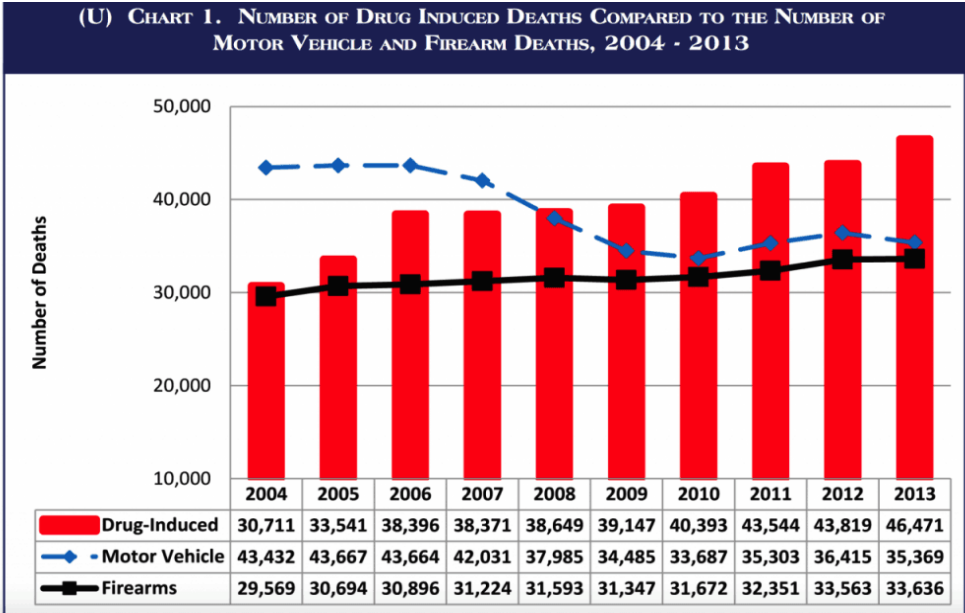


Note. Retrieved from *Rhode Island's Strategic Plan on Addiction and Overdose: Four Strategies to Alter the Course of an Epidemic*. (2015, November 10). RI Governor's Overdose Prevention and Intervention Task Force.

Nationally, during the last decade, hospital emergency department visits relating to nonmedical prescription opioid abuse have more than doubled (Hill, Rice, Connery, & Weiss, 2013). Between 2006-2010, heroin overdose death rates increased by 45%, and currently 110 Americans die each day from drug overdoses, some of which could be

prevented with the use of naloxone by a first responder (AndradeKoziol, 2014). In 2009 and beyond, drug overdose death rates outnumber death rates from gunshot wounds and motor vehicle crashes (Levi, Segal, Fuchs Miller & St. Laurent, 2013). See Figure 2 below:

Figure 2.
Number of Drug Induced Deaths Compared to the Number of Motor Vehicle and Firearm Deaths, 2004-2013



Note. Retrieved from National Drug Threat Assessment Summary. (2015). U.S. Department of Justice: Drug Enforcement Administration.

Rhode Island has the 7th highest drug overdose rate in the country and the highest in New England, averaging approximately four deaths by overdose weekly. From January 1, 2015 – October 1, 2015, a total of 220 accidental, drug-related overdose deaths occurred in R.I. (RI Department of Health, 2016).

In response to concern regarding liability and criminal prosecution by those administering naloxone, the trend of protective legislation has occurred nationwide. In 2010, only four states had Good Samaritan Laws protecting bystanders from prosecution when calling for medical assistance during an overdose. As of February 2016, 36 states as well as the District of Columbia, have enacted some type of 911 immunity law or “Good Samaritan” law that protects the individuals involved in the overdose or those that call to report an overdose (Prescription Drug Abuse Policy System, 2016). This type of protection against prosecution is another measure in the war against overdose deaths (National Conference of State Legislatures, 2014).

Naloxone as a Strategy to Reduce Opioid Overdose Mortality

With increasing numbers of overdose victims, the use of naloxone, an opioid antagonist, has been an effective weapon to help combat this epidemic and has gained widespread support. Policies nationally have expanded the first responder role to include naloxone administration. In an email received by the Rhode Island Department of Health, U.S. Attorney General Eric Holder shifted the paradigm of opioid use and overdose from the traditional law enforcement perspective to a public health perspective. He called for the mobilization of law enforcement as a resource to decrease the number of deaths, stating:

The shocking increase in overdose deaths illustrates that addiction to heroin and other opioids, including some prescription painkillers, represents nothing less than a public health crisis. I am confident that expanding the availability of naloxone has the potential to save lives, families and futures of countless people across the nation (Justice news-Department of Justice, para.1, 2014).

Holder argues that by equipping law enforcement personnel with naloxone and training them in administration to a victim experiencing an overdose, numerous lives can be saved. While there are many pieces to this complex puzzle of addiction and overdose and the solution will be complex and multi-faceted, the importance of preventing deaths from overdose immediately is imperative. Policies which promote widespread access to and training in naloxone administration in critical areas, including law enforcement, are essential to reduce deaths from this crisis.

Literature Review

A comprehensive review of relevant literature between 2006-2016 was conducted using CINHALL, Medline, and PubMed databases. Keywords included opioid addiction, heroin overdose, prescription opioid overdose, naloxone/narcan use, intranasal narcan, bystander narcan administration, law enforcement/police and narcan, first responder and narcan, and law enforcement attitudes. Articles written in languages other than English were excluded.

Opioid Addiction and Overdose

Opioid *misuse* refers to the use of a medication in a way other than how it was intended, while opioid or drug *addiction* is the repeated use of a drug despite the resulting harm associated with the drug use (Hill, Rice, Connery & Weiss, 2013). The term opioid *dependence* can be described as “a pattern of increasing use characterized by significant impairment and distress and an inability to stop” (Hill et al., 2013, p. 31-32). Many patients who are opioid dependent do not seek treatment for their dependence and can be free of associated symptoms of drug addiction when seen by their health care providers, so it is often difficult to identify those in need of rehabilitation (Hill et al., 2013). This delay or lack of drug addiction treatment often hinders or obstructs appropriate drug prevention therapy.

Drug overdose has recently exceeded motor vehicle collisions (MVC's) as the leading cause of unintentional injury death in the U.S. It is estimated that there are over 16,000 deaths per year from opioid overdose, and almost all would be completely preventable with proper administration of naloxone (Davis, Webb, & Burris, 2013). According to research by Horyniak, Higgs, Lewis, Winter, Dietze, & Aitken, (2010), opioid overdose from heroin is fairly common, with some research showing that half to

two-thirds of all heroin users have been the victim of at least one non-fatal overdose in their lifetime, and an even larger proportion have witnessed another person's overdose (Horyniak et al., 2010).

When heroin is injected intravenously (IV), serum concentrations of heroin peak in less than one minute, and within 15 to 20 seconds of administration, the drug has crossed the blood brain barrier. Ninety-nine percent of heroin overdose rates are from the IV use of the drug with the accompanying rapid absorption of heroin resulting in the body's inability to compensate for the powerful effects of this drug (Dixon, 2007).

In addition to prescription opioid use and misuse, heroin has become the "drug of choice" for many, and has resulted in numerous overdoses and deaths. In R.I., increasing pressure has been put on prescribers to limit prescriptions written for opioid dependent individuals, and with the shortage of addiction treatment centers in R.I., this has led to the increase of heroin use (Freyer, 2014). The availability of heroin and its relative low-cost, especially in the Northeast, has led to a thriving illegal drug business and, unfortunately, a growing number of heroin overdoses. In New York City, overdose death rates are estimated at approximately 900 per year, which far exceeds the death rate from homicide (Piper, Rudenstine, Stancliff, Sherman, Nandi, Clear & Galea, 2007).

Naloxone Access and Training for Drug Users and Family Members

One harm reduction naloxone-training program for drug users in New York City was described by Piper et al. (2007). Over a one-year period between March 2005 and March 2006, Piper et al. (2007) trained over one thousand participants in overdose prevention with the program Skills and Knowledge on Opiate Prevention (SKOOP). The participants also received a naloxone prescription by a medical doctor at a syringe

exchange program (SEP) in New York City. Participants included current or former drug users, aged 18 or older. The researchers reported that this naloxone distribution program faced many challenges, which included the need for flexibility as to where the training takes place. For example, they reported that announced training that was to take place in a warm room with coffee and donuts at a prescribed time would see zero participation. In contrast, an impromptu training, outside at a park where a SEP site was in place, could see as many as 25 participants.

The study was designed to study the effectiveness and feasibility of “take-home” naloxone training and showed that flexibility and adaptability in the training of these particular individuals is essential. A political controversy affecting this study stemmed from the general public who view naloxone distribution as an added taxpayer expense and as a way for the drug user to have a “safety-net” with consequence-free drug use. Drug users feared the negative “street-lore” of naloxone or had personal, bad experiences related to receiving naloxone. The authors reported, “Primarily, participants were concerned with the ‘dope sickness’ or opiate withdrawal characterized by shaking, headache, nausea, and vomiting associated with using naloxone” (Piper et al., 2007).

The authors of this study also found it difficult to determine the effectiveness of the training due to the complexity of quantifying those saved as a result of Narcan training during SKOOP. Unfortunately, many of the participants in SKOOP were homeless or runaways and their information was kept confidential. Therefore, follow-up with these participants was unrealistic and data very challenging to capture (Piper et al., 2007).

One recommendation from this study was that the assessment should be brief and administered in a few minutes since participants may be under the influence, unresponsive, or at first unwilling to participate. Therefore, a detailed questionnaire should be avoided. Another recommendation was that the program is completely dependent upon participation from the opiate user and without positive participation, the program will be unsuccessful. Participation depends on feedback and multiple outreach strategies as well as flexible hours for involvement, and all are imperative for the success of the program (Piper et al., 2007).

In a second study targeting opioid users, Jones, Roux, Stancliff, Matthews & Comer (2013) conducted a descriptive study of eighty-four participants in a study designed to learn more about how exposure to training increases knowledge of overdose prevention using naloxone. Participants were recruited through advertisements in newspapers, internet sites, and word of mouth. They were pre-screened through interviews and were required to be current heroin users between the ages of 21-65 years, and able to speak and read English fluently. Forty-four of the individuals completed the questionnaire to test their knowledge of overdose using scenarios prior to and following standard overdose prevention training using naloxone. The control group of forty individuals, who opted out of the training, only completed the pre-intervention questionnaire.

The researchers found that overdose prevention training increased the participants' ability to recognize when naloxone treatment was necessary. The pre-training scores did not differ between the trained and untrained groups, but significant increases were noted in the trained groups' ability to correctly identify opioid overdose.

The education did not, however, improve the participants' knowledge of non-opioid overdose or situations when naloxone should not be used. The study also relied heavily on self-reporting of data and was further limited by its smaller sample size of participants who were not randomly assigned and were allowed to opt-out of the actual training.

Jones et al. (2013) noted that recent research revealed less than 30% of individuals who witness an opioid overdose actually notify EMS because of perceived fear of prosecution. The study suggests that more overdose education could alleviate or lessen such fear and decrease overdose deaths. The study also recommends that further education of drug-using bystanders is needed so that they will notify Emergency Medical Services (EMS) during an overdose emergency (Jones, et al., 2013).

Training family members has also been studied as a way to decrease deaths from an opioid overdose. Williams, Marsden & Strang (2013) conducted a non-blinded, randomized controlled trial of family members who were trained in the administration of take-home naloxone. This study began with 162 participants, 87 in the experimental group and 75 in the control group. This study utilized a two-group, parallel-arm, non-blinded randomized controlled trial. The control group was given information only and received no follow-up assessment. The experimental group was provided information as well as follow-up assessment immediately post-training and at three months. All participants were family members of heroin users, either by marriage, as partners, siblings, or a parent. Two-thirds of the sample had contact with the opioid user on a daily basis or resided with them.

Participants in both groups had similar levels of knowledge and attitudes regarding opioid education based on their family history of living with a heroin user. As

a result of the training, the experimental or training group showed a greater increase in knowledge after the intervention. The control group had an 11% increase in knowledge relating to opioid overdose, while the trained group had a 35% increase in knowledge.

Attitude about managing an opioid overdose was also measured in this study. The control group had a 30 % increase in positive attitude, while the trained or experimental group showed an increase of 54%. At the three-month follow-up, 13 participants had been a witness to an overdose (six control group; seven experimental group). Two participants from the experimental group had administered naloxone to an overdose victim, and none from the control group had administered it. Naloxone was administered in two-thirds of these overdose cases, mainly by ambulance personnel, but also by the two individuals from the trained group (Williams, et al., 2013).

This study demonstrates the importance of training family members in naloxone administration. The increase of 30% in positive attitude of the control group versus the increase of 54% of the trained or experimental group shows how naloxone training can be an important tool in the overdose epidemic. A limitation of this study is that so few of the trained family members actually used naloxone on a victim. However, two individuals did report using it correctly, and this was considered a significant finding. The authors stated, “Although these numbers are small, they document descriptions of emergency naloxone administration by non-medical personnel” (Williams et al., 2013, p. 257).

Naloxone and Law Enforcement

The administration of naloxone by law enforcement is a relatively new concept which has gained momentum as a response to the overdose crisis. Burke (2012) states,

“Law enforcement is many times the first emergency agency on the scene of an overdose, and often they are the ones who have summoned medical aid to the scene” (p. 58).

Following Attorney General Holder’s call to action, many cities around the country are slowly adopting new policies, procedures, and training for their officers. The city of Quincy, Massachusetts has been equipped with and using naloxone since 2010. As of July 2013, they had used narcan 179 times, reversing the effects of opioids 170 times, a 95% success rate (Zezima, 2014).

Rhode Island State Police have been trained and equipped in naloxone administration since May of 2014, and the Providence Police Department began in July of that year. As of April 2015, eight law enforcement municipalities in R.I. had been trained to administer naloxone as part of their job. On February 16th, 2016, naloxone had been distributed to all law enforcement Police Chiefs through the Governor’s Office and the Rhode Island State Police in a joint venture with the Office of the Attorney General of R.I. Because law enforcement personnel administering naloxone is a more recent trend, only one study directly related to naloxone and law enforcement was identified.

Green, Zaller, Palacios, Bowman, Ray, Heimer & Case (2013) conducted a study of the attitudes of law enforcement personnel towards overdose victims, prevention, and response. This study used qualitative interviews of 13 law enforcement personnel of varying rank, from police chiefs and senior ranking police officers to detectives, narcotics investigators, community policing officers, and patrol officers. Until this study by Green et al. (2013), no studies were located to date relating to law enforcement attitudes about overdose prevention and response. Through the interviews in this study, it was suggested that law enforcement personnel are empathetic to these overdose victims, but often feel

conflicted in the role as a public servant and dealing with an illegal drug issue. “Officers felt there was little they could do to counsel drug users about their drug use; instead, arrest was viewed as the best tool to help them” (Green et al., 2013, p. 679).

Green et al. (2013) reported that police officers described a desire to get more involved in the public health crisis of overdose prevention. Police in this study recognized the need for help with this problem, and suggested that training and education of officers was important. They differentiated between opioid users as “legitimate prescription” versus “addict.” The participants described carrying naloxone similar to knowing CPR or carrying an AED for a police officer. One officer described building a relationship between the police and an overdose victim. He reported using this follow-up connection as a means to train law enforcement, survivors and witnesses and prevent overdoses while improving community police relationships (Green et al., 2013).

Some of the findings and limitations of this study included lack of job satisfaction or generalized “burn-out” associated with those employed in public service. Also, negative attitudes directly related toward drug users were identified. This study noted that experiences with overdoses by law enforcement personnel were spontaneously reported and were not elicited by the interviewers. The fact that law enforcement personnel are often the first medical responders on-scene, yet there is a lack of clarity as to what they can or should do at the scene of an overdose (Green et al., 2013), was discussed.

Theoretical Framework

The Theory of Planned Behavior (TPB) was used as a theoretical framework to explore the phenomenon of attitudes and behavioral beliefs of law enforcement personnel. TPB is an extension of the theory that was initially known as the Theory of Reasoned Action (TRA) developed in the late 1960's by social psychologists Icek Ajzen and Martin Fishbein (McEwen & Wills, 2011). A central concept of TPB is an individual's intention to perform a given behavior. Intentions are assumed to influence behavior and indicate how much effort an individual is planning to exert in order to perform a certain behavior (Ajzen, 1991). McEwen and Wills (2013) note, "Beliefs are formed about an issue/object by associating it with all kinds of characteristics, qualities, and attributes" (p. 293). These beliefs directly affect both the intention and the subsequent behavior .

TPB assumes that knowing a person's attitude relating to a specific behavior can predict that behavior. Behavioral beliefs, normative beliefs, and control beliefs are the three main concepts in the model, which impact upon the intention. Intention then impacts upon behavior. Behavioral beliefs represent the person's perceived beliefs about the outcome of a particular behavior. Normative beliefs represent the individual's perceptions of social pressures. Control beliefs represent perceptions about barriers and facilitators of the behavior. These three concepts impact the intent of the individual to perform the behavior and then the actual behavior (Ajzen, 1991).

In the case of law enforcement personnel and naloxone administration, behavioral beliefs about the role of law enforcement in relation to a person who has been under the influence of a controlled substance or who has suffered an opioid overdose may predict

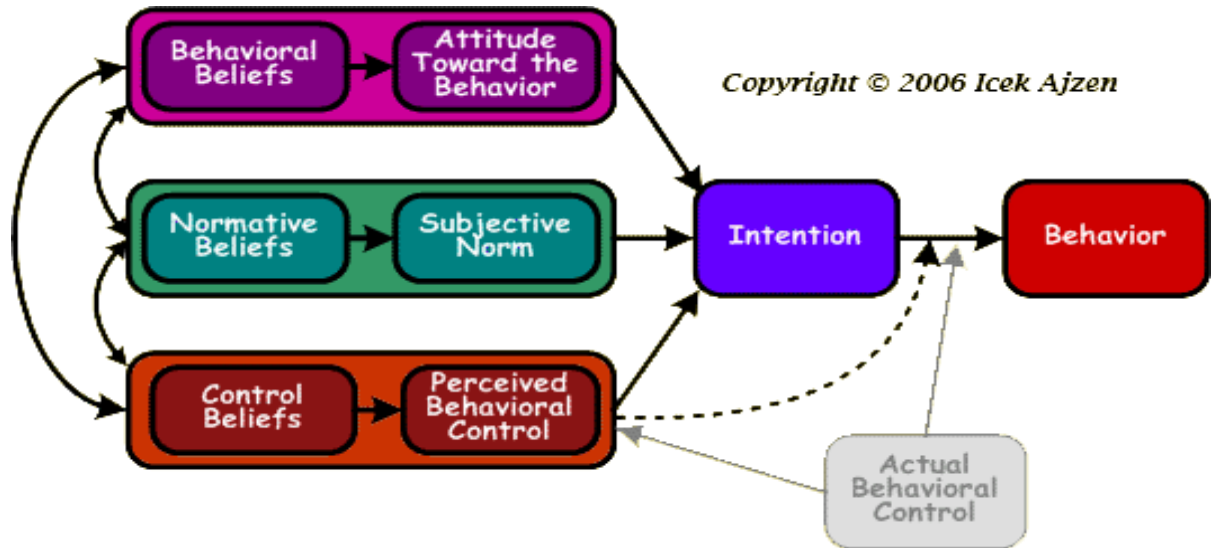
the behavior of the law enforcement personnel toward that individual. It may also predict acceptance of expanded roles which may be contrary to traditional roles. Ajzen & Fishbein (1977) posit that a person who holds a favorable attitude towards an object or person will respond in a favorable manner or behavior, while a person holding an unfavorable attitude will like-wise respond unfavorably. Social pressures affect how a person will behave or perform, and often a person will behave how they are expected to behave based on social norms (Ajzen & Fishbein, 1977).

In the case of law enforcement responding to overdoses with naloxone, officers are socialized and trained to view opioid use and overdose as a public health issue and naloxone administration as in the scope of practice of a police officer. The social norm would shift, and therefore shift the intention and behavior of law enforcement personnel toward acceptance of the new expanded role depending on expectations and the social environment. Control beliefs may include barriers to implementation such as confidence, and facilitators such as training and success in administering naloxone saving the life of an overdose victim.

The Theory of Planned Behavior has been used in the past to describe or predict attitudes, behaviors, and changes in behavior. TPB is an important tool and was used in this study as a way to understand the attitudes of law enforcement personnel who have been trained in the use of naloxone and trained to recognize and treat someone suffering from a drug overdose. TPB influenced and directed this research in relation to how attitudes of law enforcement can predict behavior. The theory is depicted below in Figure 3.

Figure 3. Theory of Planned Behavior (Ajzen, 2006)

Theory of Planned Behavior



Method

Purpose

The purpose of this study was to explore attitudes about addiction, overdose, naloxone administration training, and the expanding role of law enforcement in naloxone administration by law enforcement personnel who have been trained to administer intranasal naloxone for individuals experiencing an opioid overdose.

Design

An exploratory, qualitative design was used for this pilot study to address this research question.

Sample

The study sample participants were Providence Police Officers who had been trained in the administration of intranasal naloxone for individuals suffering an opioid overdose. Currently, 475 Providence Police Officers work for the City of Providence. As of July 2014, the policy of the Providence Police Department became that all officers would be trained in and equipped with naloxone. The pilot sample included six police officers trained in naloxone administration currently employed as police officers by the city of Providence.

Site

The location of the interview was dependent upon the choice of the participant and included the workplace, a library, and coffee shops.

Procedures

Rhode Island College Institutional Review Board approval was granted. A memo of understanding (MOU) was obtained from the Providence Police Department, which provided approval for the project (See Appendices B & C). Six current, active members

of the Providence Police who were trained in the administration of naloxone in the event of an opioid overdose comprised the study group. With permission from the Providence Police Administration, an email was sent out to the entire Police Department asking for volunteers to participate in a study related to naloxone administration (See Appendix D).

Privacy was maintained by excluding names and by assigning random numbers to the six anonymous, voluntary participants. They were provided a handout concerning their participation in the research study and an opportunity to opt-out of the study at any point (See Appendix E). Participants were interviewed one-on-one by the researcher asking open-ended questions regarding their attitudes about those experiencing opioid addiction and overdose, their job role providing naloxone to individuals who have overdosed, and their training in naloxone administration. Responses were recorded by written notes, which were expanded upon and analyzed immediately following each interview.

The interview duration was between 30 and 60 minutes based on the participants' responses. Questions included only demographic information such as age, sex, and length of time as a Providence Police Department officer. No further demographic questions were asked to protect the identity of those responding. Exploratory questions were asked in an open-ended manner and included the following topics: perceptions of naloxone administration by law enforcement; perspectives on people living with addiction; perspectives on addiction, treatment, and recovery; impact of naloxone training on the interaction with families of overdose victims; perception of the impact of naloxone on work role; perception of naloxone training; concerns about naloxone administration;

administration of naloxone by participant officers; and perception of evolution of the role of law enforcement. The full Interview Guide is available in Appendix A.

Measurement

The desired outcomes for this project were increased understanding of the attitudes that law enforcement personnel who have been trained in the administration of naloxone have regarding addiction, overdose, naloxone administration training, and the expanding role of law enforcement in naloxone administration. The responses were clustered and categorized using the interview questions according to themes and then analyzed. Descriptive results were summarized and provided information and ideas about how to best translate participant data into action for mortality reduction strategies.

Anticipated Timeframe

The data collection began in April 2015 and was completed in February of 2016.

Organizational/Systems Factors

One potential barrier was the small number of participants. Only six Providence Police Officers volunteered to participate in the pilot study. Busy schedules and reluctance for fear of retribution might have been potential barriers to a larger sample pool. Some of the enabling factors related to this project are that it is a topic of interest to these law enforcement personnel involved as well as to public health professionals who view them as a vital link to preventing overdose-related mortality in the community. The face-to-face individual interview methodology encouraged participation since officers could share their views with an outside confidential source without others knowing what their responses were. The researcher being a Providence Firefighter who works on the rescue also provided credibility and trustworthiness which allowed for a more

comfortable rapport with law enforcement personnel based on the researcher's own knowledge, background, and experience. This may have allowed the ability to gain entry and elicit responses which other researchers may not have prompted the participants to reveal.

Desired Outcomes

The desired outcome was for the interviews with the six participants who were Providence Police officers and trained in naloxone administration to contribute to the understanding of the attitudes, beliefs, and concerns of law enforcement personnel administering naloxone as part of their role as a police officer.

Ethical Concerns

The main ethical concern was protecting the privacy of the participants. The sensitivity of this particular subject and attitudes by law enforcement can be quite a personal and private topic. A participant's fear of reprisal for "compromising answers" may be alleviated by the acknowledgment that their anonymity will be maintained.

Data Analysis

Analysis of the interviews was organized and structured so that meaning could be elicited from the data. Findings were grouped according to interview questions. The data was evaluated and recurring themes were analyzed and discussed. This was an active and interactive process, utilizing reviewing and re-reading data to elicit the meaning of the information (Polit & Beck, 2012). It also involved sharing interview data and analysis interpretation with a graduate faculty advisor who has experience in qualitative research and validating interpretation of analysis. Identifying the attitudes and beliefs of law enforcement personnel who have been trained in the administration of naloxone was

interpreted to benefit future training and education programs for other law enforcement personnel.

Plan for Dissemination

A summary of the pilot study as well as implications and recommendations was disseminated to the Rhode Island College community as an oral podium PowerPoint presentation. In addition, a manuscript which describes the findings and implications for population/public health nursing is being developed for publication. This will provide a catalyst for public health nurses and other stakeholders to impact upon policies influencing overdose-related mortality in Rhode Island and nationally. Results will also be shared with Brown University public health researchers who are doing similar research projects and with law enforcement leaders. In addition, as described when the interviews took place, the findings will be sent out to all law enforcement personnel who participated in the research.

Results

Demographic Characteristics

A total of six Providence Police Officers participated in this exploratory qualitative study. At the time of the interviews, the participants had been employed as Providence Police officers for a range of 5-19 years, with a median of 13.83 years. Five of the six participants were male, and one was female. Other demographic information, which might identify participants, was avoided in the interviews in an attempt to reduce the perception of threat to employment and improve the comfort level of officers in providing truthful responses.

Perceptions of Naloxone Administration

The six participants were asked about their perceptions of the increasing expectation that law enforcement carry naloxone. Five of the six participants agreed that it was a “good idea” for law enforcement to be trained and equipped to administer naloxone. One participant stated, “I think it’s a good idea. We’re the first ones on scene, and it’s a good idea that we have it when responding to these overdoses.” Another respondent noted, “I think it’s a reasonable expectation. We’re first responders and we beat the fire department to the scene.” A third respondent noted the additional responsibility and potential negative outcomes that accompany its use. He stated:

There is little extra responsibility carrying it (Narcan). It does work; I witnessed it. I worked narcotics prior to coming back as a patrolman, and seen (sic) it in use. The victims are not too happy to be brought back sometimes.

Another participant responded that he believed that law enforcement should be equipped to use naloxone, but would have liked more comprehensive training. He stated, “I agree

about carrying it, but training was insufficient. We should carry it (Narcan), but training was poor.”

The one respondent who disagreed that law enforcement should be responsible for naloxone administration reported that he believed it was out of the scope of their role. He stated, “I feel we shouldn’t carry Narcan. We aren’t trained in medical things at all. I’m not a doctor or physician, I don’t have any medical training.”

Perspectives On People Living With Addiction

The six participants were interviewed about their thoughts and perspectives regarding people living with addiction who might need naloxone rescue. In response to being questioned about whether they had personally been impacted by the addiction of friends or family members, four of the six responded positively. When the four who responded that they had been personally affected by addiction because of family or friend experiences were probed about how this impacted them “on the job,” the participants varied in their responses. One respondent expressed empathy for individuals who have overdosed, stating that law enforcement using naloxone on overdose victims “is positive, because it can happen to anyone, and it is not always intentional. People don’t always have control of their problem and can have an unintentional overdose.”

Another respondent who also had family or friends affected by drug addiction was more mixed in his reaction. He stated that his response to overdose victims “depends on the individual.” He stated, “If it’s a person who OD’s a lot, I have no sympathy for them. If it’s someone who just made a mistake, then I feel bad.” A third respondent reported that his personal involvement with friends or family members who have addiction issues give him a greater stake in his role. He stated, “it makes me more passionate about the

problem. It's like I think about if it was my family member." Lastly, another respondent who expressed that he had a friend or family member who had addiction issues stated that he would remain objective despite this experience. He stated, "This hasn't really impacted me. I would respond the same way regardless of my experience with my family or friends."

Perspectives On Addiction, Treatment, and Recovery

The six police officers participating were asked to describe their views on addiction recovery or treatment and how this has influenced their perceptions on the new policy for law enforcement to carry naloxone. One participant remarked on the poor quality of available programs and the lack of accessibility for individuals living with addiction. He stated:

I don't see people in treatment and recovery too often, but I don't think treatment and recovery programs are good enough. I think the recovery programs are horrible and there aren't enough to meet the needs. I think carrying Narcan is good because of the poor recovery programs.

Another participant reported that he had experience with individuals who manipulated the system and were not authentically in treatment. He stated:

I give them congrats if they are in recovery, but if they are just there to get out of jail.... Some people go into recovery to get out of going to jail. You can only give someone so many chances.

Another officer shared this perspective, noting:

People downtown that I deal with seems like a revolving door. We get this kid 'Johnnie' that we 'dried out' for 90 days, and he used 'monkey weed' day he gets

out of jail. Day he got out of ACI-first thing he did after getting out of jail.

Homeless kid. Bought the weed in Coventry.

Another participant reported feeling more comfortable carrying naloxone particularly for those with heroin addiction who may have difficulty staying in recovery. He noted, “I think heroin abuse is a challenge. I feel more comfortable about liability concerns about carrying Narcan. I had concerns about liability before.” The last participant expressed understanding of the complexity of the disease and that relapse is part of the chronic nature of addiction. This officer noted, “I think any attempt to get help is good... People have slip-ups and relapses. There are other contributing factors to a situation and not necessarily just drugs.”

The six participating police officers were asked open-ended questions about their role in overdose prevention, including drug treatment. Five of the six respondents did not view overdose prevention as within their role in law enforcement. These officers believed that their job was based on “stopping drugs before they hit the streets. Police don’t have much influence in prevention. We’re involved in getting illegal drugs off the street and not necessarily involved in overdose prevention.” One participant expressed the lack of perceived power for law enforcement to prevent overdoses, particularly for heroin, stating:

There is no way for us to prevent it. There is no specific ‘type’ of person on heroin. Every class/creed of people using now. I had a guy in a suit- banker type- in drug overdose. He looked like a CEO having a heart attack. New York City just had a big drug bust worth 50 million dollars. That’ll affect New England.

One participant who had been a police officer for 19 years described the evolution of the role of law enforcement in relation to the needs of society. He viewed the role of law enforcement broadly, stating, “We are public servants and our roles are changing over the last 19 years of me being in the department.”

Participants were probed about their knowledge of and experience with drug treatment including methadone and buprenorphine (Suboxone). Four of the six officers interviewed saw methadone/buprenorphine treatment in a negative or ineffective light as noted by their statements. The respondents demonstrated skepticism regarding these treatments for opioid addiction, stating, “...I believe it’s more of a replacement. It gets the job done, but I don’t agree with it. It’s not a cure, just a replacement.” Another participant referred to misuse of buprenorphine, stating, “I know they’re abused. I know what they get on ‘Black Market’ for it. There’s a big market for it on the streets. Suboxone is huge.” A third officer also reported his perception that the methadone and buprenorphine were not effective. He stated, “I know it’s used as an opiate substitute and my experience is that it’s not as effective, and people supplement with narcotics.” The fourth participant expressed experience with people living with addiction who manipulated the system, using methadone in addition to illegal opiates. He stated:

Some people do abuse methadone. I see them in the morning getting methadone and then at night they’re buying drugs. Sometimes they just use ‘meth’ (methadone) ‘til their next fix. These programs don’t always help. People have to want to be helped.

The remaining two participants did not report having strong opinions or experience with opioid replacement treatment. One officer stated he thought prevention was important,

but was not familiar with methadone treatment. Another officer stated, “I just know they go to CODAC for treatment.”

Interaction With Families of Overdose Victims

The six police officers were asked how they viewed family on-scene with an overdose victim and if and how their view has changed since participating in the training. Four of the six participants felt that their interaction or view had not changed regarding family members since participating in the training. One participant noted that although he felt no change had occurred in how he felt or dealt with family members, he could “understand how they get upset.”

One participant responded that his view had changed since training, and he described one incident in which a father was trying to get his son into “rehab” after Police responded to an overdose incident. He stated that the father felt hopeless in dealing with his sons’ addiction problem, and that he felt great empathy for the family. The officer felt that the increased amount of drug overdoses has increased his interaction with victims’ family members. The other participant who reported that her interaction with family members had changed following the training stated that she was “more aware of family members (being present during an incident) now, and they (family members) have more knowledge about Narcan.”

Perception of the Impact of Naloxone on Work Role

The six Providence Police Officers participating were asked to reflect upon the impact that being equipped with naloxone had on their everyday work role. One officer expressed concern that the increase in responsibility for medical intervention was a role that he was not prepared for. He stated,

It puts us in a tough spot when we show up on-scene with an unconscious victim. Now we have to assess the situation and see if it's an OD or heart attack or some other medical problem, and I don't have enough medical knowledge.

Another participant reported an improvement in the quality of his everyday work since he now had the power to act to save a life rather than waiting for rescue to arrive. He stated, "Now we have the ability to save someone's life instead of watching them die and waiting for rescue. If we didn't have it, more people would be dead." Another officer reported that it had become habit for police officers to use naloxone as an intervention as compared with when it was first introduced to the department one year before. He stated, "Now officers are more likely to grab Narcan and use it. Initially, officers weren't grabbing Narcan right away. There is more consideration by officers to grab it and use it on-scene."

The fourth participant did not find that the naloxone had increased his job demands. He reported, "I just need to judge when to use it, it hasn't changed my work load necessarily. It's just another tool to assist us." The last two remaining officers stated that the new policy had not affected their everyday work role.

Perception of Naloxone Training

All officers reported that they had participated in Narcan training. The six Providence Police Officers participating all concurred that they would benefit from improved training. Four were very critical of the training. One described it as "extremely inadequate." The second reported that it was "lousy training-terrible training. No hands-on training, just a 1-2 minute video. (There was) no training on effects of Narcan after administering it." The third responded, "It was a joke. I watched a 2-2 1/2

minute video. Yeah right, I'm trained. Think about the liability." A fourth participant concurred that the training was not detailed enough. He stated that the training was too "simple" on "when to use it or not use it. It was a video on the computer." The above four respondents all reported that they felt unprepared to administer naloxone based on the training they received.

The remaining two participants believed that the training prepared them sufficiently to administer naloxone. One reported that the training could be improved. He stated, the training was, "...nowhere near good enough or detailed enough; ... I could do it (administer naloxone), but training could have been better."

The sixth officer had received an additional "Train the Trainer" class at the Municipal Academy and had become an instructor for Narcan administration. The researcher requested that this officer respond based on the baseline initial training all officers participate in rather than the expanded training. This participant stated that she believed that she was "reasonably prepared" to administer Narcan following her training. She stated that the Narcan "applicator itself is a little confusing, but administering (Narcan) is self-explanatory."

All six of the respondents were unanimous in indicating that the training would have been improved with in person demonstration by trainers and return demonstration by the police officers being trained. One stated that some type of "physical training or hands-on training would have been better." He went on to say that actually touching the equipment along with explanations of what to expect would have improved confidence in his ability to perform in real circumstances. He stated when asked what would have

improved the training, "...handling the equipment..., have someone tell us what happens when they wake up."

The second respondent remarked that it would have been better "if it was shown to me by a human or physician or doctor. More hands-on, but the box was self-explanatory." A third participant noted that a "classroom setting" and a "visual aid" to show how to administer the nasal spray would have been more helpful. One stated that the "video was ok, but more hands-on would have been better."

The participant who had attended a "Train the Trainer" seminar on naloxone administration had two recommendations for improving the program based upon her experience. She joined the other respondents in recommending that the training should be done "in-person with more hands-on." She also recommended training which provided that "more understanding about addiction and the people involved in addiction," which would increase compassion for the victim. This officer had seen an HBO documentary, which she believed to be of value for training. She stated, "For me personally, I watched this HBO documentary about heroin use on Cape Cod. It was some very powerful info. We should use that video in the Academy or use it for training."

The officers were asked to describe what they would typically have done during an overdose case before receiving training for Narcan administration. In all six cases, they stated they would have called Fire/Rescue Personnel to the scene. One person stated they would "assess the situation and call rescue." Another stated, "assess if CPR is needed, and call rescue."

When asked about what had changed since training in terms of their knowledge, attitude, and behavior, three of the six reported positive outcomes in their ability to

respond. One respondent noted that, “Now we call rescue, but we also investigate more and see if the illness can be treated with Narcan.” Another participant responded that, “I know that I have the ability to save a life without a rescue on-scene.” The third participant felt that his knowledge, attitude, and behavior were, “still the same, but I can administer Narcan faster. We still call rescue and it’s one more step in-between.”

Two other participants felt there was “no change” in their knowledge, attitude, or behavior, while one of the two commented that she had “more empathy, cause it affects younger people.” One respondent reported more perceived stress and lack of confidence in his ability to manage the added responsibility. He stated, “I have to assess the situation more now with my limited (medical) knowledge. How do I know if it’s a stroke or an overdose?”

Concerns About Naloxone Administration

When asked about any concerns they had about naloxone administration during the course of their work, the participants expressed some issues that caused them concern. Several participants noted that while they had agreed that law enforcement should be trained and equipped with naloxone, that they had concerns about safe storage in terms of temperature. Some officers noted that the Narcan was kept in their trunk or glove compartment, and they were apprehensive or unsure regarding proper temperature storage for the drug.

Two of the six participants had expressed that initially they were worried about potential lawsuits. One officer stated, “Once we realized we weren’t liable to give it, I felt better. I’m glad we couldn’t get sued.” Another participant commented about concern regarding liability as well, but reported being “less worried now.”

Administration of Naloxone By Participant Officers

The researcher asked participants if they had administered naloxone in the course of their work and how confident they felt in the process. Two of the six respondents had used naloxone on overdose victims. One of the two who administered the naloxone stated that he did not feel confident while the other stated he felt confident once he had put the Narcan applicator together. One officer described being first on-scene with an unconscious victim on a Rhode Island Public Transportation Authority (RIPTA) bus. He said a Fire Department Engine Company arrived, and

...between me and "fire," we figured out how to use it, and I administered it – he woke up in 2-5 minutes. I felt uncomfortable putting it (Narcan) in the patient. The patient punched a firefighter in the face after waking up and walking off the bus. The patient ended up under arrest for assault, and I had to stay with him throughout his hospital stay.

He also stated, "I needed 2 officers on hand to give Narcan; they didn't tell us that in the training." This officer felt like he needed "extra help" when responding to an overdose "to deal with the victim after he was given the Narcan." The officer stated that an "extra set of hands is helpful."

The second officer who reported administering naloxone stated that after he had administered the naloxone, the patient had not awoken after initial dose. He said, "I gave him a second dose 20-30 seconds after I gave initial dose, and then the Fire Department came on-scene." This officer commented on the response of this overdose victim, when he was awakened from his overdose with naloxone. He reported that the patient said to him, "Hey cop, I know you were the one who put that up my nose, and people die

everyday. I wish you hadn't given it to me; I was prepared to die." When asked his response to the overdose victim, the officer stated that he responded to the patient, "Buddy, hopefully now you have a second chance."

The six participants were asked about any education or training that might have improved their confidence in administering. One officer who had administered naloxone made the following recommendation:

A complete overhaul of the training is needed. A re-vamp of the training so guys would feel more confident. We need to know the after-effects, after giving it. Isn't there supposed to be some kind of measuring 'medical stuff,' or monitor vital signs after Narcan is given? We don't have that capability; we don't have any of that stuff.

The other participant who had administered naloxone in the field stated he would have had improved confidence had he been "shown by a doctor and had hands-on training."

The other four officers who had not administered naloxone repeated the need for "hands-on" training.

Perception of Evolution of the Role

The six participants were asked to describe their perception of how the role of law enforcement in responding to drug overdose victims has changed over time. One respondent stated that in spite of initial reluctance, he was in support of the policy:

I think it's good cause (sic) we can get there fast, and time is of the essence... It has opened my eyes and I see how bad the problem really is... (Law enforcement is) being made to get directly involved (with the overdose problem) and being made to be Narcan trained and no longer just call for EMS/Fire.

One participant stated that his view had changed over time, "...Since I saved the guy, I feel more confident with anyone with a drug overdose. (You) just need to be prepared for the violence after they wake up. Carrying it and using it has changed my mind. I would not hesitate to use it again and I would use it again if necessary." Three of the participants noted that they were "first responders" or "first on-scene" and were often in a position to be able to administer naloxone more quickly than medical first responders.

One participant described the view of law enforcement as supplemental to medical first responders, rather than replacing them. He stated that law enforcement administering naloxone, "should not replace medical treatment. Even if we give Narcan; we still want and need the Fire Department to come."

The participants' perception of the general environment of the Providence Police Department was explored with the six police officers. One officer stated, "The majority of police are happy to be able to carry it, and we can save someone. You get to know people on your beat and sometimes they're having a bad day." Another commented on the increasing numbers of overdose victims which he believed changed the overall environment in society and the police department. He stated, "We recognize heroin use is more prevalent, and we have more contact and more interaction. (There are) so many more encounters, and opinions change with more encounters." The third participant concurred, noting, "(It is) more commonplace now and it's become a regular issue/encounter. It's become an everyday occurrence now dealing with addiction and overdose."

Successful administration and rescue of a victim has stimulated interest by other officers. One officer reported that he had been approached by others since he had

administered naloxone to teach them more about it. He stated, “I had several cops ask me how to use it, and that they tell me they want to know. These three cops cared enough to ask me how to use it because they knew I had used it.”

One participant related changes in the age of victims to a younger population as influencing the general attitude of police department officers. He stated, “A lot of officers are taking more time with them (younger victims), and trying to help them and encourage them more because they’re so young. They gotta wanna (sic) though.” Another officer noted that, “Younger and younger kids are addicted, 15,16,17-year-olds hooked on heroin.” This officer also stated, “Young people have a chance to recover. There is a way out for them. We (police) feel (these) younger people addicted or overdose have a chance, and we spend more time with the younger victims for a way, we feel there’s a way out for them.” A third respondent stated, “Seeing these younger users is worse, it’s just so concerning. They’re so young.”

In relation to communication by police officers as being indicative of underlying values and attitudes, the participants were asked if they perceived changes in how overdose victims were spoken about by police officers. Five of the six participants reported that there was no change in the way law enforcement talks about overdose victims. One respondent said that his perception was that there was a positive shift in attitudes in the police department, adding, “Narcan training makes people more educated. It used to be people on cocaine or crack when I first got on the job, but now its heroin.” Another officer did not think that the training influenced attitudes, stating, “Training was just based on Narcan. Everyone’s perspective is different; not anything to do with training.”

Summary and Conclusions

The purpose of this research study was to explore the attitudes about addiction, overdose, naloxone administration training, and the expanding role of law enforcement in naloxone administration of law enforcement personnel who have been trained in the administration of naloxone to those experiencing an opioid overdose. Study participants included Providence Police Officers who were trained in the administration of intranasal naloxone for individuals suffering from an opioid overdose. The pilot sample included six police officers who had been trained in naloxone administration and who were currently employed as Police Officers in Providence, Rhode Island.

An exploratory, qualitative design was used and the data was obtained via anonymous, voluntary interviews. With permission from the Providence Police Administration, an email was sent out to the entire Police Department recruiting volunteers to participate in a study related to naloxone administration. Six participants were interviewed face to face individually. Questions included simple demographic information such as age, sex, and length of time as a Providence Police Department officer.

In addition to demographic information, participants were asked open-ended questions regarding their attitudes regarding those experiencing opioid addiction and overdose, their job role providing naloxone to individuals who have overdosed, and their training in naloxone administration. Other related exploratory questions were also asked in an open-ended manner and included the following topics: perceptions of naloxone administration by law enforcement; perspectives on people living with addiction; perspectives on addiction, treatment, and recovery; impact of naloxone training on the interaction with families of overdose victims; perception of the impact of naloxone on

work role; perception of naloxone training; concerns about naloxone administration; administration of naloxone by participant officers; and perception of the evolution of the role of law enforcement. Responses were recorded by written notes.

The Theory of Planned Behavior (TPB) (Ajzen & Fishbein, 1977) was used to guide this study. This theory facilitated understanding of the attitudes of law enforcement personnel who had been trained in the use of naloxone. The Theory of Planned Behavior guided this research as to how attitudes of law enforcement can predict behavior and impact overdose outcomes positively.

The most significant finding of this study revealed that they would have benefited from changes in the training methods. The short video that they watched was not sufficient to prepare them for naloxone administration. Feedback about the training included recommendations that the training should include a hands-on portion and live demonstration from an expert or medical professional. It was also suggested that the trainees handle the equipment and have explanations as to what to expect with an overdose victim in order to improve confidence in their ability to perform in real circumstances. Other recommendations were that a classroom setting and uses of visual aids would have enhanced the training. Expanding the training beyond the technical aspects of rescuing victims from overdose by facilitating an understanding of the disease process of addiction, which could increase empathy and compassion for the victims and their families was also suggested.

Generally, this study indicated that most participants agreed that law enforcement personnel are trained and equipped with naloxone. For example, one response included an officer who acknowledged that law enforcement were often "...the first ones on-scene,

and it's a good idea that we have it when responding to these overdoses." One outlier respondent disagreed with the idea that law enforcement personnel should carry naloxone. He stated, "I feel we shouldn't carry Narcan. We aren't trained in medical things at all. I'm not a doctor or physician, I don't have any medical training."

Another interesting finding was the participants' perception that prevention of drug use was not included in the scope of their role. Five of the six officers agreed that drug overdose prevention was not in their role as law enforcement officers, and all five felt that getting illegal narcotics "off the street" was more in the scope of their expertise. One of the five officers acknowledged the evolving role of law enforcement and affirmed a broader position for police officers as public servants.

When these participants were probed regarding their views on addiction recovery or treatment and how this may have influenced their perceptions since their naloxone training, responses were variable. They included that access to recovery programs was a serious issue; that the challenge of staying "clean" was extremely hard particularly for recovering heroin addicts; and that the complexity of addiction made relapse predictable and understandable. While these officers were reluctant to endorse recovery treatment, they acknowledged how difficult it is to stay in recovery and how attempts to get help indicates progress for the individual.

Many participants had been personally impacted by addiction. Four out of six responded that they had friends or family members who were living with addiction or in recovery. Responses from those with personal experience with addiction included ambivalence and greater empathy. For example, one respondent who had been personally impacted by having a friend or family member affected by addiction stated

that his response to overdose victims would depend on the person overdosing, and whether or not it was a “chronic” overdose victim or someone making a bad choice. Another respondent reported being more passionate about dealing with overdose victims since his naloxone training, expressing that he perceived a greater stake in his role because of his personal involvement with friends or family members who suffer from addiction.

Four of the six participants interviewed demonstrated skepticism as it pertains to drug treatment therapy such as methadone or buprenorphine. This may indicate that more comprehensive training is needed about the disease of addiction rather than strictly the psychomotor behavior of naloxone administration in order for police officers to understand evidence based addiction treatment. All four participants reported that they believed methadone or buprenorphine were a replacement and not a cure. They verbalized concern that these drugs could be abused as well as supplemented or enhanced with illegal substances.

When asked to reflect upon the impact that being equipped with naloxone had on their everyday work role, responses included the range of one officer not believing he had adequate knowledge to handle an unconscious victim to another believing he now had the power to act to save a life rather than wait for Emergency Medical Service (EMS). The normative behavior of officers was reported to have changed over the course of the year since being equipped with naloxone kits. One participant reported that he had observed that officers were more likely to take naloxone on a call immediately upon arriving on-scene when responding to incidents that involve unconscious victims just in case they

need to use it as compared to when naloxone was introduced to the department over a year ago.

Actual rescue of overdose victims had impacted the experience of some of the study participants. Of the six participants, two had administered naloxone in the course of their work since receiving the training, resulting in an overdose rescue of the two victims. While one participant who had utilized the naloxone on a victim stated that he lacked confidence during the process, the outcome was a positive one with the victim being successfully revived. The other participant who had administered naloxone to an overdose reported that he had given a second dose when the victim did not respond to the first. The interviews demonstrated that generally the officers felt more empowered since the naloxone training and perceived they could get more directly involved during an overdose. An officer who had used it in the course of his work stated he would not hesitate to use it again, and being able to carry naloxone has changed his mind over time from initial hesitation to viewing it as an important tool in his work.

The majority of the six officers (five) also recognized that the general environment of the Providence Police Department has changed since the initial naloxone training. It was reported that most police are currently happy to be able to carry naloxone. The overall consensus appeared to be a recognition of the increasing number of overdose victims locally and nationwide, which has had a positive effect on the overall environment in the Providence Police Department. An apparent feeling of empathy towards younger overdose victims by the officers interviewed and their view of more understanding throughout the department were noted. Examples include participants

stating that their opinion had changed with more encounters and that younger victims have affected how officers view them.

In conclusion, qualitative interviews revealed that all of the participants expressed concerns regarding the quality of the training they received. All respondents recommended additional or more enhanced training as it pertains to naloxone administration, including “hands-on” training in a classroom setting performed in a face-to-face style by a healthcare professional or naloxone expert. The interviews demonstrated a generally positive response to the expanded role that has improved over time. The majority of participants reported that they were empowered by their ability to carry naloxone and referred to it as an added tool which enhanced their role as public servants.

Limitations

This study had some limitations including the limited sample size. The researcher interviewed all who responded to requests for participation which resulted in six Providence Police Officers participating. Busy schedules, the newness of the role, and reluctance for fear of retribution may have contributed to the small sample size.

This study was also limited to interviewing only police officers from the capital city of Providence, Rhode Island, a large urban area. A group of police officers who have been trained in the use of naloxone from other urban areas and rural areas as well as State Police would have enhanced this study. Another limitation was that the interview process was limited to pen and paper documentation of the interview. This documentation was intentionally decided instead of audio recording to avoid the issue of perception of identity exposure and increase participant comfort with the process. The

lack of recording devices or the lack of a stenographer to assist in chronicling the data was challenging and may have resulted in some information not being captured.

Including new recruits and police cadets after they are trained in naloxone administration in the study would also have allowed researchers to gain a fresh, unbiased perspective from a younger and untested population of law enforcement who may have responses which differ from officers who are not accustomed to the expanded role. Face to face interviews may have stifled responses for some participants. A written survey may allow further data to be gathered for those who might reveal more when they perceive their responses are anonymous.

Recommendations and Implications for Advanced Nursing Practice

In July of 2014, U S Attorney General Eric Holder released a memorandum urging “federal law enforcement agencies to identify, train and equip personnel who may interact with a victim of a heroin overdose with the drug naloxone” (Justice News-Department of Justice, 2014). This memorandum highlighted the fact that on average 110 deaths per day occurred in the United States due to drug overdoses and emphasized that between 2006 and 2010, heroin overdose deaths had risen by 45%. Attorney General Holder categorized this epidemic as “...nothing less than a public health crisis” (Justice News-Department of Justice, 2014). In a statement from the same memorandum, then Acting Director of the Office of National Drug Control Policy Michael Botticelli stated:

The heroin and prescription painkiller epidemic knows no boundaries--anyone can be affected, and we have already lost far too many lives. We have moved aggressively against this epidemic and we know that the actions of law enforcement officers at the scene of an overdose can mean the difference between life and death. Attorney General Holder’s leadership in this arena will help prevent future overdose deaths, and we look forward to working closely with his office and other partners to get naloxone to law enforcement professionals across the nation.

(Justice News-Department of Justice, 2014)

This critical memorandum shifted the paradigm of drug addiction and overdose from the criminal justice system to the public health system. This national position statement forged a critical partnership between law enforcement and public health which is required to collaborate to combat this epidemic.

The American Association of Colleges of Nursing (AACN) has also voiced support and is partnering with the federal government and other provider groups to reduce prescription drug abuse and the heroin epidemic. AACN announced the launching of a national nursing education initiative which would support public awareness and lead the academic nursing community in managing this crisis.

On a state level, Rhode Island has responded to the call to action. On February 16th 2016, Rhode Island Governor Gina Raimondo along with the Superintendent of the Rhode Island State Police, Colonel Stephen O'Donnell, ordered that naloxone be dispensed to all Rhode Island Police chiefs who would distribute it to municipal police departments throughout the state. In 2014, a total of 241 people lost their lives to overdoses in Rhode Island. This is more than the number of homicides, suicides or motor vehicle accidents combined. By equipping more police officers in the state with this life saving drug, overdose deaths can be transformed to overdose cases by those who generally are the first to respond.

The media coverage for this epidemic has risen to nearly daily news reports, specials, and documentaries and has become a topic of discussion in the current presidential election. A coalition of members of the state and local police agencies representatives from the Rhode Island Department of Health and community leaders involved with drug prevention and treatment called the First Responder Workgroup, has partnered regularly since 2014 to strategize and plan to combat the epidemic and advocate for policy changes which impact outcomes. This workgroup was instrumental in coordinating with Medical Reserve Corp personnel and Brown University public health experts to train law enforcement personnel throughout Rhode Island.

By continuing this dialogue between stakeholders about the opioid and overdose epidemic, a multifaceted strategy is being implemented which will truly address the complexity of this issue. In addition to training and equipping law enforcement with naloxone, the complexity requires strategies such as focusing on opioid prescribers, increasing access to addiction treatment centers, and broadening naloxone distribution capabilities (Kennedy-Hendricks, Richey, McGinty, Stuart, Barry and Webster, 2016).

The data gathered from this study has the potential to influence policy change within the Providence Police Department and has the potential to influence procedural training as it pertains to naloxone administration instruction by law enforcement throughout the state and nation. The results will deliver understanding and insight and conceivably transform current practices and policies for enhanced training within the law enforcement community.

Advanced Practice Registered Nurses (APRN's) are poised to be in a crucial position to provide expert policy advocacy, partner with community stakeholders to strategize on critical components of the opioid crisis response, and develop and implement education and training. Knowledge of the epidemiological and socio-ecological context of the issue as well as relevant community connections and experience with those affected by substance abuse are key to establishing systems aimed at preventing addiction, providing access to treatment, and reducing mortality.

The primary responsibility of a public health leader is to be an advocate for public health, but the APRN also needs to be a spokesperson for the role of public health, especially during a crisis, such as the opioid overdose epidemic (Rowitz, 2014). Advanced Practice Registered Nurses as public health leaders have been instrumental in

combating this epidemic as a critical part of a community-based, multicultural, collaborative team which provides ethical and evidence based responses and assures equity and social justice for all affected by this crisis.

A public health leader will develop communication and create leadership opportunities for all the different stakeholders involved (Rowitz, 2014). This includes law enforcement personnel, healthcare providers, mental health professionals, as well as those who have lived with addiction and are now in recovery. The idea of health promotion and disease prevention as the fundamental concept for public health relates directly to the strategy to train law enforcement in naloxone administration. By improving the health of a community through advocacy, policy development, research, and education, the APRN is poised to face addiction and overdose from a population and public health perspective and be at the forefront to positively influence how the population responds and reacts to addiction and overdose.

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Appendix A

Interview Guide

1. How long have you been with the Providence Police Department?
2. Can you talk about how you feel about the increasing expectation that law enforcement carry Narcan?
 - Have you had any friends or family members who have been affected by drug addiction, overdose, or have participated in treatment programs? If yes, could you tell me how this impacts you positively or negatively as you respond to overdose victims in your work?
 - Can you describe your views of someone in recovery or treatment? How has this influenced your view on the new policy for law enforcement to carry Narcan?
 - Please tell me about how you view overdose prevention in relation to your work?
 - Could you talk about your knowledge of and experience with drug treatment? Tell me what you know about methadone and Suboxone (buprenorphine).
4. I wondered if you could talk to me about how the new policy of law enforcement carrying Narcan has impacted your everyday work role?
5. Have you participated in Narcan administration training? If yes: Tell me what your thoughts are on the training you received for Narcan administration for an overdose victim? Did the training leave you feeling prepared to administer Narcan? Are there any parts of the training that were especially helpful? Please describe. Is there something that could have been done in the training that would have made you feel more prepared to administer Narcan? Please describe. Can you talk about how your Narcan training and increased knowledge about addiction has influenced your view of the overdose problem? Please describe what you would typically do during an overdose case before the training. Since your training, what is different about you in terms of your knowledge and attitude and behavior? Can you talk about how you view family on-scene with an overdose victim? Has this changed since participating in the training? How?

6. Can you talk about whether you carry Narcan in the course of your work? If yes, how do you feel about carrying it? Please talk about any concerns you have about carrying and administering Narcan in the field.
7. Have you ever used Narcan on an overdose victim? If yes, how confident did you feel about using Narcan? Please tell me about any training or education that might have improved your confidence in administering Narcan or that made you confident when you used it?
8. Describe your view of the role of law enforcement in responding to drug overdose victims? Has this changed over time? Tell me about what you think might have been factors in the change?
9. Tell me about whether you think the climate has changed in the Police Department in relation to drug users and/or overdose victims? Have you seen a change in the way people talk about overdose victims? Would you say there been a positive shift in attitude, no change, or negative shift? Could you discuss whether you think that the training might have influenced this? Are there any other factors that you think might have changed attitudes among law enforcement in relation to this issue?

These questions will be used in a conversational manner and asked in the course of a dialogue with law enforcement personnel.

Appendix B

Rhode Island College
Institutional Research Board
600 Mount Pleasant Avenue
Providence, RI 02908

February 12, 2015

To whom it may concern,

This letter is provided as agreement to serve as a collaborating agency on the research project, *Attitudes of Law Enforcement Trained in the Administration of Narcan*. This research project will involve 6-12 volunteer participants from the Providence Police Department who will be invited to take part in an informal interview which will take approximately 30-45 minutes and will take place while off duty at a location of their choosing. The research is a required component of the student researcher, Thomas Stegnicki's, master's program at Rhode Island College in advanced public health nursing.

The Providence Police Department supports this research and looks forward to using the project outcomes to improve the Department's Narcan program.

Sincerely,

Commander Thomas F. Oates, III
Deputy Chief, Providence Police Department

Appendix C

Angel Taveras
Mayor

Steven M. Parc
Commissioner



Colonel Hugh T. Clements Jr.
Chief of Police

Providence Police Department
325 Washington Street
Providence, Rhode Island 02903
"Building Pride in Providence"

February 12, 2015

Rhode Island College
Institutional Research Board
600 Mount Pleasant Avenue
Providence, RI 02908

To whom it may concern,

This letter is provided as agreement to serve as a collaborating agency on the research project, *Attitudes of Law Enforcement Trained in the Administration of Narcan*. This research project will involve 6-12 volunteer participants from the Providence Police Department who will be invited to take part in an informal interview which will take approximately 30-45 minutes and will take place while off duty at a location of their choosing. The research is a required component of the student researcher, Thomas Stegnicki's, master's program at Rhode Island College in advanced public health nursing.

The Providence Police Department supports this research and looks forward to using the project outcomes to improve the Department's Narcan program.

Sincerely,

Commander Thomas F. Oates, III
Deputy Chief, Providence Police Department

Appendix D

Dear Providence Police Officer,

You are being asked to participate in a research study entitled “**Attitudes of Law Enforcement trained in the Administration of Narcan**”. This study is designed to provide insight about the perception and attitudes of Providence Police Officers who have been trained in Narcan administration. The State of Rhode Island is ranked 9th in the Nation in opioid overdose death rates and is ranked #1 in opioid overdose death rates in New England. A policy in which law enforcement are trained in the administration of Narcan for those suffering from an opioid overdose is a relatively new concept in Rhode Island and an even newer concept to the Providence Police Department.

Your participation in this study will provide insight about the perception and attitudes of Providence Police Officers who have been trained in Narcan administration. Your participation in this study will take approximately 30-60 minutes of your time. If you choose to be a participant in this research, you will be asked to sit down and answer questions in an informal question and answer interview process regarding the training you received in Narcan administration and your perceptions in your work with overdose victims. During the interview, the interviewer will write down notes to your responses as you answer questions. If you agree to participate, you will be interviewed at a location of your choice, including a coffee shop, library, or other private location.

Your completion of this study may not benefit you personally. You will receive no compensation. Participation is voluntary and not required by the Providence Police Department. You can choose not to participate in this research and it will have no effect on your employment or benefits. Also, you can change your mind about participating at any time without negative consequences. We are hoping these completed interviews will provide information to help provide better insight into the perception of overdose victims by law enforcement personnel.

The completed interviews will be kept confidential. None of the information you provide will have your name or any identifying information on it that will identify you personally. Research records will be kept in a secure file, and access will be limited to the researcher. All data will be kept for a minimum of three years, after which it will be destroyed.

If you have any questions about this research study, you may contact the Principal Investigator, Joanne Costello MPH, PhD, RN at (401) 451-6559. If you have any complaints about your taking part in this study, or would like more facts about the rules for research studies, or the rights of people who take part in research studies, you may contact Christine Marco, PhD, of the Rhode Island College Institutional Review Board at (401) 456-8598 or email IRB@ric.edu. If you are feeling distressed over this study, you may contact a clinical social worker at Rhode Island Hospital at (401) 444-5711.

By answering the questions on the survey, you are agreeing to participate in this study. If you do not wish to participate in this study, simply do not complete the interview. Please respond to this Email if you are interested in participating in this research study.

Thank you,

Thomas Stegnicki RN BSN

Appendix E

Dear Providence Police Officer,

You are being asked to participate in a study, *Attitudes of Law Enforcement Trained in the Administration of Narcan*, which explores the perceptions and attitudes of law enforcement first responders to the use of Narcan/Naloxone for individuals experiencing an overdose from the use of opioids including heroin, fentanyl, and oxycontin. The goal of this study is to gain insight into the perceptions and attitudes of law enforcement first responders who have been trained in Narcan/Naloxone administration and are expected to administer Narcan/Naloxone in the course of their work. Criteria for participation are current status as a Providence Police Officer and past participation in the Providence Police Department Narcan/Naloxone Training.

Participation in this study will take approximately 30-60 minutes. You will be asked verbally by the researcher to respond to interview questions and will respond verbally. The researcher will take brief written notes of your responses. The interview will not be recorded electronically. The interview notes will be kept confidential in a locked file cabinet at Rhode Island College. None of the information you provide will have your name or any identifying information on it that will identify you personally. Research materials will be kept in a secure file at the Rhode Island College School of Nursing, and access will be limited to the researcher. All data will be kept for a minimum of three years, after which it will be destroyed.

Your participation in this study may not benefit you personally, and you will not receive compensation. Participation is entirely voluntary and not required by the Providence Police Department. You can choose not to participate in this research, and it will have no effect on your employment or benefits. Also, you can change your mind about participating at any time during the interview without negative consequences.

If you have any questions about this research study, you may contact the Principal Investigator, Joanne Costello, MPH, PhD, RN, at (401) 451-6559 or jcostello@ric.edu. If you have any complaints about taking part in this study, or would like more facts about the rules for research studies, or the rights of people who take part in research studies, you may contact Christine Marco, PhD, of the Rhode Island College Institutional Review Board at (401) 456-8598 or email IRB@ric.edu. By answering the interview questions, you are agreeing to participate in this study. If you do not wish to participate in this study, simply do not complete the interview. Thank you.

Sincerely,

Thomas Stegnicki RN BSN