Evaluation of Prevention Point Philadelphia’s Overdose Prevention Program:

Applying the Health Belief Model to Overdose Prevention Practices among Injection Drug Users

by

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# TABLE OF CONTENTS

Abstract ................................................................................................................................. vi

Introduction ........................................................................................................................ 1

Specific Aims ...................................................................................................................... 5

Research Design and Methods ............................................................................................ 6
  Overview ............................................................................................................................. 6
  Subjects ............................................................................................................................... 6
  Data collection methods .................................................................................................. 8
  Data analysis plan ............................................................................................................ 9
  IRB considerations .......................................................................................................... 10

Results .................................................................................................................................. 11
  Demographic data ........................................................................................................... 11
  Health Belief Model analysis ......................................................................................... 12

Discussion .......................................................................................................................... 19

Recommendations .............................................................................................................. 21

Conclusion ......................................................................................................................... 23

References .......................................................................................................................... 28

Appendices .......................................................................................................................... 31
  Appendix A. Screener form ............................................................................................. 32
  Appendix B. Recruitment flyer ......................................................................................... 33
  Appendix C. Verbal consent form .................................................................................... 34
LIST OF TABLES

Table 1. Descriptive demographic characteristics……………………………………………….25

Table 2. Lifetime overdose exposures and recent drug use history……………………………...26
LIST OF ILLUSTRATIONS

Figure 1. Illustration of Chamion and Skinner’s Health Belief Model’s key constructs ..........4
Objectives: Accidental opioid overdose is a significant cause of death in Philadelphia and the U.S. as a whole. Programs such as Prevention Point Philadelphia (PPP) have created overdose prevention programs to train injection drug users (IDUs) to respond to overdoses using tactics such as rescue breathing and naloxone administration. Trained IDUs have saved hundreds of lives in Philadelphia alone, but most IDUs remain untrained. Using the Health Belief Model, this study compared the behaviors and health beliefs around accidental overdose of trained IDUs to untrained IDUs in order to make recommendations to PPP on how to design an effective outreach campaign to recruit more IDUs for the overdose prevention program.

Methods: 20 injection drug users between the ages of 18 and 65 were recruited at PPP’s six weekly syringe exchange sites, and interviewed using a quantitative/qualitative instrument. Interviews were recorded, transcribed, and analyzed in the qualitative analysis software program, ATLAS.ti. Participants trained in the overdose prevention program were compared to untrained participants in their behaviors and health beliefs about accidental overdose, and their responses were analyzed using the Health Belief Model.

Results: Trained participants perceived fewer barriers and more benefits to receiving overdose prevention training, as well as a higher perceived susceptibility to accidental overdose. However, untrained participants were as likely to have helped someone who was overdosing within the past year as trained participants, and displayed similar levels of self-efficacy around helping an overdose victim as trained participants.

Conclusions: Since most untrained participants are willing to assist someone who is overdosing and have high levels of self-efficacy related to responding to overdoses, eliminating the untrained participants’ perceived barriers to participating in the overdose prevention training may effectively increase the participation rate at PPP’s program. Some strategies include: prominently advertising the program at the syringe exchange sites, emphasizing the ability to save a loved one’s life, offering a small cash or gift card incentive for participating, or providing tokens to cover the cost of public transportation to and from the training session.
**Introduction**

In the United States, approximately 425,000 people use a syringe to inject illicit drugs each year. Most injection drug users (IDUs) inject heroin (approximately 241,000 each year), but IDUs also frequently inject cocaine (166,000 per year), methamphetamines (165,000 per year), and other stimulants (95,000 per year) (U.S. DHHS, 2010). Injection drug use puts users at very high risk for a number of health problems, including the risk of being exposed to blood-borne pathogens such as HIV and HCV, and the risk of a fatal overdose (which accounts for 16,000 deaths in the U.S. every year) (Beletsky, Burris, and Kral, 2009).

Drug overdose rates have been rising every year in the United States since the 1970’s. In 2007, unintentional drug overdoses accounted for 27,658 deaths in the U.S. Among these deaths, opioids, such as heroin and prescription pain medications, were the most common drug cited in cause of death (CDC, 2010). Drug overdose is a significant issue in Philadelphia county, where 442 deaths were attributed to accidental drug overdose in 2008 (Drug Abuse Warning Network, 2010). Infectious diseases are also significant problems for the clients of Prevention Point Philadelphia (PPP). According to PPP, 27% of the AIDS cases in Philadelphia were contracted through shared needles, and between 70% and 90% of injection drug users have become infected with Hepatitis C (Prevention Point Philadelphia, 2010a).

Prevention Point Philadelphia has had a significant impact on the health outcomes of injection drug users in Philadelphia. Since 2006, PPP estimates that their syringe exchange program is responsible for the 13% decrease in the transmission of HIV through injection drug use in Philadelphia (Prevention Point Philadelphia, 2010b). Additionally, at least 505 PPP
clients have been trained in overdose prevention and 142 overdoses have been reversed in Philadelphia since 2006 prevention (Lankenau, 2010).

PPP’s overdose prevention program consists of small classes or one-on-one instruction offered at either PPP’s headquarters or on the street at the syringe exchange programs. The class is offered to both IDUs and friends or family of IDUs who want to be prepared to respond to an opiate overdose. The program consists primarily of two components: the SCARE ME method, and distribution of naloxone (brand name Narcan), an injectable opioid antagonist that is used to reverse opiate overdoses, such as a heroin overdose. SCARE ME, an acronym outlining proper response to an opioid overdose, consists of the following steps: Stimulation (or trying to arouse the victim), Call for help (Call 911 if the person is not responsive), Airway (making sure nothing is obstructing the victim’s breathing), rescue breathing (if the person’s breathing is shallow or ceased altogether), Evaluate (determine if you can stop rescue breathing long enough to prepare to administer naloxone), Muscular injection (inject the naloxone into the victim’s muscle), and Evaluate again (check again for breathing, administer more naloxone if necessary, wait with the person for rescue and prevent the person from using more opiates). Preventing the victim from using more opiates is essential as they will feel “dope sick” (in a state of withdrawal) when they are revived as the drug essentially blocks the opiate receptors. When the naloxone wears off in 60-90 minutes, the victim may fall back into an overdose if enough opiates are still in their system. Therefore, participants are encouraged during the training session to remain with the victim until paramedics arrive.

PPP has a standing prescription for naloxone for their clients, and can distribute naloxone to trained clients, along with intramuscular syringes. Naloxone injection is the standard method
of treatment for opioid overdose. This drug is a non-scheduled prescription drug, with no known
drug interactions and only minimal, rare side effects (Beletsky, Burris, and Kral, 2009).
Naloxone can reverse opioid overdoses rapidly and is fairly simple to administer (via
intramuscular or intranasal routes), making it a safe and effective action for lay bystanders to
take in the event of witnessing an overdose (Beletsky, Burris, and Kral, 2009). In the United
States, overdose prevention programs that prescribe and provide naloxone to lay opioid drug
users have reported significant successes. Over 298 lives have been saved in San Francisco,
1,000 lives in Chicago, 451 lives in New Mexico, 280 lives in Oakland, 104 lives in New York
City, and 143 lives in Baltimore (Beletsky, Burris, and Kral, 2009).

**Health Belief Model**

The Health Belief Model was created in the 1950s by social psychologists working for
the U.S. Public Health Service. Initially, the model was created to determine the reasons why
some individuals did not participate in disease prevention and screening programs (Champion
and Skinner, 2008). Decades later, the Health Belief Model is one of the most frequently used
models in public health, and is used to explain the factors that determine an individuals’ health
beliefs and whether that individual will take action to protect or promote his or her own health in
a given circumstance.

While many variations on the Health Belief Model exist, this study will use the
components detailed in Champion and Skinner’s 2008 version. This version of the Health Belief
Model includes the following components: perceived susceptibility (an individual’s belief about
their risk of a certain condition), perceived severity (an individual’s belief about the seriousness of a certain condition if they were to develop it), perceived benefits (an individual’s belief about the benefits of taking action to reducing the threat of a condition), perceived barriers (an individual’s belief about the impediments to taking action), perceived self-efficacy (an individual’s belief in their ability to successfully take action), and cues to action (events, strategies, or objects that prompt an individual to take action) (Champion and Skinner, 2008). These six components interact to influence individual behavior change, as illustrated in Figure 1.

Figure 1. Illustration of Champion and Skinner’s Health Belief Model’s key constructs
This model has been used previously among injection drug users to analyze the perceived risks of contracting HIV and hepatitis C through sharing injection equipment (Rácz, Gyarmathy, Neaigus, Ujhelyi, 2007; Wagner, Lankenau, Palinkas, Richardson, Chou, Unger, 2011; Eshrati et al, 2007), and analyzing the self-efficacy of injection drug users around risk reduction practices such as needle sharing and needle disinfecting (Celentano, Cohn, Davis, Vlahov, 2002). However, no studies to date have examined health beliefs related to overdose prevention programs or accidental overdose.

**Justification for Study and Specific Aims**

The significance of this study lies in the opportunity to gain a richer understanding of the health beliefs- as well as the experiences that helped form these beliefs- that influence an individual to participate in an overdose prevention program. This study takes place in the context of a larger study conducted by Professor Stephen Lankenau that addresses the problem of opioid overdoses in the City of Philadelphia by evaluating the city’s only overdose prevention program. My study evaluates the health beliefs and experiences related to accidental overdose among injection drug users, and uses the Health Belief Model to make recommendations to PPP on what components of an outreach campaign may be most effective in recruiting more participants for their overdose prevention program.

The specific aims of my project are to:

- Investigate the determinants of health beliefs related to accidental overdose of both trained and untrained participants
• Analyze differences in health beliefs and behaviors between trained and untrained participants using the Health Belief Model

• Based on the results of the Health Belief Model analysis, make recommendations to PPP on how to effectively recruit untrained participants to participate in the overdose prevention program

Research Design and Methods

Overview

This study is based on interviews with 20 participants recruited at Prevention Point Philadelphia’s six weekly syringe exchange sites. These interviews collected both qualitative and quantitative data that covered a variety of topics including witnessed and experienced drug overdoses, illegal drug use history, illegal drug use behaviors, social networks, sexual behavior, and demographic data. Interviews were recorded, transcribed, and analyzed in the qualitative analysis software program, ATLAS.ti. Analysis was conducted by identifying major themes in the data and using these to address the primary aims.

Subjects

Participants were recruited and enrolled as either “Trained Subjects” or “Untrained Subjects”. Eligible “Untrained Subject” participants were required to: be between eighteen years old and sixty-five years old; be an injection drug user who has injected a drug within the last thirty days; have witnessed someone experience a drug overdose within the last twelve months;
be a client of Prevention Point Philadelphia; and never had received overdose prevention training from PPP. Eligible “Trained Subjects” also met these criteria except they had received overdose prevention training from PPP. Participants were excluded from participation if they were: unable to recall the most recent drug overdose they have witnessed in detail or had previously been interviewed for this project. Eligible participants were identified during a brief survey using a screener form (Appendix A), for which they were verbally consented.

Two other research assistants (one student in the doctoral public health program, and one other second year MPH student) and I worked independently on recruiting participants and conducting interviews during the data collection phase of the project (September through December), and then compiled this data into a central database. Qualitative research generally focuses on conducting interviews until the data is “saturated”- meaning that no new themes have been generated during subsequent interviews. While no limits are defined for sample size in qualitative research, the literature suggests that saturation can be reached in as few as twelve interviews (Guest, Bunce, and Johnson, 2006).

Participant recruitment took place at PPP’s six weekly syringe exchanges in Philadelphia since this evaluation is specific to clients of Prevention Point Philadelphia who are injection drug users. Recruitment was conducted primarily through outreach conducted by the two research assistants and I, but also through advertising with flyers (Appendix B) placed in Prevention Point Philadelphia’s office, and referrals from PPP staff of eligible participants. We recruited participants by targeting syringe exchanges where we asked clients to complete an (un-incentivized) screener survey (Appendix A) for a larger study on health behaviors. Participants
were identified using targeted sampling, a sampling technique often used in hard-to-reach populations (Watters and Biernacki, 1989).

Willing participants were orally consented for the screener surveys, which were completely anonymous and voluntary. Participants who were found to be eligible for the study were asked if they would be willing to immediately complete an incentivized hour-long survey. If they preferred to reschedule the interview for a later date, limited contact information was collected through a contact information sheet. Contact information was destroyed following completion of the interview, and was never linked to the participant’s results.

Data Collection Methods

Data was collected through one-on-one interviews with eligible participants who were recruited at PPP’s syringe exchange sites. Interviews were conducted discretely in various locations, such as PPP’s offices, a fast food restaurant, or an outdoor space, and participants received a $25 incentive for their participation. Participants were verbally consented using the IRB-approved Information Sheet (Appendix C). Participants were assigned a unique code that was linked to their interview so that all data was completely de-identified.

We conducted the interviews using a laptop-based electronic instrument which had previously been pilot tested during an evaluation of overdose prevention programs in Los Angeles. The interviews were digitally recorded and later transcribed by another second year MPH student and myself. This instrument was designed to collect both quantitative and qualitative data, and covered the following topics: the most recent overdose that the participant
had witnessed; the most recent overdose that the participant had experienced (if they have experienced one); overdose response behaviors (such as calling 911, administering rescue breathing, naloxone administration, and other tactics); HIV/HCV risk behavior; motivations and barriers to receiving overdose prevention training; social network information; drug use history, sexual history; and demographic information.

**Data Analysis Plan**

The data was analyzed both quantitatively and qualitatively to address my three specific aims: to investigate the determinants of health beliefs related to accidental overdose of both trained and untrained participants; to analyze differences in health beliefs and behaviors between trained and untrained participants using the Health Belief Model; and, based on the results of the Health Belief Model analysis, make recommendations to PPP on how to effectively recruit untrained participants to participate in their overdose prevention program.

Analyzing quantitative data from the interviews consisted of generating basic descriptive data on demographics, drug use history, and overdose exposure in SPSS. The data was analyzed for the entire sample, as well as by breaking down the sample into the trained and untrained groups. Given the small sample size, no quantitative data was analyzed for statistical significance.

I analyzed the 20 transcripts using a qualitative data analysis software, ATLAS.ti. Data was coded using thematic codes, and analyzed section-by-section in the following areas: most recent witnessed overdose (within the past 12 months); most recent experienced overdose (within
the past 12 months); impact of the most recent experienced and/or witnessed overdose on perceived risk of drug-use overdose, and overall health; overdose response behaviors; and motivations and barriers to receiving overdose prevention training. The coded text was then grouped into themes based on the primary Health Belief Model components: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, perceived self-efficacy, cues to action, and individual behaviors. Quantitative data on overdose exposure and drug-use history that related to one of the Health Belief Model components were considered in conjunction with the qualitative data for each component to generate a more complete understanding of the individual themes.

**Institutional Review Board Considerations**

This project has been approved by Drexel University’s Institutional Review Board. However, additional considerations (beyond the minimum required by the IRB) have been implemented in order to protect the project’s participants. All data collected were completely de-identified, and data from all subjects were identified only by a unique code. Every participant was verbally consented prior to both the brief screening interview, as well as before the longer survey (Appendix C). Prior to both the screener and the longer interview, the subject was assured of the privacy and anonymity of their responses, and reminded that participation was completely voluntary and engagement in the interview could be terminated at any point. All interviews were conducted discretely and out of earshot of other individuals. At the end of each interview, participants were provided with the PI’s contact information, as well as any additional referrals (such as information on the overdose prevention program, rehabilitation services, or
mental health services). The participants were informed that while interviews are confidential, confidentiality will be breached by the researcher if the participant is determined by the researcher to be an imminent risk to his or herself, or to others (specifically, through suicide, homicide, or child abuse). While no such incident occurred during the course of data collection, such an instance would have been reported to the PI and to the proper authorities.

**Results**

**Demographic data**

Simple descriptive statistics (means and proportions) were generated in order to observe any basic trends in the data (Tables 1 and 2). The trained and untrained groups were similar in terms of gender and average age (Table 1). The average age of the participants in the overall sample (n=20) was 39.3, there was little difference in the average age of the trained participants (39.2) and untrained participants (39.4). The overall sample consisted of more males (65.0%) than females (35.0%), which was also similar between the trained and untrained groups. The trained and untrained participants differed slightly in terms of racial and ethnic composition, and sexual identity (Table 1). The self-identified race breakdown of the overall sample was 60.0% white/Caucasian, 5.0% African American, 15.0% multiracial, and 10.0% Hispanic only (meaning that the participants identified as Hispanic in terms of both race and ethnicity). 15.0% of the participants in the overall sample claimed a Hispanic ethnicity. Within the overall sample, 70.0% identified as straight, 20% identified as bisexual, and 5.0% identified as “something else”. No participants in the overall sample identified as gay or lesbian.
More notable differences existed between the trained and untrained groups in the proportion of homeless participants and the proportion of Hepatitis C positive participants (see Table 1). The untrained group had a much higher proportion of homeless individuals (57.1%) than did the trained group (16.7%). Conversely, the trained group had a much higher proportion of Hepatitis C positive participants (83.3%) than did the untrained group (35.7%).

**Application of Health Belief Model**

*Perceived susceptibility*

In this analysis, perceived susceptibility refers to how susceptible participants believe they are to experiencing an accidental drug overdose. When asked about their risk of overdosing within the next six months, a higher proportion of trained participants (33.3%) than untrained participants (14.3%) believed that their risk of overdosing was “somewhat likely” or “very likely” (versus “somewhat unlikely” and “very unlikely”) (Table 2). The qualitative data revealed an even more dramatic difference between trained and untrained participants in their perceived susceptibility to overdose, and how this heightened feeling of susceptibility influenced their drug-related risk behaviors.

Among the six trained participants, the majority (n=5) expressed that overdose was a frequent concern. In reaction to witnessing an overdose, Greg, a 29 year old trained participant said: “I realized, you know, it could happen to me just as easily”. Additionally, these five participants made numerous comments regarding how feeling susceptible influenced their drug-use behaviors. Greg stated that he actually ceased injecting following the most recent overdose
he witnessed, and has been in methadone maintenance treatment since that event. Another
common harm reduction theme was the desire to be around others when they’re using drugs so as
not to be alone in the event of an overdose:

> It just taught me to be more aware of, if I’m gonna use, to be more cautious of who’s
> around, don’t be alone, never be alone… I refuse to be alone now when I get high. I used
to always be a loner. Now it’s like, listen, I’ll give you what I got, just don’t leave me
> alone. Because there’s some friends of mine that have been found back there, dead. Girls.
> That just died back there by themselves shooting up and found days later. (Mary, 43
> years old)

Only one trained participant felt that his risk of overdose was low: “I’m pretty careful
with what I do and the man I use. I don’t think I’m gonna overdose from his stuff”, (Larry, 34
years old).

While fewer of the untrained participants stated that they were concerned about their risk
of overdosing, still fully half (n=7) were very concerned about the possibility of overdosing.
Like the trained participants, their concern about their risk of overdose often resulted in steps to
reduce their risk of overdosing. Among the 7 who expressed concern about their risk of
overdose, five linked their concern regarding their risk of overdose to concrete behavior change:

> I take into consideration that I don’t put nothing past the drugs because I used to be for it
> but now I’m more cautious. I don’t do a lot [of drugs] at one time, I do it little by little to
> feel it out, see what it is, you know. See if it’s [heroin] strong, weak, or what. So I’m
> more cautious now. Way more cautious. (Diego, 32 years old)

Only one of the seven expressed a fatalistic view about her perceived susceptibility to overdose:

> “I mean, yeah, I can probably overdose the next time I shoot up, but that’s the chance that I take,
you know what I mean?” (Rachel, 31 years old). Of the seven who did not express concern
about their risk of overdose, most responded that they “don’t think about it”, or simply
responded “no” when asked if they were concerned about their risk of overdosing. However,
some went so far as to claim that they were invulnerable to overdosing: “I don’t think I can overdose. I think I’ve overdosed one time in my whole entire life and that was it” (Mark, 37 years old).

*Perceived severity*

Here, perceived severity refers to the participants’ beliefs regarding the seriousness of an accidental overdose if they were to experience one, particularly the risk of dying. Interestingly, perceived severity of accidental overdose was fairly similar between trained and untrained participants. Only a slightly higher proportion of trained participants (33.3%) than untrained participants (28.6%) believed that their risk of a fatal overdose within the next 6 months was “somewhat likely” or “very likely” (Table 2). While there were no qualitative questions specifically related to perceived severity, many participants described a change in their perception of the seriousness of overdosing after witnessing someone else overdose:

> It made me think about my own mortality, you know what I mean? …[T]hat’s when I looked upon my own mortality and realize that wow, this could happen to me. And if this happens to me, then I’m going to die. And I don’t want to die here on the train tracks in Kensington. (Hank, untrained participant, 40 years old)

Joe, a 62 year old untrained participant, also expressed how his concern about his risk of a fatal overdose after changed after seeing a friend overdose: “I think about dying. I guess it was, more or less, a warning. When you use drugs like this, you’re likely to die”.

> The qualitative data- like the quantitative data- seem to indicate that the trained participants in this sample experienced a similar change in perceived severity of accidental overdose as the untrained participants following an event of witnessing someone overdose: “It
gets me nervous. I’m scared to use, because I don’t want that to happen to me. It makes me think twice… I was thinking about how the drugs can take your life. I just was very nervous” (Diane, trained participant, 42 years old).

Self-efficacy

In this context, self-efficacy refers to a participant’s perception of their own ability to help someone who is overdosing. Of the 14 untrained participants, 10 (71.4%) felt confident in their ability to respond to an overdose. On average, untrained participants helped someone who was overdosing (14.8 people) approximately the same number of times as the trained participants (15.3 people). Additionally, the vast majority of both trained and untrained participants believed that they had ever saved the life of someone who was overdosing (92.9% of untrained participants and 100% of trained participants) (Table 2).

Perceived barriers

In this analysis, perceived barriers refer to a participant’s perception of the impediments to participating in the overdose prevention program. Of the six trained participants, all six responded “no” when asked if there had been anything that made it difficult for them to get the training. Of the nine untrained participants who were aware of the overdose prevention program, the primary reason cited (by five people) for not attending the program was forgetting to make time to attend: “I just didn’t find the time to do it, you know what I mean? You have to, there is a certain time of day you have to go to get it and I just for whatever reason forgot about it” (Hank, 40 years old); “Being in this state where I’m wanting to get high, I forget about it” (Jay, 42 years old). Other barriers included transportation, lack of interest: “[I’m] not really
because I can’t do the Narcan on myself” (George, 33 years old), and belief that
one’s own approach to overdose prevention was equally effective: “I already got my own
methods. That’s why I’m not really concerned. Cuz my responses has been, they’ve worked
100%. I’ve never had nobody die on me” (Diego, 32 years old).

Perceived benefits

Here, perceived benefits refer to a participant’s belief in the benefits of participating in
the overdose prevention program. One of the most common perceived benefits cited by trained
participants was the ability to help friends or romantic partners they perceived to be at risk of
overdose: “I, because I have friends that are, and a girlfriend that are active in an opiate
dependency. I wanna be prepared if necessary to save their lives” (Greg, 29 years old); “[A]t the
time I lived with that girl and I was worried about her dying. She, at the time, she would do 8
bags of dope in one shot. So I was worried, because she was like, my best friend” (Diane, 42
years old).

Another more abstract benefit that many trained participants cited was the ability to
relieve the guilt of being unable to help a romantic partner who died from an accidental
overdose: “[M]y fiancé died in my arms of an overdose. I didn’t know anything about Narcan, I
didn’t know nothing about thing. I wished to God that I would have known that then. Cause I
could’ve saved his life” (Mary, 43 years old);

I had a life partner that ODed. Actually what happened was that he died in bed, right next
to me while we were asleep. And that was about 12 years ago now… It started making
me want to look at my own drug use, made me look at my current friend’s drug use.
When I found out they had a Narcan class you can take- I was like, ‘That’s important.’
And since then, I’ve been telling other people to go and take the class. And it’s funny
because people’s reaction is like, ‘Oh well why would I wanna do that?’ I’m like, ‘Oh, well I don’t know, maybe you can save somebody. Hey, maybe you’ll save me one day.’ (Bill, 42 years old).

Finally, two trained participants cited the main benefit as being able to protect other IDUs in situations when they believe paramedics are not working as hard as they could to save someone who has overdosed:

I would like to think that I could possibly have the ability to save him or somebody. Plus, I’ve had involvement with paramedics and they kinda suck… the feeling that I got from the paramedics was like, ‘Oh here we go… Another junkie.’ Because I’ve seen them react to non-overdoses and overdoses in two totally different ways (Bill, 42 years old).

While untrained participants were not asked about their perceived benefits of participating in the overdose prevention program, two of the nine who were aware of the program and interested in participating mentioned what they perceived to be the primary benefit to participating. Interestingly, they both cited the ability to help someone who’s overdosing in a way that they were not able to help their romantic partners who had both died from accidental overdoses: “[T]hey got a class at Prevention Point with the Narcan. I’m definitely getting that. My girlfriend died [recently] from drug overdose, heroin overdose” (George, 33 years old); “I had a partner that ODed about 12 years ago, and I kind of think, well here’s another person that maybe if I was able to do something for him sooner [he would have lived] (Vince, 42 years old).

**Cues to action**

In this study, cues to action refers to whether and how a participant was made aware of the existence of the overdose prevention program. Of the 14 untrained participants, nine (64.3%) had previously heard of the overdose prevention program offered at Prevention Point, but only one of these individuals (7.1%) had ever previously made an attempt to get the overdose
prevention training. Of the untrained participants, five (35.7%) knew someone who had completed the overdose prevention training (Table 2). Of the trained participants, five learned of the overdose prevention program by seeing a flyer at one of the syringe exchanges. One learned of the program through a friend who had received the training.

The untrained participants who were aware of the overdose prevention program were not asked directly about how they had heard of the program, but six did voluntarily offer this information during their interviews. These participants heard about the program through a variety of ways: one learned of it from a brother who is a nurse; four heard about it from other trained participants within their social networks (“I know a few people down in the neighborhood [who are trained], yeah. [T]hey didn’t tell me nothing about it, they just told me that they’d done it and they’re prepared. They actually carry Narcan with them”); and one was informed of the program by his case worker at Prevention Point:

> I’ve been with them for 4 years, and when I first got put on, I was just using them for what I could get from them. I wasn’t going to none of the meetings. It was just- me, me, me. Gimme, gimme, gimme. Then I started to talk to my case worker, we got really close and she said- you know, we do a lot for you, why don’t you just try. (George, 33 years old)

**Individual behavior change**

In this study, individual behavior change refers to the changes a participant made to prevent their own risk of overdose (aside from participating in the overdose prevention program). For every measure of opioid use and injection drug use (except for recent history of speedball injection), trained users exhibited fewer risk behaviors. Trained users used fewer drugs, injected fewer times per day and on fewer days per week, began injecting drugs at a later age, and fewer
trained participants injected in risky environments (such as public places or abandoned houses) (Table 2).

While the quantitative data cannot prove causality between changing health beliefs regarding overdose and reducing these overdose risk behaviors, the qualitative data indicates that the same event that motivated the trained participants to seek training also catalyzed a change in their risky drug use behaviors. Of the six trained participants, four said that they had made changes in their drug-using behaviors in order to reduce their risk of a fatal accidental overdose. These participants described reducing their drug habit, never injecting alone, and even entering methadone maintenance programs.

Of the 14 untrained participants, only four described changing their drug-related behaviors in order to reduce their risk of a fatal accidental overdose. Two of these individuals were more careful about where they purchased their drugs, one “tested” any new drug purchases prior to using his normal dose by injecting a little bit at a time, and one reduced her daily habit:

I’ve gotten to the point where- first of all, my habit has changed. I had such a bad habit! I mean I think I used to be up to like - and not to brag - but 15 bags a day; that’s heavy. Now, I’m down to like a bag or two. And I won’t get off on the street. I’ll go home, in the bathroom or whatever, or somewhere with somebody I know. As long as I’m not by myself, I won’t do it, I won’t take the chance. It’s not worth it. The last thing I want is for my mom to have to come down to the morgue and identify my body- that I don’t want. (Vanessa, 47 years old).

**Discussion**

Analyzing the results of this survey using the Health Belief Model revealed some important differences between the trained and untrained participants in this study. A higher proportion of trained participants than untrained participants felt that their own risk of an
accidental overdose within the next six months was either “somewhat likely” or “very likely”. While none of the trained participants felt that there had been any barriers to receiving training, many of the untrained participants cited simply forgetting about the program during the times that they could access it (such as while exchanging their syringes at the mobile exchange site). While five of the six trained participants described their cue to action (in this case, participating in the overdose prevention program) as seeing a flyer for the program at a mobile syringe exchange, none of the untrained participants recounted having seen this flyer advertising the program. Finally, trained participants engaged in far fewer drug-related risk behaviors than untrained participants. However, behavior changes in both the trained and untrained group seemed to often be motivated by the participant witnessing an accidental overdose.

Interestingly, more similarities than differences were observed within the Health Belief Model components between the trained and untrained groups. The participants in both the trained and untrained groups often who had a high perceived susceptibility to accidental overdose often engaged in harm reduction behaviors (such as never injecting alone or even entering methadone maintenance therapy) to reduce their risk of a fatal overdose. Additionally, a similar proportion of trained and untrained participants felt that their risk of a fatal accidental overdose within the next six months was either “somewhat likely” or “very likely”. In both the trained and untrained groups, these participants associated their perceptions of the high severity of overdose (in this case, death) with having recently witnessed someone experience a severe or fatal overdose. Overall, there were high levels of self-efficacy among both the trained and untrained participants. In their lives, trained and untrained participants had each helped approximately 15 people who were overdosing, and the vast majority of participants in both
groups felt that they had ever saved someone’s life by responding to an overdose. The most common perceived benefit to participating in the overdose prevention program among both groups was the ability to save the life of a romantic partner or close friend.

Limitations

This study has several limitations. First, the majority of the participants were white males of approximately 40 years of age who had often been injecting for decades, and their experiences and beliefs may not reflect those of younger IDUs, IDUs who had been injecting for a shorter period of time, female IDUs, or ethnic or racial minority IDUs. Second, due to the fact that the population from which this study recruited (clients of Prevention Point Philadelphia) consisted of many more individuals who had not been trained in the overdose prevention program than those who had, there were more untrained than trained participants recruited for this study. Third, this study’s sample size of 20 is relatively small.

Recommendations

Based on the Health Belief Model analysis of the responses of the trained and untrained participants, I propose the following recommendations for Prevention Point Philadelphia with the purpose of increasing participation of PPP clients trained in the overdose prevention program:

1. Create large, clear, and visible advertisements for the overdose prevention program, particularly at the mobile exchange sites where training can be conducted immediately.
The majority of the trained participants (5 out of 6) sought out the overdose prevention training after seeing a sign on the van at a syringe exchange site. Of the untrained participants who were aware of the program, none mentioned having learned of it through a sign at the syringe site. Instead, these 6 participants all learned of the program via word of mouth. Users are often hurried at the exchange sites, and perhaps simply forget about the program, or are uncomfortable asking the PPP workers at the site about the program without any indication that the program exists or is being offered. A large, prominent sign, particularly one advertising that a short training session can be completed on the spot, could be extremely useful in spreading awareness of the program and prompting those who are interested to inquire about training.

2. **Incorporate the benefits to participating, particularly the ability to save a loved one from a fatal overdose, into advertising for the overdose prevention program.**

For the majority of both the trained and untrained participants, the primary perceived benefit to participating in the overdose prevention program was to have the ability to save the life of a romantic partner or close friend. If flyers and posters clearly advertised this as one of the benefits to participating in the program, PPP may be able to recruit some of the many untrained participants who described their concern over their close friend or significant other’s risk of overdosing as a major source of stress in their lives. In order to attract the participants who were disinterested in the program because they would not be able to save themselves from an overdose, a poster or flyer could encourage clients to “bring a buddy” or injection partner with them to participate in the program so that each could guarantee that the other would receive prompt, effective assistance in the event of an overdose.
3. **Offer small incentives in exchange for participation in the overdose prevention program.**

Small incentives, such as gift cards, cash, or tokens, could be offered to encourage those who “forget to make the time” to participate, or those who cite transportation issues as barriers to participate in the program. As the untrained participants in this study had high levels of self-efficacy and had already responded to as many overdoses as the trained participants (approximately 15 overdoses in their lifetime), these participants are very likely to respond to overdoses in the future, regardless of whether they obtained training solely to receive the incentive. If these participants who are already active in responding to overdoses could be equipped with naloxone and the skills to more effectively assist an overdose victim, many more fatal overdoses could be prevented in Philadelphia.

**Conclusion**

The Health Belief Model does seem to be a useful model in analyzing the health beliefs of injection drug users on accidental overdose, their motivations to reduce their risk of overdosing, and their interest in overdose prevention programs. The Health Belief Model analysis revealed a few components of the Health Belief Model that may be the most influential determining factors in whether an individual decides to participate in the overdose prevention program, particularly perceived barriers, cues to action, and perceived benefits. Addressing these three Health Belief Model components through my three recommendations could
potentially increase participation in Prevention Point Philadelphia’s overdose prevention
program, but only evaluation following implementation of these recommendations would
confirm the efficacy of these strategies.

The significance of this study lies in its insight into the health beliefs- as well as the
experiences that helped form these beliefs- of injection drug users on the topic of harm reduction.
While studies have examined the health beliefs of injection drug users on topics such as needle
sharing and unprotected sex, only a small proportion have examined the health beliefs of
injection drug who are taking proactive steps to protect their health, and even these have
examined only two of the health belief model components: perceived susceptibility and self-
efficacy. Additionally, this is the first study to my knowledge to examine the health beliefs of
injection drug users on the topic of overdose prevention programs and overdose risk.

This project also makes a concrete contribution to a local community organization that
serves the population surveyed in this project. The recommendations to Prevention Point
Philadelphia are based on interviews with their own clients, and will hopefully be useful and
effective for Prevention Point in recruiting new participants for their overdose prevention
program.

Given the gaps in the academic knowledge base on the health beliefs of injection drug
users, particularly their health beliefs on behaviors related harm reduction, I believe that these
topics should be explored in greater depth by public health researchers. Additionally, more
research is necessary on the types of advertising that most appeal to hidden populations such as
injection drug users, and whether traditional outreach strategies such as social media are
appropriate and effective for these groups.
Table 1. Descriptive demographic characteristics

<table>
<thead>
<tr>
<th></th>
<th>ALL</th>
<th>Trained</th>
<th>Untrained</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=20</td>
<td>n=6</td>
<td>n=14</td>
</tr>
<tr>
<td>Mean age</td>
<td>39.3</td>
<td>39.2</td>
<td>39.4</td>
</tr>
<tr>
<td>Male gender</td>
<td>65.0% (13)</td>
<td>66.7% (4)</td>
<td>64.3% (9)</td>
</tr>
<tr>
<td>Female gender</td>
<td>30.0% (6)</td>
<td>33.3% (2)</td>
<td>28.6% (4)</td>
</tr>
<tr>
<td><strong>Sexual orientation</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Straight</td>
<td>70.0% (14)</td>
<td>66.7% (4)</td>
<td>71.4% (10)</td>
</tr>
<tr>
<td>Bisexual</td>
<td>20.0% (4)</td>
<td>33.3% (2)</td>
<td>14.3% (2)</td>
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<tr>
<td>Gay/Lesbian</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>“Something else”</td>
<td>5.0% (1)</td>
<td>-</td>
<td>7.1% (1)</td>
</tr>
<tr>
<td><strong>Self-identified race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>60.0% (12)</td>
<td>50% (3)</td>
<td>64.3% (9)</td>
</tr>
<tr>
<td>African American</td>
<td>5.0% (1)</td>
<td>-</td>
<td>7.1% (1)</td>
</tr>
<tr>
<td>Multiracial</td>
<td>15.0% (3)</td>
<td>33.3% (2)</td>
<td>7.1% (1)</td>
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<td>Hispanic only</td>
<td>10.0% (2)</td>
<td>16.7% (1)</td>
<td>7.1% (1)</td>
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<td><strong>Ethnicity</strong></td>
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<td></td>
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<tr>
<td>Hispanic</td>
<td>15.0% (3)</td>
<td>33.3% (2)</td>
<td>7.1% (1)</td>
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<td><strong>Employment Status</strong></td>
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<tr>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Part-time</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Other History</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school graduate or GED</td>
<td>50% (10)</td>
<td>66.6% (4)</td>
<td>42.9% (6)</td>
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<td>Homeless</td>
<td>45.0% (9)</td>
<td>16.7% (1)</td>
<td>57.1% (8)</td>
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<tr>
<td>History of arrest</td>
<td>90.0% (18)</td>
<td>100% (6)</td>
<td>85.7% (12)</td>
</tr>
<tr>
<td><strong>Blood borne pathogens</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reported HIV+</td>
<td>5.0% (1)</td>
<td>-</td>
<td>7.1% (1)</td>
</tr>
<tr>
<td>Reported HCV+</td>
<td>50.0% (10)</td>
<td>83.3% (5)</td>
<td>35.7% (5)</td>
</tr>
<tr>
<td></td>
<td>ALL</td>
<td>Trained</td>
<td>Untrained</td>
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<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td></td>
<td>n=20</td>
<td>n=6</td>
<td>n=14</td>
</tr>
<tr>
<td>Mean number of overdoses witnessed</td>
<td>14.3</td>
<td>13.7</td>
<td>14.5</td>
</tr>
<tr>
<td>Mean number of overdoses witnessed in past year</td>
<td>3.36</td>
<td>2.8</td>
<td>3.6</td>
</tr>
<tr>
<td>Mean number of self-ODs</td>
<td>5.8</td>
<td>9.7</td>
<td>4.1</td>
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<tr>
<td>Mean number of self-ODs in past year</td>
<td>0.9</td>
<td>-</td>
<td>1.25</td>
</tr>
<tr>
<td>Mean number of times tried to help someone who had ODed</td>
<td>15.0</td>
<td>15.3</td>
<td>14.8</td>
</tr>
<tr>
<td>Believe have ever saved someone’s life by responding to an OD</td>
<td>95.0% (19)</td>
<td>100.0% (6)</td>
<td>92.9% (13)</td>
</tr>
<tr>
<td>Believe that likelihood of self-OD in next year &gt;50%</td>
<td>20.0% (4)</td>
<td>33.3% (2)</td>
<td>14.3% (2)</td>
</tr>
<tr>
<td>Believe that likelihood of fatal self-OD in next year &gt;50%</td>
<td>30.0% (6)</td>
<td>33.3% (2)</td>
<td>28.6% (4)</td>
</tr>
<tr>
<td>Ever heard of overdose prevention training</td>
<td>64.3% (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever tried to get overdose prevention training</td>
<td></td>
<td>7.1% (1)</td>
<td></td>
</tr>
<tr>
<td>Feel confident in ability to respond to an overdose</td>
<td></td>
<td>71.4% (10)</td>
<td></td>
</tr>
<tr>
<td>Know anyone who has done overdose prevention training</td>
<td></td>
<td>35.7% (5)</td>
<td></td>
</tr>
</tbody>
</table>

**Past 30 day opioid use**

<table>
<thead>
<tr>
<th></th>
<th>ALL</th>
<th>Trained</th>
<th>Untrained</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=20</td>
<td>n=6</td>
<td>n=14</td>
</tr>
<tr>
<td>Snorted heroin</td>
<td>80.0% (16)</td>
<td>66.7% (4)</td>
<td>75.0% (12)</td>
</tr>
<tr>
<td>Snorted heroin mixed with cocaine (speedball)</td>
<td>30.0% (6)</td>
<td>16.7% (1)</td>
<td>35.7% (5)</td>
</tr>
<tr>
<td>Snorted heroin mixed with benzodiazepines</td>
<td>20.0% (4)</td>
<td>-</td>
<td>28.6% (4)</td>
</tr>
<tr>
<td>Snorted prescription opioids</td>
<td>15.0% (3)</td>
<td>-</td>
<td>21.4% (3)</td>
</tr>
<tr>
<td>Injected heroin</td>
<td>90.0% (18)</td>
<td>83.3% (5)</td>
<td>92.9% (13)</td>
</tr>
<tr>
<td>Injected heroin mixed with cocaine (speedball)</td>
<td>35.0% (7)</td>
<td>50.0% (3)</td>
<td>28.6% (4)</td>
</tr>
<tr>
<td>Injected heroin mixed with benzodiazepines</td>
<td>5.0% (1)</td>
<td>-</td>
<td>7.1% (1)</td>
</tr>
<tr>
<td>Injected prescription opioids</td>
<td>5.0% (1)</td>
<td>-</td>
<td>7.1% (1)</td>
</tr>
<tr>
<td>Injected in a public place (park, street, alley, etc.)</td>
<td>65.0% (13)</td>
<td>50.0% (3)</td>
<td>71.4% (10)</td>
</tr>
<tr>
<td>Injected in a “shooting gallery” (place where IDUs inject together)</td>
<td>50.0% (10)</td>
<td>33.3% (2)</td>
<td>57.1% (8)</td>
</tr>
</tbody>
</table>

**Other drug use history**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Mean age when first injected drugs</td>
<td>23.5</td>
<td>27.8</td>
<td>21.5</td>
</tr>
<tr>
<td>Mean number of times inject per day</td>
<td>11.0</td>
<td>5.3</td>
<td>13.5</td>
</tr>
<tr>
<td>Mean number of times inject per week</td>
<td>6.16</td>
<td>5.7</td>
<td>6.489</td>
</tr>
</tbody>
</table>
LIST OF REFERENCES
LIST OF REFERENCES


APPENDICES
APPENDIX A

Screen Form

No. ________

Hello, my name is ________. I'm a student at Drexel University and I'm conducting a public health research study at Prevention Point. The study focuses on behaviors that may place a person at risk for poor health outcomes, including drug use. (Show University ID).

I would like to ask you a few questions to see if you qualify for the study. This will take approximately 3 minutes to complete. You can refuse to answer a specific question or stop the questions at any time. Your participation is completely voluntary. The responses you provide to these questions will be kept anonymously. You cannot be enrolled in the study if you do not meet the study criteria. This screening questionnaire will only be retained and logged into project records if you qualify for the study. If you have any questions about this research study, you may contact Dr. Stephen Lankenau at 215-762-2570.

Would you mind if I ask you a few questions to see if you qualify for the study?

1. How old are you? ________ (between 18 and 65: Yes / No)
2. Have you injected a drug in the last 30 days? Yes / No
3. Have you ever seen someone experience a drug overdose? Yes / No

If "Yes," how recently? ________ (Within past 12 months: Yes / No)

Tell me more about that...

4. Are you a client of Prevention Point Philadelphia? (Client: Yes / No)
5. Have you ever received overdose prevention training? Yes / No

If "Yes," what agency? ________ (PPP: Yes / No)

6. Have you shared a cooker or syringe in the past 30 days? Yes / No
7. How many persons have you had sex with in the past 30 days? ______
8. Have you been to jail in the past 3 months? Yes / No

Criteria Summary:
1. 18 or older;
2. Current OD;
3. Witnessed OD with 12 mos;
4. Client of OPP;
5. Training at OPP

To enroll Trained Subjects, must be "Yes" to criteria 1-5.
To enroll Untrained Subjects, must be "Yes" to criteria 1-4 and "No" to criteria 5.

APPROVED
Office of Regulatory Research Compliance
Protocol #19297-01
Approval Date: 08/2/10
Expiration Date: 08/2/11

September 8, 2010
Volunteers Wanted for Research Study

Evaluation of Prevention Point Philadelphia's Overdose Prevention Program - A Pilot Study

The purpose of this research study is to explore the risks and responses associated with drug overdoses.

Eligible participants will be interviewed one time for approximately 60 to 90 minutes.

Compensation will be provided for participation.

For more information, contact:

Karol Silva at Drexel University (215-762-2652) or

Emily Gibble at Prevention Point (215-634-5272)

This research is being conducted Dr. Stephen Lankenau, Drexel University, School of Public Health, Department of Community Health and Prevention.
APPENDIX C

DREXEL UNIVERSITY
VERBAL CONSENT TO PARTICIPATE IN A RESEARCH STUDY

1. Subject Number: ______________________

2. Title of Research: Evaluation of Prevention Point Philadelphia's Overdose Prevention Program - A Pilot Study

3. Investigator's Name: Stephen E. Lankenau, Ph.D.

4. Research Entity: Drexel University, School of Public Health

5. Consenting for the Research Study: This is a detailed, important document. If you agree to what is in this document and voluntarily state "Yes, I will participate in this study," you will be authorizing Drexel University to enroll you in a research study. Take your time to carefully read it. You can also take a copy of this form to discuss with your family or anyone else you would like to review it. Do not agree to participate unless you are comfortable with this study as described below.

6. Purpose of Research: You are being asked to participate in a research study. The purpose of this study is to explore the risks and responses associated with drug overdoses. A primary goal of the study is to better understand why people overdose and how others respond to a drug overdose. We hope that the information we learn will help inform the development of services that could reduce frequency and health risks associated with drug overdoses.

You have been invited to participate in this study because you are a client of Prevention Point Philadelphia, and because you recently witnessed a drug overdose. A total of 100 individuals will participate in this study. Your participation in this study is voluntary. You may choose not to be a part of the study or you can stop participating in the study at any time you choose. If at any point in the study, you wish to withdraw your participation, just tell the interviewer of your decision.

7. Procedures and Duration: If you decide to participate in the study, you understand that the following will happen:

- A trained interviewer will conduct the interview. He/she will administer the interview on a laptop computer, where your answers will be recorded. You will be handed "cards" that contain possible responses to assist you in answering certain questions.
- A digital recording of the interview will be made. This recording will be destroyed after an accurate transcript of the interview has been created.

APPROVED
Office of Regulatory Research Compliance
Protocol # 19207-01
Approval Date: 09/27/10
Expiration Date: 09/27/11

Version 1
• You will be interviewed one time only. We estimate that the interview should take approximately 60 minutes to 90 minutes to complete.

8. **Risks and Discomforts/Constraints**: A potential risk of your participation in the study is that you may feel uncomfortable answering questions about your personal attitudes, beliefs and behaviors. Remember, however, that all of the information that you provide is confidential. None of the study’s reports or publications will use your name or any other identifying information. Only authorized members of the research team will have access to your information. Nonetheless, there is also the possible risk of loss of confidentiality.

   If you find that any potential risks or discomfort occur, you may stop your participation in the study at any time. You will also be able to call the study’s investigator, Dr. Stephen Lankenau to discuss any discomfort that you experienced during the interview.

9. **Unforeseen Risks**: Participation in the study may involve unforeseen risks, that is, other risks that we have not thought about ahead of time. If unforeseen risks are seen, they will be reported to Drexel University’s Office of Regulatory Research Compliance.

10. **Benefits**: There may be no direct benefits to you for taking part in this study. However, the information provided may contribute to our understanding of drug overdoses and drug overdose training programs. This information may contribute to the development of improved outreach, prevention, and treatment programs.

11. **Alternative Procedures**: There are no alternative procedures, or other opportunities to participate in this study except for this interview.

12. **Voluntary Participation**: Participation in this study is voluntary, and you can refuse to be in the study or stop at any time. There will be no negative consequences if you decide not to participate or to stop. Any fee you may be paid will be determined by the amount of time you spend in the study, and if you do not complete the study, the reason for leaving the study early.

13. **Stipend/Reimbursement**: You will receive a $25 cash reimbursement for your participation at the end of the interview.

14. **Responsibility for Costs**: Participation in this study will be of no cost to you.
15. **In Case of Injury:** If you have any questions or believe you have been injured in any way by being in this research study, you should contact Dr. Stephen Lankenau at telephone number (215) 762-2570. However, neither the investigator nor Drexel University will make payment for injury, illness, or other loss resulting from your being in this research project. If you are injured by this research activity, medical care including hospitalization is available, but may result in costs to you or your insurance company because the University does not agree to pay for such costs. If you are injured or have an adverse reaction, you should also contact the Office of Regulatory Research Compliance at 215-255-7857, 1601 Cherry St., Suite 10444, 3 Parkway, Philadelphia PA 19102.

16. **Confidentiality and Privacy:** In any publication or presentation of research results, your identity will be kept confidential. All materials relevant to your participation in the study will also be confidential. Neither your name nor any other information that could identify you will be linked to any of the information you provide during the study or in any of the study's reports or publications. The information provided and recorded during the interview on the computer will be saved using a code number. Then that computer file will be transferred from the laptop to a secure computer. This computer will be in a locked office at the Drexel School of Public Health that only Dr. Lankenau and other authorized members of the research team will have access to.

In any publication or presentation of research results, your identity will be kept confidential, but there is a possibility that records which identify you may be inspected by authorized individuals such as representatives of Drexel University, the institutional review board (IRB), or employees conducting peer review activities. You consent to such inspections and to the copying of excerpts of your records, if required by any of these representatives.

17. **Certificate of Confidentiality:** To help keep information about you confidential, the researchers will obtain a Confidentiality Certificate from the National Institutes of Health (NIH). This Certificate does not represent an endorsement of the research project by NIH. The Certificate will protect the researchers from being forced, even under a subpoena, to release any research data in which you are identified. This protection is not absolute, however. The Certificate does not prevent the investigators from voluntarily releasing certain information without your written permission if necessary to protect your rights or welfare, such as if you are injured, need emergency care, or have plans to hurt yourself. Additionally, if we learn about abuse of a child or elderly person, or that you intend to harm someone else, the investigators will report that to the proper authorities.
18. **Other Considerations:** If you would like more information about your rights as a research subject or if you have problems with a research-related injury, for medical problems please contact the Institution's Office of Regulatory Research Compliance at 215-255-7857, 1601 Cherry St., Suite 10444, 3 Parkway, Philadelphia PA 19102.

19. **Consent:**
   - I have been informed of the reasons for this study.
   - I have had the study explained to me.
   - I have had all of my questions answered.
   - I have carefully read this consent form and have received a copy of it.
   - I give consent voluntarily.

---

Investigator or Individual Obtaining this Verbal Consent                      Date

List of Individuals Authorized to Obtain Consent:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Day Phone #</th>
<th>24 Hr Phone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephen Lankenau</td>
<td>Principal Investigator</td>
<td>215-762-2570</td>
<td>323-326-6438</td>
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<tr>
<td>Karol Silva</td>
<td>Research Assistant</td>
<td>215-762-2652</td>
<td>323-326-6438</td>
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<tr>
<td>Meghan Fibbi</td>
<td>Interviewer</td>
<td>215-762-4186</td>
<td>323-326-6438</td>
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<td>Adjoa Boateng</td>
<td>Interviewer</td>
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