

## An exploratory study of opioid drug overdoses and how law enforcement officers are affected in their personal and professional lives

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### ABSTRACT

This exploratory study measures the impact on law enforcement as it relates to police officers responding to opioid drug overdoses. A brief survey was developed to explore how responding to opioid overdoses impacted police officers' personal and professional lives. The results indicate that 59% of the police officers surveyed (n=262) had responded to an opioid overdose while on duty and 46% (n=204) involved a fatal overdose. Data showed that 32.7% (n=139) of the officers indicated they felt uneasy regarding the potentially adverse effects of responding to an opioid overdose and 31.8% (n=135) experienced a heightened awareness of the danger to themselves or other family members. A preliminary examination of the data indicates that opioid overdose calls may be problematic for law enforcement, provoking anxiety and impacting their family lives. The limited study revealed a small percentage of officers experienced hopelessness or feelings that responding to opioid overdose incidents is futile. Post reactions such as anxiety were documented after administering Narcan® to victims of an overdose when children were present. There is a need for further research to gather additional data. At the time of this study, the use of Narcan by law enforcement was rare. Future research is recommended in assessing the anxiety level of officers administering Narcan versus other life-saving activities.

**Keywords:** *Opioids, overdose, Narcan, police officers*

### INTRODUCTION

Police officers have routinely been expected to respond to tragic situations such as homicides, child abuse, sexual assaults, domestic violence, and substance abuse crimes that may be highly stressful. These stress-triggering calls for service may have troubling implications for the individual police officer and law enforcement organization. One area that is gaining attention is the excessive use of opioids and

how police organizations are handling the opioid epidemic. With the new expectations for officers to administer life-saving treatments such as Naloxone to drug overdose victims, comes more responsibility usually expected of emergency medical services (EMS).

The Centers for Disease Control and Prevention (CDC) (2022) reported drug overdose deaths increased 29% between April 2020 and April 2021. Overdose deaths in 2021 due to opioid drugs reached 80,816. Remarkably, between 1 March 2020 and 31 August 2020, a study by Faust et al. (2021) found that 21,050 deaths were due to motor vehicle crashes compared to 48,032 drug overdose deaths. Patients prescribed opioids for chronic pain often develop a tolerance for the medication and crave more of the drug than doctors are willing to prescribe. Many who obtained the drug legally turn to the illegal drug market where they are exposed to the instantaneous and euphoric properties of drugs such as heroin. The use of opioids has quickly developed into a crisis due to the tremendous amount of Fentanyl flowing into the United States. The synthetic opioid Fentanyl is being used by the illicit drug market to lace drugs such as cocaine and heroin, causing death due to the potency of this drug in small amounts (Valdez, 2021). According to the National Institute on Drug Abuse (NIH), there were 56,516 synthetic opioid drug overdoses (primarily Fentanyl) in 2020, which was six times the number of cases in 2015.

### **Opioid Overdose Response by Law Enforcement**

Fentanyl and Carfentanil are synthetic versions of alkaloids extracted from the seeds of the poppy plant and are manufactured illicitly in China and sold to drug dealers via the internet. Synthetic opioids mimic natural pain relief opiates such as morphine and codeine but are more potent (Salle et al., 2019). Fentanyl is a Schedule II synthetic opioid and is 50–100 times stronger than morphine. Carfentanil, used as an animal tranquilizer, is 10,000 times more powerful than morphine (Clark & Hack, 2019; Leen & Juurlink, 2019). Law enforcement has responded to the opioid abuse crisis by exploring programs to save the lives of those abusing opioids rather than fixating on arrests. The medical community assists law enforcement by training first responders to administer medical aid to overdose victims during the initial contact.

### **Naloxone Treatment Outcomes**

The public health crisis of deadly drug overdoses involving synthetic opioid drugs has resulted in the Federal Drug Administration's (FDA) approval to administer Narcan to reverse the respiratory depression effects of opioids (Lurigio et al., 2018). Narcan is the trade name for Naloxone hydrochloride, a medication used safely since the 1970s as an opioid antagonist. The drug can be administered

intravenously, injected into muscle, or sprayed into the victim's nasal cavity (Skolnick, 2018). Initially, Naloxone was only used to resuscitate overdose victims by hospitals and Emergency Medical Services (EMS), but once the FDA approved the Narcan spray in November 2015, the drug became easier to administer. This made it feasible to explore the option for law enforcement to join the fight to prevent opioid drug overdoses.

Before exploring whether law enforcement officers should dispense Narcan, it is important to explore whether Narcan has been proven to save the lives of drug overdose victims. Ray et al. (2018), conducted a study between 2011 and 2016 in Marion County, Indiana known to have the "19<sup>th</sup> highest mortality rate for overdose deaths in the United States" (p. 2). EMS records and death certificates were obtained from individuals who were administered Naloxone after an overdose and effectively resuscitated. Over 4,700 individual records were reviewed during the study period (Ray et al., 2018). The results showed 78.7% of the study sample were alive at the end of the study period and only "3.3% of patients who had a non-fatal overdose event died of drug-related causes" (Ray et al., 2018, p. 5). Although this is only a small window of time, data confirms that Naloxone is being used successfully to revive opioid drug users after an overdose. Strategic planning that involves the medical community and law enforcement should continue to be explored to reduce overdose deaths.

### **Role of Law Enforcement in Overdose Reverse Initiative**

In the United States, there are ten times more active police officers responding to calls than paramedics (Davis et al., 2015). Law enforcement officers are often the first to have contact with drug overdose victims and therefore, as recommended by the Office of National Drug Control Policy, should be provided with life-saving reversal agents like Narcan. Law enforcement overdose reversal programs are being used nationwide and funding is often provided by the Department of Public Health, federal grants, and forfeiture money (Beletsky, 2014). Studies have shown that the initiative not only saves lives but improves community relations. When an officer responds to an overdose crisis and renders medical assistance to save a drug addict's life, this should quiet any fears others will have of calling and reporting an overdose emergency. The officer may also find that responding to a drug overdose call may offer the opportunity to provide information on drug treatment programs to those involved in the incident. Naloxone rescue programs have been developed in 42 of the United States as of 2018 and the initiatives are proving efficient (Lurigio et al., 2018).

### **Toll Taken on Law Enforcement**

While opioid overdoses have taken thousands of citizens' lives, little research has been conducted that considers the physical and psychological effects that police officers experience when responding to these tragic events. In a recent study, Smiley-McDonald et al. (2022) provided examples of conditions police officers faced while responding to overdose calls as well as the frustration they experience when they repeatedly respond to calls involving the same individuals. The police have responded to opioid overdoses during children's birthday parties and responded to as many as three overdose calls in an eight-hour shift. Officers reported feelings of anxiety described as "nerve wracking" as they waited for victims to respond to Naloxone resuscitation.

In a study by Carroll (2020), it was noted that officers' overdose response efforts often lead to compassion fatigue or professional burnout. These feelings may also be attributed to law enforcement's misperception of the dangers of secondary exposure to Fentanyl (Del Pozo et al., 2021). The United States Drug Enforcement Agency (DEA) and various media outlets have reported since 2016 that Fentanyl can be absorbed through the skin or inhaled if particles are airborne. The DEA advised extreme safety precautions were necessary when approaching a possible Fentanyl overdose, including a positive pressure suit with self-contained breathing apparatus (Herman et al., 2020). This alone is enough to cause anxiety and a delay in emergency response efforts and is unwarranted, according to the American College of Medical Toxicology (ACMT) and the American Academy of Clinical Toxicology (AACT). The scientific opinion of ACMT and AACT collectively is that the risk of exposure to Fentanyl for a police officer or EMS is minimal when responding to Fentanyl overdose calls. Nitrile gloves and an N95 mask are considered sufficient protective gear (Moss et al., 2017).

Very few incidents of Fentanyl exposure by first responders have been verified. Chiu et al. (2018) described the physical effects of suspected opioid exposure in two health hazard evaluation cases where five police officers were involved in two separate opioid response incidents. All five officers experienced physical symptoms ranging from becoming "sleepy, blurred vision, feeling drunk, and numbness in extremities" (p. 440). One officer eventually slumped to the ground at the scene, was administered Narcan by a fellow officer, and experienced rapid improvement while remaining on the scene (p. 441). While these officers suffered physical effects from exposure, the study does little to inform us of the psychological effects officers may experience. Additional research is needed to expand the literature concerning the physical and psychological impact experienced by law enforcement during and after their involvement in opioid overdose reversal initiatives. Data from the present study was collected from three counties in a southern state and examines the impact that opioid critical response incidents have on police officers.

## METHODOLOGY

A brief survey was designed to capture some of the basic demographic data of police officers, such as 1) age, 2) race, 3) gender, 4) number of years of law enforcement experience, 5) highest education level, and 6) primary shift worked. More importantly, the survey was designed to collect data that would inform us how often police officers in this state located in the southern region responded to drug overdoses, including opioid overdoses and how it impacts both their personal and professional lives. The survey was administered in February 2019 and the survey period ended in May 2019. Questions were yes and no responses and addressed emotional and physiological responses to opioid drug overdose incidents as displayed in question #14:

***In the past six months have you experienced any of the following after responding to opioid overdoses calls.***

Thoughts or reoccurring memories of responding to an opioid overdose

Anxiety due to the responsibility of administering Narcan

A lack of ability to control your thoughts concerning opioid overdose

Dreams about opioid overdose that you find disturbing

Thoughts or feelings that responding to opioid overdose calls is futile

Feelings of uneasiness when you are reminded of an opioid overdose

Trouble falling sleep at night

Physical reactions such as an upset stomach, perspiration, dizziness, or any other physical reactions

Once the survey was designed, letters were crafted and sent to police administrators asking permission and encouraging their officers to respond to the survey through a secure SurveyMonkey® webform. A total of 441 police officers responded to the survey from three different police agencies. Although it is not known specifically how many patrol officers are in each agency, the total officer count averaged 350 for two of the agencies and close to 1500 officers for the remaining agency. Data collected was then imported into SPSS for analysis. A Cronbach alpha was performed to determine reliability. According to Tavakol and Dennick (2011), acceptable Cronbach alpha levels range between .70 to approximately .90. The results from the survey produced a Cronbach alpha of .778,

which is considered acceptable. Except for several demographic questions in the survey such as those previously mentioned, all variables intended to inform us about officer responses and how they potentially impacted police officers were dichotomous, with a no (coded as 0) or a yes response (coded as 1). Regarding incident response questions, respondents were asked to provide either yes or no answers to sixteen brief questions. In developing the survey, we follow Brewin et al.'s (2002) advice for developing a short questionnaire rather than a lengthy questionnaire that still allows one to potentially measure post-traumatic stress disorder (PTSD) in individuals who have experienced traumatic events and measure their responses to these events to identify these individuals.

Brewin et al. (2002) conducted a study consisting of two samples. The first sample consisted of 41 individuals involved in train accidents. The second sample included 157 victims of violent crimes. Brewin et al. (2002) indicate that ideally instruments intended for screening should be short, simple, and easy to respond to. The less complicated the better, indicating questions should be easily understood by potential respondents. As such, our survey questions with regards to potential effects of overdoses were limited to sixteen questions to ascertain how responding to opioid overdoses may affect police officers. Once collected, descriptive statistics for each of the items were tabulated to develop a better understanding of how officers that respond to opioid overdoses may be affected.

## RESULTS

Surveys collected from three police departments resulted in a total of 441 responses. Social demographic data collected indicates that 85.4% (n=375) of the law enforcement officers were males and 14.6% (n=64) were females. With regards to race and ethnicity, 84.5% of the responding officers were White (n=370), 4.34% (n=19) were Black, 8.7% (n=38) were Hispanic, and the remaining 2.5% (n=11) identified themselves as some other racial or ethnic group. In terms of age, 32.1% (n=141) of the officers were aged 40 to 49, followed by 30% (n=132) who were aged 30 to 39. Those 50 and over comprised 26.4% (n=116), with the remaining sample, 11.4% (n=50), consisting of younger officers aged 20 to 29. Like most police agencies, most officers in the sample indicated they worked the first shift, followed by the second shift, with the least amounts of officers assigned to the third shift, as 66% (n=288) reported they worked the first shift, 21.3% (n=93) were assigned to the second shift and the remaining 12.6% (n=55) worked the third shift. All sworn officers within each agency were sent the survey via email.

Table 1. Demographic Data for Police Officers (n=441)\*

		<i>f</i> =	%
Gender	Male	375	85.4%
	Female	64	14.6%
	Total	439	100%
Race/ethnicity	White	370	84.45%
	Black	19	4.34%
	Latino	38	8.7%
	Other	11	2.5%
	Total	438	99.9%
Officer age	20-29	50	11.4%
	30-39	132	30.0%
	40-49	141	32.1%
	50 >	116	26.4%
	Total	439	99.9%
Education level	HS/GED	15	3.4%
	Some college	84	19.1%
	Associate	79	18.0%
	Bachelors	200	45.6%
	Advanced	61	13.9%
	Total	439	100%
Primary shift	First	288	66.0%
	Second	93	21.3%
	Third	55	12.6%
	Total	436	99.9%

\*Note: Some figures may not total 100% due to rounding.

## Overdoses and Circumstances

Almost 60% (59.5%) (n=262) of the officers in the sample indicated they had been involved in responding to an opioid overdose at least one time within the last six months. The next two questions did not specify a timeframe and the results indicate that of 390 officer responses, 79% (n=308) reported they had responded to at least one non-fatal opioid incident during their career. Pertaining to fatal opioid overdoses, 397 officers responded and 51.4% (n=204) stated they had attended a call involving an opioid overdose death during their career. When asked if their department required administering Narcan to overdose individuals per agency policy, 65% (n=260) reported they were not required by policy to administer Narcan to someone who had overdosed, while 35% (n=140) indicated they were required by policy to administer Narcan to an individual who had overdosed. Only a small number of officers, 7.7% (n=33), indicated they ever self-administered Narcan.<sup>1</sup> Of the 418 who responded to the question regarding children being present, 37.6% (n=157) indicated that children were present, while 62.4% (n=261) indicated that children were not present when they responded to opioid overdose calls. The higher response rate (418) takes into consideration that some study participants may have responded to both fatal and non-fatal incidents.

## How Police Officers were Affected

In this section, we report on how police officers were affected by responding to opioid overdoses. Respondents were asked to identify how responding to opioid overdoses in the past six months had impacted their personal lives. Of the officers who responded (n=425), 86.8% (n=369) indicated that responding to overdose calls did not affect their family life, while 13.2% (n=56) responded that they had an impact on their family life. Regarding having thoughts or reoccurring memories of responding to overdose calls, a total of 421 officers responded. Most officers, 84.8% (n=357) indicated they did not experience thoughts or reoccurring memories of responding to overdose incidents, while 15.2% (n=64) responded that they did. When responding to the question of whether they experienced anxiety from administering Narcan,<sup>®</sup> 89% (n=373) replied that they did not experience feelings of anxiety while 11% (n=46) indicated that anxiety was a factor when administering it.

Very few of the officers indicated they had difficulties controlling their thoughts. Only 2.4% (n=10) of the officers responded yes to this question while a large majority, 97.6% (n=411) indicated they did not have problems in this area. Very few reported they had disturbing dreams regarding responding to critical overdose incidents. Almost 97% (n=407) reported they did not experience disturbing dreams while only 3.1% (n=13) reported having disturbing dreams. Being reminded of

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<sup>1</sup> It should be noted that self-administering Narcan is personal administering of Narcan due to exposure.



overdose incidents only impacted 7.1% (n=30) of the officers and 92.9% (n=393) reported being reminded of overdose incidents was not problematic. The same number of officers indicated they did not experience trouble sleeping at night (92.7%, n=393) while 7.3% (31) reported they did have trouble falling asleep at night. Regarding experiencing some type of physical illness or symptom, very few, 2.4% (n=10) reported experiencing some type of physical ailment and the vast majority, 97.6% (n=422) did not experience any physical symptoms related to illnesses. Few reported having trouble controlling feelings of anger – only 3.8% (n=16) reported problems in this area while the majority, 96.2% (n=408) indicated controlling anger was not an issue for them. Likewise, few reported having trouble focusing or concentrating on tasks. Only 4% (n=17) indicated having trouble focusing on a task, while the vast majority, 96% (n=407) did not experience trouble concentrating.<sup>2</sup>

## DISCUSSION AND IMPLICATIONS

The data did not reveal a significant percentage of officers negatively impacted by the responsibility of administering Narcan to overdose subjects; however, considering the increase in opioid deaths in the last two years, the incidents officers will be required to respond to will most likely increase. The following were the areas most affected by police officers responding to overdoses. Three of the areas were previously mentioned but it is important to explain the context of the themes that appear to be most problematic. More than 50% (n=204) of the responding officers indicated they had responded to at least one fatal opioid overdose. Additionally, 37.6% (n=157) indicated that children were present when responding to overdose calls. A total of 35% (n=141) of the officers reported they had to administer Narcan to those overdosing. Another 32.7% (n=139) of the officers indicated they felt uneasy regarding the potentially adverse effects of responding to an opioid overdose, and 31.8% (n=135) experienced a heightened awareness of danger to themselves or other family members. Finally, 28.8% (n=122) of the police officers felt that responding to opioid overdoses was futile.

### Limitations

Several limitations to the study resulted in a restricted number of law enforcement agencies being sent the survey. Numerous agencies refused to participate due to various reasons, such as concerns by the administration regarding the sensitive nature of the study, and agencies simply claiming they were too busy to be of assistance. Also, more than twenty agencies failed to respond to multiple requests to participate in the study. When this study was conducted, opioid overdose deaths were disturbing; however, since the data was collected, models have been

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<sup>2</sup> Only a handful of officers reported worries about adverse effects on K-9 dogs, 4% (n=12) indicated they were worried and 96% (287) were not worried. Most of the officers were not K-9 handlers, so this question had the lowest response rate.

developed that can project future overdose trends. Tse Yang Lim, a researcher from the Massachusetts Institute of Technology, predicts overdose deaths in the United States could be 543,000–842,000 between 2020 and 2032 (Lim et al., 2022). The results of a follow-up study may produce additional insights into the well-being of officers as they face further challenges with increased overdose rates and the need to administer Narcan more frequently.

Another limitation of the study was the simple fact that numerous law enforcement agencies within the state chosen for the study do not provide Narcan to their officers to administer during drug overdose calls. According to Illinois Criminal Justice Authority (2019), only about 2,400 police departments across the United States administer Narcan from among the almost 18,000 police agencies in the United States (Reaves as cited in Dempsey et al., 2017, p. 41). Because at the time of this study the use of Narcan by law enforcement was rare, future research is recommended in assessing the anxiety level of officers administering Narcan versus other life-saving activities. These issues limit the study but leave the door open for additional initiatives and law enforcement populations to be examined in a similar manner.

### **Ethical Assurances**

Ethical principles are crucial when asking individuals to volunteer information about their personal and professional life. Ethical reporting of the research data followed the Institutional Review Board guidelines to ensure integrity and the theoretical framework. The researcher did not pressure anyone to participate in the study and did not harm participants mentally during the survey. Informed consent forms were included with each survey giving participants information about the researcher, the time the study would take, and the security of the password protected electronic format of the survey. Simple language was used to explain the study purpose and procedures. There was no risk associated with the study. The participants were notified there would be no compensation and that their identity would be coded for privacy.

### **Recommendations for Future Research**

While the study adds to the body of literature regarding opioid overdoses as it relates specifically to police officers' responses to such critical incidents, more research needs to be done. For example, were the officers that responded when children were present more affected than other incident circumstances because they themselves have children, and were female officers more affected? Do police agencies have policies in place when officers must administer Narcan that help the officers with their mental and physical well-being, as these events can be traumatic? Is the view that responding to these types of incidents is futile related to

Niederhoffer's (1967) theory of cynicism as it relates to time on the force? These issues limit the study but allow for additional initiatives to be explored.

## CONCLUSION

Since the COVID-19 pandemic, drug overdose deaths have been on the rise. The Centers for Disease Control (CDC, 2020) indicated that by the end of May 2020, drug overdose deaths in the United States had climbed to over 81,000, which is the highest number ever recorded during a twelve-month period. Clearly, this will put more officers at risk as they are frequently the first to respond to these situations. The CDC (2020) also reported that of the 38 United States jurisdictions that have opioid data available, 37 reported an increase in deaths due to an opioid overdose, 18 experienced increases greater than 50%, and 10 states located in the western region of the United States experienced over a 98% increase in opioid overdose deaths. However, COVID-19 may have exacerbated overdose deaths as some police departments have banned their officers from using Narcan with some ordering their officers to stay six feet away from anyone who overdoses (Feder, 2020).

This study contributes to the academic literature by providing insights into how police officers are affected when responding to opioid overdoses. For example, more than 13% indicated their family life was affected. Almost 29% indicated a sense of hopelessness and that responding to opioid overdoses was futile. Another 31.8% indicated they experienced a heightened awareness of danger, while 32.7% felt uneasily about the adverse effects once they responded. Finally, more than 37% indicated that children were present when they responded. Collectively, these responses provide troubling examples of a workplace stress for law enforcement that statistically will only increase with the influx of Fentanyl into the United States. The adrenaline rush experienced when police officers administer Narcan to an individual in distress is considered a threatening stimulus that may result in the officer feeling overwhelmed. The uneasiness experienced by an officer as they wait to see if Narcan will save the individual from a deadly overdose may cause anticipatory stress as well. El Sayed et al. (2019) state that chronic stressors experienced by law enforcement officers result in work-life imbalance, exhaustion, and burnout on the job.

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## TABLES AND FIGURES

**Table 1: Demographic Data for police officers**

Table 1. Demographic data for police officers (N=441)*			
		=	Percent
Gender	Male	75	85.4%
	Female	4	14.6%
	Total	39	100%
Race/Ethnicity	White	70	84.45%
	Black	9	4.34%
	Latino	8	8.7%
	Other	1	2.5%
	Total	38	99.9%
Officer Age	21-29	0	11.4%
	30-39	32	30.0%
	40-49	41	32.1%
	50 >	16	26.4%
	Total	39	99.9%
Education level	HS/GED	5	3.4%



	Some college	4	19.1%
	Associate	9	18.0%
	Bachelors	00	45.6%
	Advanced	1	13.9%
	Total	39	100%
<hr/>			
Primary Shift	First	88	66.0%
	Second	3	21.3%
	Third	5	12.6%
	Total	36	99.9%

\*Note: Some figures may not total 100% due to rounding.

**Table 2: How opioid overdoses affected police officers**

Table 2. How opioid overdoses affected police officers			
	Yes	No	Total
Affected my family life	56 13.2%	369 86.8%	425 100%
Thoughts or reoccurring memories	64 15.2%	357 84.8%	421 100%
Anxiety due to administering Narcan	46 11.0%	373 89.0%	419 100%
Lack of ability to control thoughts	10 2.4%	411 97.6%	421 100%
Disturbing dreams	13 3.1%	407 96.9%	420 100%
Thoughts/feelings responding is futile	122 28.8%	302 71.2%	424 100%
Uneasiness when reminded of overdoses	30 7.1%	393 92.9%	423 100%
Trouble falling asleep at night	31 7.3%	393 92.7%	424 100%
Physical reactions such as upset stomach	10 2.4%	422 97.6%	432 100%
Difficulty controlling anger	16 3.8%	408 96.2%	424 100%
Focusing or concentrating on tasks	17 4.0%	407 96.0%	424 100%
Heightened awareness of danger	135 31.8%	290 68.2%	425 100%
Uneasiness regarding the adverse effects	139 32.7%	286 67.3%	425 100%
Are you a K-9 officer?	6 1.4%	427 98.6%	433 100%
Worried about adverse effects to K-9	12 4.0%	287 96.0%	299 100%

Figure 1: Response rates & incident circumstances

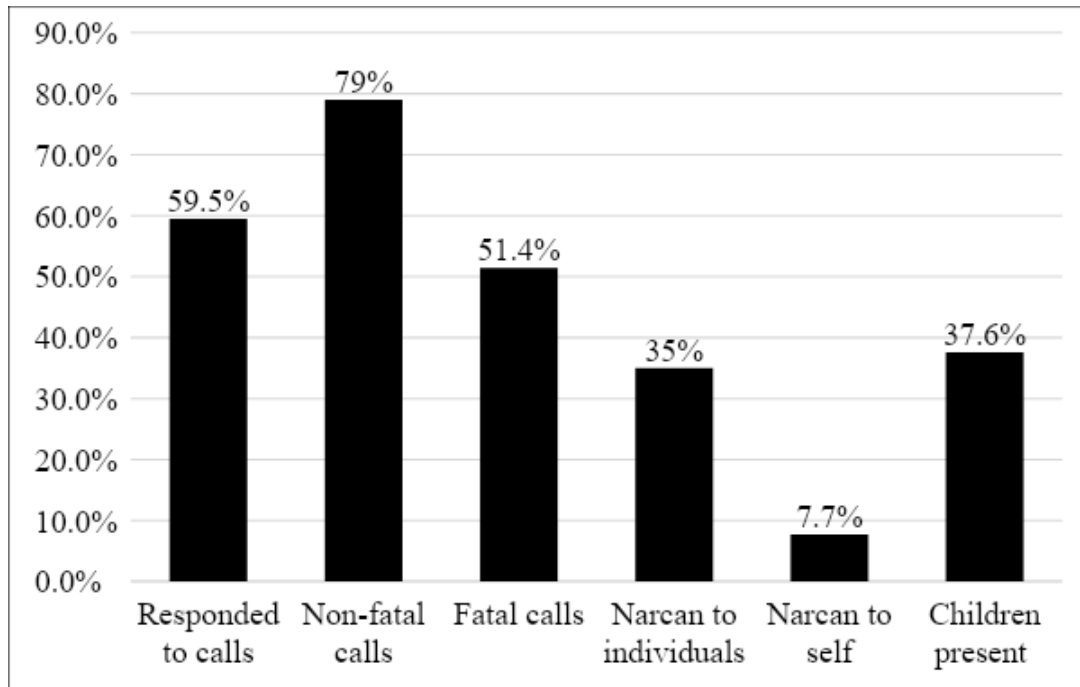


Figure 2: Six areas with the highest response rates

