Rural Responses to the Opioid Crisis
In Southwestern Pennsylvania

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Executive Summary

Our report addresses the findings of our study titled, "Opioid Overdose Death Rate Investigation." The major objective of this 6-month study (June 2018 to December 2018) was to investigate the circumstances surrounding the sudden rise in opioid-induced overdose deaths in the region from 2015-2017, and the subsequent drop in deaths in 2018. Our focus was on rural Southwest Pennsylvania and included Armstrong, Blair, Clarion, and Indiana counties.

Our study involved over 50 hour-long interviews of opioid and heroin users/ex-users in the four counties. Seventeen of these were interviewed a second time because they had recently survived an opioid-induced overdose. To reduce the major problems inherent in gaining access to a difficult-to-study population we employed the ethnographic method. Members of this community were trained as the interviewers, and interviewees were identified and recruited using a purposive sample. We also interviewed 50 professionals involved in this crisis including single county authority directors, district attorneys, coroners, treatment providers, counselors, EMS professionals, and law enforcement officers.

Our first conclusion, believed by professionals and confirmed by users, is that there is widespread polydrug use in these counties. All drug users we interviewed several other drugs, including cannabis, cigarettes, and alcohol before age 20, and most used benzos, ecstasy, cocaine, and/or Adderall before age 20. Also, all users claimed to have started using either heroin or opioids before age 20. *Our first recommendation, therefore, is that communities not focus exclusively on the heroin/fentanyl crisis, and that preventing drug use in the teen years be particularly emphasized.* Also, drug use can migrate to other drugs. Our interviews revealed methamphetamine and cocaine/crack were increasing in all four counties.

Professionals and users agreed the introduction of fentanyl and similar substances into the heroin supply was the main cause of the rapid rise in accidental overdose deaths in the region. Many overdose victims explained they didn't know they were taking fentanyl at the time of their overdose. However, for those who survived, fentanyl became a substance they grew warier of. Some adopted harm-reduction techniques, such as testing a small dose before taking a full dose. Others were alerted in conversations with their drug dealer about potentially harmful batches. *We recommend these and other harm-reduction techniques be taught and advocated for in hard hit regions. For example, we recommend the introduction of fentanyl test strips to the user community.*

Importantly, we did not find strong evidence that the user population intentionally stopped using drugs because of the invasion of a more dangerous drug. Nor did a majority of the 17 overdose survivors we interviewed seek treatment immediately after their first overdose. *Therefore, we recommend continuing and launching new aggressive outreach programs toward heroin users.* The ARMOT program (Addiction Response Mobile Outreach Team) and other warm handoff programs are good examples, as are the leave behind packets handed out by Citizens Ambulance. However, not all overdose victims are coming into contact with first responders.

We concluded that many heroin users, at least in these rural communities, are using alone. Thus, they are being revived, when they overdose, by people who discover them. None of them are being intentional about having naxalone (Narcan) on them or displayed to others in case they overdose.

However, Narcan is being used by friends, family, and bystanders to revive opioid overdose victims. Unfortunately, often the individuals involved do not call EMS or police. This bystander use of Narcan is undoubtedly saving lives, but it is also reducing potential entries into treatment. *We therefore must recommend that communities be aggressive in getting Narcan into the hands of people who surround the user.* However, we also found that individuals are not being intentional about obtaining refills. *Thus, we also recommend that communities increase refill opportunities for Narcan, and training, since occasionally we discovered Narcan wasn't being administered properly*.

Our conclusion is that drug availability has increased in these rural areas, and prices have not been significantly affected. Despite efforts by law enforcement to reduce supply, demand is being met. *We do recommend law enforcement remain part of drug free coalitions and task forces*, despite the role conflict they might experience between their traditional role of arrest and deterrence versus their emerging function as first responders and treatment gateways. *We also recommend the user/ex-user community begin to play a larger role in community collaborations.* Though we heard glowing reports of the ease of communication and problem-solving capacities of the coalitions/task forces, we also found various professionals had mismatched beliefs about users and their behaviors, such as the myth of "Narcan parties." Knowing about true local conditions would be invaluable to communities.

Nearly all participants in both groups described treatment as available and affordable. Most could describe many levels of treatment available, including inpatient and outpatient services. Nearly all knew that a drug user could access these services for free, if they qualified. The users were particularly knowledgeable about available treatments, but nearly all our interviewees had gone through a treatment protocol before entering our study. Some from both groups commented on how current treatment plans were too short. They argued longer inpatient and outpatient stays were needed. Some also discussed barriers to treatment such as waiting for a bed, transportation issues (mainly for outpatient care) and missing employment for treatment*. We recommend that efforts be undertaken to support long-term engagement in treatment, based on each individual's treatment and support needs. This would include ensuring sufficient capacity at all levels of care and expansion of long-term recovery supports.* Substance Use Disorder (SUD) is a life-long disease requiring maintenance and care for the long term. It also requires aggressive campaigns against the stigma associated with it.

Regarding official anti-drug campaigns, most participants in both groups acknowledged seeing more prevention and education messaging in their communities. However, though a few speculated it might have an impact, no one said they thought overall drug use, or heroin use in particular, had dropped significantly. Thus, these campaigns are not likely the cause of the drop in accidental overdose deaths.

Many in both groups felt the "Good Samaritan" law was not dramatically changing user behavior. Professionals suspected users still didn't trust they would be free of legal consequences if they called EMS, police or 911 for a friend who had overdosed. Our interviews with users confirmed this.

I. Introduction

Our report presents the findings of our Pennsylvania Department of Drug and Alcohol Programs (PA DDAP) funded research project titled, "Opioid Overdose Death Rate Investigation." The major objective of this one-year study (April 2018 to Dec 2018) was to investigate the circumstances surrounding the sudden rise in overdose deaths due to opioids in the region from 2015-2017, and the subsequent drop in deaths in 2018. At first, this drop was observed primarily in Indiana County, but it also occurred by early 2018 in Armstrong, Blair, and Cambria counties.

Since this phenomenon has not been studied in these rural areas, a qualitative, exploratory approach was adopted. This permitted a rich and detailed data set to be gathered from both users and ex-users in the region and by a variety of professionals and first responders.

We begin our report by introducing the research problem, including quantitative data gathered during the study. This allows contextualizing the circumstances with a broad lens while narrowing the research questions into sub-categories. We continue with a discussion of our research methods. Next, we present our major findings in three sections. We first address our findings from the more than 50 interviews we collected from professionals in Armstrong, Indiana, Blair, and Clarion counties. We then discuss our initial interviews with more than 50 heroin/opioid users. Finally, we present our results from 17 in-depth follow-up interviews with users who experienced an overdose due to heroin/opioid use. In the last two sections, we present our discussion of the results and, finally, a list of recommendations.

II. Research Problem

A. Research Aims

The major objective of this study was to advance understanding of the opioid crisis in four southwestern Pennsylvania counties. These counties experienced a rapid rise in accidental overdose deaths due to heroin/fentanyl from 2015 to 2017 but saw an equally rapid decline in 2018. All four counties had among the highest rate of overdose deaths in the state in 2016/2017, and all four already had or had recently begun overdose task forces and drug free coalitions. These groups, plus the various front-line agencies tasked with policing or treating the drug crisis, responded in a variety of ways, including the initiation of new programs.

We used a qualitative research design to capture the experiences and responses of both professionals and drug users/ex-users to this crisis. This approach is particularly useful for exploratory studies of current public health problems. The rich interview texts provide invaluable insights into the behaviors and experiences of those who have overdosed and those who are around them.

The fundamental graph that drove the research is shown in **Chart 2.1**. It shows a steep rise in overdose deaths for all four counties from 2014 to 2016. In 2017, it rose in some counties but dropped off slightly in others. In 2018, all four counties experienced a dramatic decline in overdose deaths. **Chart 2.2** shows these data re-graphed by the rate of overdose deaths per 100,000 per county. All four counties experienced the same rate of decline from 2017 to 2018. These data come from OverdoseFreePA.org, the Pennsylvania state coroners' report, and individual county reports.

B. Indiana County Trends

At the time this study was launched, the team was particularly interested in the decline in overdose deaths in Indiana County. This was the only county reporting a dramatic decline in overdose deaths in November of 2017. This trend continued at least until March 2018. Because of this, the team requested various data sets that describe Indiana County. One example was the EMS data provided by Citizens Ambulance Service. Citizens Ambulance is the sole EMS provider in Indiana County, therefore, its data describes the entire county (none of the other counties have only one EMS provider). **Chart 2.3** shows the number of calls this service provider received for two different types of emergencies: heroin- and opioid-related responses versus alcohol-related responses. Heroin and opioid calls dramatically climbed in early 2016 and continued to rise until early 2017. They stayed high until November of 2017, then fell dramatically. They climbed again in the middle of 2018 but remained below 2017 levels. Thus, the EMS data corroborated the overdose death data. A decline in both overdoses and deaths due to overdose started to occur in Indiana County in late 2017 and continued until at least the middle of 2018.

This pattern was also observed at Indiana Regional Medical Center (IRMC), the only hospital in Indiana County. The Psychiatric Liaison report for 2018 documented an increase in ER visits for patients currently using a substance and for patients reporting previous substance use. This rise occurred from 2015 to 2017 but declined sharply in 2018. This can be observed in **Chart 2.4**.

This drop-off in 2018 was also observed for people contacted by the "warm hand-off" program atIRMC. Staffed by Certified Recovery Specialists and locally called the ARMOT (Addiction Response Mobile Outreach Team) program, the team experienced a drop off in individuals reporting an overdose in November and December of 2017. The average monthly contact in 2018 remained below the averages from 2016 and 2017. This pattern is shown in **Chart 2.5**.

This pattern was replicated in one source of treatment data for Indiana County. The case management team at the Armstrong-Indiana-Clarion Drug and Alcohol Commission (AICDAC), the single county authority for these three counties, reported a decline in patients seen for heroin use in Indiana County in September of 2017. The decline continued well into 2018. **Chart 2.6** shows this pattern.

However, this pattern was not replicated by the treatment data provided by Value Behavioral Health (VBH) for Indiana County. This data show the expenditures VBH paid for various services during this time period. Because a new inpatient treatment facility had opened in Indiana County in October of 2015, a large rise in opioid-related therapy quickly followed. Patients from other counties were treated at this facility so this rise cannot be attributed solely to Indiana County. **Chart 2.7** shows that the number of patients receiving opioid-related therapy via VBH's pay system stayed high in late 2017 and early 2018. There was a brief drop-off in non-opioid related patients in September/October 2017, but it rose again in early 2018. Notably, there was neither a dramatic rise nor decline in patients receiving opioid-related treatment in late 2017/early 2018. Thus, the drop-off in overdose calls received by EMS and the drop-off in overdose-related deaths in November 2017 thru March 2018 cannot be attributed to a large increase or decrease in the number of opioid users receiving treatment via VBH.

One other feature of Indiana County that we sought data on was Narcan (naxalone) distribution. Because of various grant requirements, the Armstrong-Indiana-Clarion Drug and Alcohol Commission tracked its Narcan distribution for several years. From these data our team was able to build **Chart 2.8: Cumulative Distribution of Narcan by AICDAC** in the three counties. Thousands of kits of Narcan, with

two doses per kit, had been distributed by late 2017 in Indiana County. More than 500 kits had been distributed in Armstrong County. Those numbers continued to climb and reached over 2,200 kits in Indiana County by November 2018 and 1,300 kits in Armstrong County. In contrast, by March of 2019, the Cambria County Drug and Alcohol Program reported it had distributed 224 Narcan kits by that date. The Blair County SCA reported having distributed 107 kits in 2017, 237 in 2018, and 102 by May 2019 (a cumulative total of 631 kits). The Blair SCA also reported 185 kits were additionally distributed to the public through pharmacies under a program titled "Project Lifeline." Thus, at least 816 kits were distributed in Blair County.

It is possible the large number of Narcan kits distributed in at least three of these four counties had an important impact on the overdose death rate. Since Cambria County has more than one drug coalition/community organization, it is possible its Narcan distribution numbers are larger than reported here.

C. Drug Supply in the Region

Toxicology reports from all four counties support the claim that it is fentanyl and its analogs (such as carfentanyl) that have been the main cause of the spike in overdose deaths in the region. **Charts 2.9, 2.10 and 2.11** show the toxicology results for overdose deaths in 2018 for Armstrong, Cambria, and Indiana Counties, respectively (Blair was not available at the time of this report.) They all show fentanyl as the number one drug present in the toxicology reports for all three counties. Heroin and acetyl fentanyl are in the top four for each county.

The decline in overdose deaths experienced by these counties could be due to a dramatic drop in the availability of fentanyl of heroin laced with fentanyl (or its analogs). However, according to the report "The Opioid Threat in Pennsylvania," (Drug Enforcement Administration, 2018, pp. 7-10), the availability of heroin and fentanyl has continued to rise in the rural areas of the state. The report notes it has been getting harder to obtain heroin without fentanyl in recent years and months. Similarly, though there have been drug busts and multiple seizures of drugs in these counties throughout this time period, there was not a significant bust or halt in the supply of heroin/fentanyl in middle to late 2017 that could account for the decline in overdose deaths in all four counties. Thus, it is not probable that a drop in the supply of heroin/fentanyl is the cause of the decline in deaths.

Another class of drug that has contributed to rises in Opioid Use Disorder (OUD) is prescription pain pills. Studies have reported that many current heroin users were once, or remain, users of illicit pain pills. A few years ago, Pennsylvania became one of the last states to implement a Prescription Drug Monitoring Database (PDMP). It is possible that the state was effective at dramatically reducing the supply of illicit pain pills in Pennsylvania. Or perhaps just the rural regions experienced a significant drop in pain pills. This might account for the drop in overdoses and overdose deaths.

However, this hypothesis does not receive strong support. Though the same DEA report does show a drop in the number of prescriptions filled for oxycodone and hydrocodone from 2015-2017 across the state, the drop is not dramatic and does not suggest a significant drop for 2018. **Chart 2.12: Prescriptions and Dosage Units for Oxycodone and Hydrocodone** from 2015-2017 is a reproduction of a chart provided in the DEA report (p. 5). A similar pattern was observed for the four counties. In particular, though the number of prescriptions for oxycodone dropped, the number of "dosage units"

remained the same across this time period. This trend was confirmed to have continued throughout 2018 in a presentation by a DEA agent on June 17, 2019 in Butler, Pennsylvania.

There is little data to suggest that a large drop in overdose deaths in these counties is accounted for by a drop in the number of prescription pain pills available for misuse.

Therefore, neither a large drop in the supply of fentanyl-laced heroin, nor a large drop in the availability of illicit pain pills, received strong support from the quantitative data we examined as likely causes of the drop in overdoses and overdose deaths.

However, other causes of the decline do exist and could be examined by the qualitative approach adopted by our team. These include: a drop in overdose deaths due to a reduction in the number of people in these communities using heroin/fentanyl; a switch to a different, less dangerous, drug by a significant portion of the drug-using community; an increase in the use of harm reduction techniques by this same population; and/or an increase in the use of Narcan to revive overdose victims.

III. Research Design and Methods

Qualitative data were gathered across four counties using structured and open-ended interviews with current and ex-drug users, coroners, emergency and medical service (EMS) responders, emergency and receiving (ER) personnel, treatment providers, and police, all of whom have different experiences and insights regarding opioid overdoses in the region. The qualitative research approach is ideal for exploratory studies such as ours, designed to gather information on an understudied public health problem. It is not based on numerical data used to identify large-scale patterns and does not employ statistical analysis to determine causal and correlative relationships among the variables of the study. Instead, the emphasis is on gaining insights from rich interview texts and reaching an understanding of behaviors through an induction process; in the case of our study, behaviors resulting in opioid overdoses. There is a tradition of using the qualitative method to conduct drug use research, one that spans several decades across different social science disciplines, especially in anthropology and sociology (Singer, 2012; Shiner, 2009).

Pursuant to qualitative research in public health, we implemented the best science possible, particularly regarding validity and reliability. The former refers to the integrity of the methods undertaken and how accurate the findings reflect the data, while the latter refers to the consistency within the analytical process implemented in the study. We adopted some of the measures that Lincoln and Guba (1985) and others (e.g., Golafshani, 2003; Noble & Smith, 2015, Morse, Barrett, Mayan, Olson, & Spiers, 2002) recommend for assuring validity and reliability in qualitative research. They are as follows:

Ongoing critical reflection of methods, in our case the interviews, to ensure depth and relevance of data collection;

- Meticulous record keeping;
- Demonstrating a clear decision procedure and ensuring interpretations of data are consistent and transparent;
- Seeking out similarities and differences across accounts to ensure different perspectives are represented;

- Including rich and verbatim descriptions of participants' accounts to support findings;
- Demonstrating clarity in terms of thought processes during data analysis and subsequent interpretations;
- Data triangulation, whereby different methods, (in our case, different interviews with different samples) and perspectives are used to produce more comprehensive findings.

The study started in March 2018, with the development of interview questions for our different populations, and a year later resulted in this final report. The Internal Review Board (IRB) of Indiana University of Pennsylvania (IUP) approved our human subjects protocol for the project in the same month. The log number of our approval is 18-112 EXT, "Opioid Overdose Death Rate Investigation." Any changes to our original research plan were approved by the IRB before implementing them.

A. Research Sites

The research sites for our study are four adjacent counties in the region—Indiana, Armstrong, Blair, and Cambria—selected according to their overdose rates in 2017. Indiana and Armstrong counties had high overdose rates. In 2016, the top drugs found in overdose deaths in Indiana were fentanyl, ethanol, and heroin; and in 2017, the top drug was fentanyl. In 2016, the top drugs in Armstrong County were fentanyl, heroin, and oxycodone and in 2017, fentanyl. Cambria County was in the top five counties in the Commonwealth of Pennsylvania for overdose deaths for 2015 and 2016, and Blair was in the top 75 percent (available via the PA State Coroners Association report published annually). In 2016, the drugs found in overdose deaths in Cambria County were fentanyl, heroin, and oxycodone; and in 2017, the top drug was still fentanyl. In Blair County in 2016, the leading drugs found in overdose-related deaths were fentanyl, alprazolam, and clonazepam. In 2017, the top drug was also still fentanyl.

Table 3.1: Demographic and Economic Characteristics of Armstrong, Blair, Cambria, and Indiana Counties lists basic demographic and economic activities of each county. The total population of Indiana County is 87,491, with a near perfect split between male and female residents. In terms of race, 94.5% of residents are white, 2.4% black, 1.3% Hispanic origin, and 3.0% other races. Armstrong County encompasses a population of 67,512 people, with nearly an equal proportion of men to women. Nearly 98% of the population is white, 0.9% black, 0.7% Hispanic origin, and 1.2% other races. Blair County's population rounds out at 125,917, with 64,263 female residents and 61,654 males. When race is considered, 95.8% of individuals are white, 1.6% are black, 1.1% are of Hispanic origin, and 2.6% are of other races. Of the four counties, Cambria County had the largest population, 137,762 residents, and a near equal proportion of men to women. In all, 93.8% of residents are white, 3.3% black, 1.5% Hispanic, and 2.8% other races. All four counties, particularly Cambria County, are losing population.

There are no major differences in the educational attainment of the residents across the four counties. Nearly half of the residents have completed high school, and, depending on the county, a little over 30% earned an Associate's or Bachelor's degree. The size of the workforce differs according to the population size of the counties. Cambria County has the largest workforce at 57,641, followed by Blair County at 56,996. Although Armstrong County has the smallest population at 65,642 inhabitants, it has the highest unemployment rate. All the counties are losing workers; Armstrong and Indiana counties have the highest attrition rates. About 18% of Indiana County's population lives below the poverty line, 13.2% in Armstrong County, nearly 15% in Blair County, and about 16% in Cambria County. Except for Indiana County where it is young men between the ages of 18 and 24, most people living in poverty

were women ranging in age from 18 and 44. Blair and Cambria counties have the highest number of inhabitants receiving Medicare; 9,733 and 7,660, respectively.

B. Research Populations

In each of the four counties, our research sample was divided into two groups—henceforth referred to as professionals and users. Professionals consisted of coroners, EMS responders, ER personnel at clinics and hospitals, treatment providers, and law enforcement personnel. The users group was comprised of current and ex-drug users of illegal psychoactive substances, such as heroin and unprescribed opioids, codeine, fentanyl (e.g., Actiq, Duragesic, Fentora), hydrocodone (e.g., Hysingla ER, Zohydro ER), and hydrocodone/acetaminophen (e.g., Lorcet, Lortab, Vicodin) drugs. Ex-drug users, or individuals who had abstained for the last two years, were included because of their drug use experience in the region. These two populations, especially the subgroups within each, were selected because of their knowledge about or experience with opioid use disorders in the four counties.

I. Professionals

Table 3.2: Coroner, EMS Responders, ER Personnel, Treatment Providers and Law Enforcement lists the number of respondents in each of the five categories of the professionals group. In all, the sample consisted of 55 individuals: 13 in Armstrong County, 10 in Blair County, 16 in Cambria County, and 16 in Indiana County. The EMS responders were ambulance workers and paramedics; ER personnel, physicians, and triage nurses; treatment providers, directors and other staff; county drug commission directors (SCA); and law enforcement, local police and state troopers. All coroners were included. Either the district attorney or assistant district attorney was interviewed in all four counties. EMS personnel were interviewed except in Blair County. Medical providers, law enforcement officers, and treatment providers were interviewed in all four counties. Treatment providers were interviewed more than any other group in this population, as we suspected they, more than the others, would have key insights into local drug use. The disparities in the number of respondents across the different groups is a result of our sampling procedure, in which the objective is not to get an equal number of respondents across the groups but to get some representation in each. Also, not all identified prospects had the time or willingness to be interviewed.

Sampling Procedure

Our professionals sample of 55 interviewees was recruited using purposive sampling, a non-probability sampling procedure commonly used in qualitative research (Palinkas, 2013). This sampling procedure calls for the identification and the selection of a sample that is representative of the population being considered (in our case the six occupations) to derive conclusions about a behavior from a limited number of observations. As such, our interview prospects in this group were selected based on whether they were a coroner, district attorney or assistant district attorney, EMS responder, ER or medical personnel, treatment provider, single county authority director, or law enforcement. The sampling procedure was implemented in three basic steps. First, prospective interviewees were identified through our contacts at local drug commissions, such as the Armstrong-Indiana-Clarion Drug and Alcohol Commission, drug task forces, or through public online service listings. Second, once identified, they were listed as possible interview prospects. Third, the prospects were then contacted by email or telephone, informed of the study, and scheduled for an interview.

Interviews

The professionals were interviewed using a four-page, structured and open-ended interview guide divided into five sequential sections: demographic background, work responsibilities, community drug use, Narcan, and overdoses. A copy of the interview guide is in **Appendix C**. Open-ended questions are ideal for exploratory research; they allow the respondents to provide detailed responses, in their own words, not the researchers', and to express themselves freely. All respondents were asked the same questions with some variations, especially in the last section (overdoses), to account for occupation and corresponding knowledge. The following section lists the overdose questions for the coroners, emergency and medical service responders and emergency and receiving personnel, treatment providers, single county authority directors, and law enforcement officers.

Coroner Interviews and SCA directors: The coroners were asked the following questions: In the last six months, has there been an increase or decrease in overdose-related deaths (ODs) in your county? What are the numbers of deaths during this period? What were the number of overdose deaths in 2015, 2016, and 2017? Do you think these figures are accurate? Why the increase or decrease in overdose deaths during the last six months? In your opinion, why the increase or decrease in overdose deaths from 2015 to 2016, 2016 to 2017, and 2017 to the present? What drug, or combination of drugs, were responsible for the overdose deaths during the six months, 2015, 2016, and 2017? Do you believe drug use (and perhaps ODs) is the same but reporting is simply going down? Why? Do you think any "official" efforts are affecting drug use or ODs? What are they? Do you think there has been more prevention messaging getting to the community? Other messaging? Before the interview ends, would you like to share something about the increase or decrease of overdose deaths in your county that we have not discussed?

EMS Responders and ER Personnel Interviews: The EMS responders and ER personnel were asked the following: In the last six months, has there been an increase or decrease in overdoses or drug-related EMS visits in your service area or hospital? Do you know the numbers of overdoses or drug-related EMS visits during this period? Do you know the number of overdose or drug-related EMS visits in 2015, 2016, and 2017? Why the increase or decrease in overdoses or drug-related EMS visits during the last six months? In your opinion, why the increase or decrease from 2015 to 2016, 2016 to 2017, and 2017 to the present? What drug, or combination of drugs, do you think were responsible for the overdoses and EMS visits during the six months? In 2015, 2016, and 2017? Do you believe drug use (and perhaps ODs) is the same but reporting is simply going down? Why? Do you think any "official" efforts are affecting on drug use or ODs? What are they? Do you think there has been more prevention messaging getting to the community? Other messaging? Is Narcan available/present? Are people using Narcan to revive ODs? Are they doing this without calling EMS? Where are they getting Narcan? Where are they getting refills? How many do you think have Narcan? Before the interview ends, would you like to share something that we have not discussed?

Treatment Providers and Law Enforcement Officers: Treatment providers and law enforcement officers were asked the following: What do you think are/have been current trends in drug use given your present experiences or what you have heard? What do you think are the drugs of choice? Are people taking stimulants with depressants, such as heroin? What percentages of each across the county/community? Are there certain drugs high-risk users are predominantly taking? Is there a drug or combination of drugs perceived to be more likely to be fatal? Have you seen a drop in certain drugs on the market, or price go up or down? If so, why do you think that is? What do you think happened last

year regarding the availability of drugs and their use? What do you think is coming? Have you seen any signs of harm reduction (to be defined for them, if they are not familiar with the concept)? Is Narcan available in your county? Are people using Narcan to revive ODs? Are they doing this without calling EMS? Where are they getting Narcan? Where are they getting refills? How many do you think have Narcan? Do you believe drug use (and perhaps ODs) is the same but reporting is simply going down? Why? Do you think any "official" efforts are affecting drug use or ODs? What are they? Do you think there has been more prevention messaging getting to the community? Other messaging?

The interviews took anywhere from 40 to 90 minutes to complete and all were audio recorded at the interviewee's office or at a private location of his/her choice using a portable digital recorder. Within 24 hours, one of the investigators listened to the interviews, and if information was found to be contradictory or unclear, a follow up interview was conducted. The interviews were transcribed by a reputable transcription company used by the IUP Applied Research Lab.

The interviewers for this group consisted of one master's student in sociology at IUP and four faculty members at the same institution; one in the Department of Journalism and Public Relations and three in the Department of Sociology. All five interviewers were familiar with opioid use in the region. The interviewers completed the required ethics training and the projects' mandatory training sessions regarding human subjects and interviewing strategies.

II. Users

Table 3.3: Armstrong County Users Demographic Characteristics includes the number of respondents in Armstrong County and their basic demographic characteristics, such as age, gender, education, and marital status. **Table 3.4: Blair County Users Demographic Characteristics, Table 3.5: Cambria County Users Demographic Characteristics,** and **Table 3.6: Indiana County Users Demographic Characteristics**, contain the same information. Fifty professionals were interviewed in all four counties: 11 in Armstrong County, 11 in Blair County, 14 in Cambria County, and 14 in Indiana County. Overall, 27 were men and 23 women. They ranged in age from 22 to 61 years. In adherence to our human subjects' protocol, we did not recruit or interview anyone under 21 years of age. The majority of respondents were single, comprised of 25 unmarried men and 19 unmarried women. Fifteen men did not have children, and six women did not have children. The number of men who finished high school was 13 and for women 11. Eighteen men and women went to college or trade school in this group; 8 men and 10 women.

Table 3.7: Demographic Characteristics of Overdose Interviewees lists the demographic characteristics of the 27 overdose cases in the users group. Over half of the overdose population experienced a heroin or other opioid overdose, and, as will be discussed in another section of this report, some overdosed multiple times. This population ranged in age from 22 to 54 years with a mean age of 31.4. Regarding gender, 14 self-identified as males and 13 self-identified as females. All but three completed a high school education, and 12 attended some college or trade school. The majority were single at the time of the interview, and nearly half had no children.

Sampling Procedure

The sampling procedure for the users was a variation of respondent-driven sampling in which one interviewee refers the interviewer to another prospect, who in turn does the same. Respondent-driven sampling is the standard recruitment procedure in illicit drug studies and other studies involving a

"hidden" population (Gail & Handcock, 2010). Individuals in these populations are difficult to find, and when located, a challenge to recruit. We implemented our sampling procedure in three steps. In the first step, after an individual was interviewed, he/she was asked to identify two or three current or ex-drug users and to help the interviewer make contact with them. In the second, the interviewer contacted the prospect, informed him/her about the study, and scheduled an interview. In the third, after the interview, the interviewer commenced the process again. Having the interviewees involved in the recruitment from start to finish assured the prospective interviewee followed through and participated in the study.

After all the user interviews were completed, respondents who experienced an opioid overdose were identified and contacted for a follow-up interview on their overdose experiences. In all, 27 overdose cases were identified and contacted but only 17 agreed to another interview about their overdose experiences. Ten were not interviewed for several reasons: Four could not be located, two did not respond to a request for a follow-up interview, one declined to be interviewed, one suffered a fatal overdose, one was incarcerated during the follow-up interviews, and one was not contacted. Most of the interviews were conducted in Armstrong and Indiana counties.

Interviews

The users were interviewed using a six-page, structured and open-ended interview guide comprised of seven sequential sections: demographic background, employment and work history, personal drug use, drug use in the community, Narcan, drug overdoses, and final comments. They were designed to complement the sections of the interview guide of the professionals. A copy of the interview guide is in **Appendix C**. The first two sections provided basic demographic and employment characteristics. The other sections focused on personal drug use (both past and present), on drug use in the community, and on efforts to prevent overdoses, which included questions on Narcan availability and use, and other local harm reduction actions. The questions addressed personal and community drug use, cost and availability, and consequences of drug use, and included queries on programs and actions taken to reduce drug use and overdoses. The drug use of ex-drug users was asked in the past tense, since they were not using at the time of the interview. Knowledge of past drug use was as valuable to this study as information on current use because together, it provided us with greater insights about changes in drug use over time.

A structured and open-ended interview guide was also developed for overdose cases. It is reproduced in **Appendix C**. The respondent's substance use history was revisited with the aim of reconstructing substance use over the years, especially before and after the overdose spikes in the counties. Most of the questions centered on overdose experiences, particularly their causes, drugs involved, and overdose interventions. Other overdose questions were: Why do you think you overdosed? What was going on with your life at the time? Questions also included drug use after an overdose, and queries included treatment after their overdose and post-overdose drug use. Queries also included questions about other overdoses taking place in and around their community, including questions on whether overdoses were increasing or decreasing and the reasons for the increases or declines. Harm-reduction questions were also included regarding Narcan availability and use, and other harm-reduction efforts.

The interviews, including the overdose follow-up interviews, were conducted at homes, cafés, or restaurants away from others. They took between 30 to 90 minutes and were audio recorded using a portable digital recorder. The interviewers also recorded their observations, feelings, and insights about

each interview. All the respondents in the initial round of interviews were compensated for their time with a food gift certificate valued at $20. Respondents were also compensated with an additional $20 food gift certificate for overdose interviews. Within 24 hours, one of the principal investigators listened to the interviews, and afterward, the interviews were sent out for transcription. If interview information was found to be contradictory or unclear, a follow-up interview was conducted. The interviews were transcribed by a reputable transcription company used by the IUP Applied Research Lab.

The interviewers for this group consisted of one doctoral student in sociology and three community members who are recovery counselors in the area and in long-term recovery themselves. The doctoral student was the sole interviewer of the overdose cases. All four of the interviewers were familiar with the substance use culture in their respective communities. They completed the required ethics training and the projects' mandatory training sessions. None of the interviewers worked for any of the Single County Authorities (SCA), though they came recommended to us by our contacts who do work at the SCAs.

Data Analysis

We conducted three general phases of coding and thematic analysis, in accordance with our three qualitative data sources: the professionals' interviews, the users' interviews, and the overdose follow-up interviews. In each phase, we followed analytic steps described in the literature on qualitative data analysis: preparation, organization, and reporting (e.g., Elo & Kyngas, 2008; Bradley, Curry, & Devers, 2007: MacQueen, et al., 1998). During the preparation step, we came up with a set of codes around themes important to the study so the IUP Applied Research Lab could code the transcripts. First, we developed codes around a priori categories or themes relevant to the study and drawn from our interview guides, such as "drug use," "Narcan use," and "overdose." Next, we broke each theme down into related codes around sub-themes. For drug use, examples are "drug types" and "drug use frequency"; for Narcan use, "location" and "availability"; and for overdose, "drugs ingested" and "number of overdoses." Through this exercise, we compiled a code book that was later supplied to to the IUP Applied Research Lab. After this preparation step was completed, the IUP Applied Research Lab used QSR International's NVivo v12 qualitative data analysis computer software to formally code and organize the data. After the Applied Research Lab finished, we re-reviewed the coded material, at times with the Applied Research Lab and on our own, to note patterns emerging from the data. We examined correlations between various domains, such as Narcan use and overdoses, and determined the frequency with which specific domains appear near one another across the transcripts. This technique helped us to identify thematic correlations and to determine how individuals responded to our research questions. Next, we moved into the reporting step of analysis, in which we synthesized findings from our interview data analysis. We constructed summaries of the patterns identified in the data and provided de-identified interview quotes that substantiated these patterns. We also generated tables that described the sample characteristics. When the analysis was complete, we prepared reports which will serve as drafts of manuscripts for publication of our study findings.

IV. Summary of Professionals Perceptions of Drugs in the Community

In this section, we use our interview data with professionals to answer the following key questions about the use of drugs within the four counties we researched:

1. What are the major drugs consumed by drug users in your community?
2. In what combinations are they consumed?
3. In the last two years, has there been a change in the drugs, or combination of drugs used, in your community?
4. Were there changes in the way they were consumed?
5. Did these changes produce more or fewer overdoses?
6. Are some drug combinations more fatal than others?

Our first conclusion is that professionals perceive marijuana and alcohol as a major source of problems in their communities. They feel they might hold a minority opinion about the dangers of these drugs. In general, they felt the use of these drugs sometimes lead to the more visible problem of opioid use and overdoses.

Professionals also noted the new challenges brought on by the emergence of heroin mixed with other drugs. One such challenge is countering the distribution of fentanyl and carfentanyl in their communities. Nearly all said this had been particularly surprising and difficult to handle. In addition, respondents noted that many users were polydrug users. This in some cases complicated matters because some users were abusing Medically Assisted Treatment (MAT) drugs designed to wean users off opioids like heroin.

Professionals believed dealers who did not reside in these four counties were bringing overdose-causing drugs into their communities and were most responsible for the overdoses. As users became more aware of overdoses, professionals perceived some changes in the pattern of drug use in their communities. These changes may partially account for the reduction in overdoses, but they also felt that these changes shifted the problem rather than resolved it.

A. Perceptions of Marijuana and Alcohol Use

Marijuana and alcohol use are the bedrock of addiction problems within the four counties, according to a wide swath of professionals. Summarizing this sentiment, one county official noted of the region: “It is a beer-drinking, alcohol-drinking, pot-smoking community.” Respondents asserted that marijuana and alcohol were far more common than harder drugs. Additionally, they felt attention was being wrongfully diverted from these more prevalent drugs. They made direct links between them and harder drugs. They also contended that these drugs were major contributors to community problems and could not be separated from the opioid epidemic.

Our reports from professionals indicated that, despite the problems they have been experiencing as a result of the influx of opioids, marijuana was the most commonly used illicit substance in all four counties. One law enforcement officer said, “Marijuana's everywhere, that's a given.” Likewise, a county official said, “Marijuana's always there. It's always, it's the most common call.” A treatment specialist said about drug busts in his county, “Almost every stop they have they're finding a couple of joints.” Another treatment specialist worried that “For our kids, we're seeing marijuana. Cannabis is the highest.” An EMS person said, “I think pot is easily available.” Another law enforcement officer summarized these sentiments by stating, “There's an outside chance that marijuana could be more widespread than any of the [harder] drugs.”

Professionals worried about the trend in their communities toward relaxing marijuana enforcement. They still felt that marijuana is a major contributor to community problems. They felt others in their

communities were unable to see the problems as clearly as they did. For instance, one law enforcement official worried that “we're underestimating the cannabis abuse issue in our communities and [its] impact on our younger generation as we move forward.” A treatment specialist pointed to Colorado’s relaxing of marijuana laws to illustrate the point: “What did we learn from Colorado? Just look at their statistics. Look at their statistics on the increase in more physically dependent drugs, DUIs. That's what we're in for.” A law enforcement official explained that users have already taken notice of the relaxed stance on marijuana creeping into the culture in Pennsylvania:

> *They're seeing that marijuana has less consequences…we had someone in our specialty courts and he was still using marijuana and the drug [court officials didn’t penalize him. Instead they let him off by justifying that] "Well, it's just marijuana, we won't worry about it."*

One interviewee stated, “we've been seeing a lot more marijuana too” while another affirmed “Marijuana, the last few months we've seen a surge.” On the dealer side of the equation, some respondents attributed the increase to the lucrative nature of marijuana. One said, “there's money in marijuana” and another “the market's there [for marijuana].” Professionals noted they are seeing marijuana in more concentrated forms. On the user end, one respondent noted the formulation of marijuana “dabs…[when] they turn it into a tar and it's really potent” is the driving force behind increased sales. An official noted that “marijuana now has THC levels that are really high.” They said, “I think you could overdose from it.“ Another law enforcement officer said that the increase in marijuana sales was driven by “medical [marijuana] coming to Pennsylvania … I think that's what people are expecting, and they're laying the ground work to make that changeover.”

Alcohol was also a major concern across counties, often listed right alongside marijuana by professionals. One treatment person listed alcohol as “more of a gateway drug than marijuana ever has been.” A treatment specialist from a different county said, “In our data we see [that] alcohol still is the primary [problem] drug.” Another treatment provider noted that in his clinic he finds “because of its prevalence, the number two [problem drug] is alcohol.” Moreover, treatment providers noted that alcohol is often abused with other harder drugs, such as cocaine, opioids, and methamphetamine. One noted in particular, “[Those] who were also opiate abusers, alcohol is still very prevalent.” A law enforcement official summarized how ingrained the problem with alcohol is in these communities and linked it directly with the abuse of harder drugs:

> *When I talk about prevention … I always mention alcohol … in this town, there's a bar on every corner. Drinking is almost part of being raised in this area. Every town festival, every wedding, is a drink fest. So, I just feel like sometimes alcohol we can't forget about it. You can't push it under the rug, and so many of our people that are struggling with substance abuse also are alcoholics, or are masking the drugs with alcohol. So, they go hand in hand.*

Professionals made direct links between marijuana and alcohol and harder substances. They often talked about marijuana as laced with harder drugs or used with alcohol. One official said, “We've been finding stuff in weed. I mean, you can find Fentanyl, heroin mixed into weed… because if they're smoking it, they're smoking heroin and then they're hooked.” A treatment provider put it bluntly, “They're lacing marijuana with fentanyl now.” Likewise, a law enforcement official said, “what they're

doing is when they wrap, say they wrap a marijuana blunt, they'll put some heroin in there, and so the user unknowing, is thinking they're smoking a marijuana joint and they're also getting heroin." A treatment professional made a direct connection to marijuana and opioid overdoses, saying:

> *When you hear about some of these deaths related to Fentanyl or carfentanyl or mixed in with other drugs, whether it's mixed in with heroin or mixed in with marijuana sometimes, sometimes people don't even realize that it's mixed in and then there's an overdose as a result.*

Similarly, an EMS responder said that alcohol is involved in many of the opioid overdose calls: "I think what we mostly see would be alcohol-opioid overdoses." Another frontline responder echoed the general sentiment that "A lot of alcohol and something else … pills … heroin … is definitely fatal."

Some professionals discussed marijuana and alcohol as pathways to harder drugs. Many of these statements confirm the notion that these respondents think marijuana and alcohol may be gateway drugs. For instance, one treatment professional said of opioid users, "Generally, there is some kind of progression that maybe they started with alcohol or marijuana." An EMS/hospital official said, "[they are] gateway drugs [to heroin use], from marijuana to Vicodin and Percocet." A law enforcement officer noted users follow the pathway of "[starting] on marijuana and then progresses to a little cocaine and then just tries heroin. I have no sympathy." Another law enforcement official discussed how it may not have been planned:

> *Maybe because alcohol affects decision making and marijuana effects decision making, so they may say they would never do it, but then, if they're intoxicated or they're high from marijuana, then that "never" may go away and they're like "let me try it."*

A few just drew a direct line between marijuana and alcohol use and harder drugs. One law enforcement officer said more simply "I think everybody uses marijuana that's using [harder] drugs in general."

One treatment provider noted a different connection between marijuana use and hard drug use:

> *We call [it] the Marijuana Maintenance Program instead of using heroin. That's probably the most prevalent thing that we see in regards to harm reduction. Sometimes [heroin users] just decrease the amount or the number of days that they're using within the week … but maybe they are [replacing it by] using marijuana every single day. That's how they're maintaining whatever psychological stuff they have tied to their chemical usage.*

B. Perceptions of Opioid Use and Polydrug Use

Heroin has been the drug of focus in many communities across the commonwealth. This is true in all four counties. However, nearly all frontline respondents were aware that fentanyl and carfentanyl were being mixed in with heroin and were responsible for most overdoses in recent years. Respondents were also aware that most serious drug users were polydrug users, and that many had gotten to heroin after first getting hooked on prescription pain pills. Some also were aware of the abuse of some drugs used

for Medication Assisted Treatment (MAT), like suboxone and methadone, and anxiety meds like benzodiazepines.

Professionals were concerned about the influx of fentanyl and carfentanyl into their communities. This sentiment was especially salient in discussions with law enforcement officials. One law enforcement official said, “Over the last 18-24 months, the biggest change is not only did heroin become cheaper and more potent, they started cutting it with fentanyl.” Another echoed, “Fentanyl really took over heroin.” Yet another law officer stated, “I'm seeing a lot more fentanyl out there,” adding “unfortunately we've seen some carfentanyl in this county.” Another said, “Heroin cut with fentanyl, I mean that's the number one drug in the county that the deaths are from and the usage is the fentanyl.”

Treatment professionals also recognized this trend. One treatment professional put it succinctly: “They're cutting it [heroin] with fentanyl and carfentanyl.” Another echoed, “They lace the heroin with fentanyl.” An EMS/hospital worker said “What we're seeing is this kind of turning of the tide in some of the fentanyl and some of the more potent drugs. Even the heroin is laced with these more potent drugs.” Another treatment professional stated, “I think we're seeing that quite a bit, to where people think they're buying heroin but it's actually fentanyl.”

Professionals described the arrival of this drug into their community as particularly deadly. An EMS/hospital worker said, “We know for certain that there's been cases of carfentanyl deaths as well. We know that some of the drugs are being laced with carfentanyl in some instances.” A law enforcement officer echoed the sentiment that fentanyl has been responsible for overdoses: “The number one drug in the county that the deaths are from and the usage is the fentanyl, and the various types of different fentanyl.” A treatment professional summarized that “mixing heroin and fentanyl together, obviously, that could be a deadly mix.” Many frontline professionals noted that users may not even be aware of the inclusion of these more potent opioids, including the EMS/hospital professional who said:

> *When you hear about some of these deaths related to fentanyl or carfentanyl or mixed in with other drugs, whether it's mixed in with heroin or mixed in with marijuana sometimes … sometimes people don't even realize that it's mixed in and then there's an overdose as a result.*

Chiefly, the professionals felt caught off guard at the emergence of fentanyl and carfentanyl laced in with heroin. One EMS worker said, “Whenever a really potent batch, or something that's pure fentanyl or something would come in, we could tell. Because the whole day was filled with overdoses.”

Professionals connected polydrug use to the problem of opioid abuse and overdoses. In general, they felt that users are looking to get high and will use whatever is available to do so. A treatment professional said, “There's not one person who is coming in with one specific diagnosis for substance use. It's all poly-substance use.” Similarly, when asked what drugs users tended to prefer, one EMS/hospital professional said, “a little bit of everything.” Another EMS/hospital professional said while working an event, “I've never seen such a wide variety of different drugs in such a short period of time. LSD, mushrooms, ketamine, pot. There was something else, too, that was floating around there.” Some frontline professionals noted specific mixtures of polydrug use. For instance, one treatment provider noted “meth and bath salt (sometimes) go together.” An EMS/hospital professional said, “We find a lot of people who were chewing on a Fentanyl patch and trying to shoot up at the same time.”

Abuse of prescription drugs was related to opioid overdoses, as well as MAT drugs. For instance, a treatment professional said of this relationship, “we have a lot of prescription misuse, obviously, related to opioids but not just that. Neurontin is highly misused.” A law enforcement professional said, “all the heroin search warrants and that that we do, that we come across a prescription, a controlled substance. It really does run hand in hand, from what we see.” They added: “How and why? The heroin's easier to get … So that is backup when they can't get the pills.” A treatment specialist said something similar connecting polydrug use in general to both prescription drug misuse and heroin:

> *It's mostly inappropriate use of opioid pain medication. Benzodiazepines like Xanax, Ativan, Klonopin, but also illegal substances like heroin. I would say cocaine is less than heroin from what I've seen, but I have a biased population. I have seen, actually the last few months, some methamphetamine, which was never seen before, really, in this area, and I have seen one or two cases of ecstasy. A lot of marijuana use and alcohol use as well.*

An addiction treatment professional said about MATs, “if you take a methadone or Suboxone and mix it with a benzo, you get the effect of heroin.” A law enforcement official recalled, “a couple different times where people overdosed on methadone [in the office], and we had to take them to the hospital.”

C. Perceptions of Dealers and Users in Drug Use Patterns

Professionals thought both dealers and users contributed to the overdose patterns within their communities. However, dealers were classified into two distinct categories. One was viewed as more responsible for overdoses and drug addiction problems than the other. Respondents also felt that users had changed their patterns of drug use and that that might be contributing to the reduction of overdoses.

Professionals said there are two classifications of dealers. Some deal to support their own use, while others are strictly dealers. Many respondents acknowledged the phenomenon of “local people dealing just to sustain their habits.” They wanted to put most of the community’s attention on the other class of dealers. Most characterized these dealers as coming from outside the community. For instance, law enforcement officers in Armstrong and Indiana counties noted that dealers from “Pittsburgh” and “Cleveland” are “bringing heroin in.” However, Cambria and Blair county officials pointed to “Philadelphia, New York, New Jersey, Washington.” They noted the access to major highways and train routes could be exploited for the drug trade. A few first responders characterized the “outside” class of dealer as savvy and typically not a user themselves. For instance, one law enforcement official noted “I've seen drug dealers who didn't use anything other than marijuana and alcohol recreationally, (but) who would buy heroin in bulk.” Another noted that the outsiders might be particularly violent: “Our marijuana issue here is controlled by a ruffian collection that's a local gang. I believe that marijuana has caused our violence here … Marijuana never kills anybody, but the trade does.” Some professionals noted that outsider dealers were far less concerned with the welfare of their clients or of the community.

Some respondents said there were some street level harm-reduction strategies emerging that may have been decreasing overdoses. For instance, some respondents said they are starting to see some users replace heroin with a less deadly drug. A comment about a “Marijuana Maintenance Program” was already noted above. Another treatment professional said they saw a similar trend with powdered

cocaine: “I'm seeing heroin addicts now using cocaine. I don't know if that's because the fear of the overdose or what. But I'm seeing a lot of them either switching to cocaine or using both.” A law enforcement official echoed this sentiment in a story about another user giving their accomplice crack cocaine as treatment: “He was like, ‘Heroin's so bad. We were weaning her off of it by giving her crack.’ Which, sounds crazy. But that's, I think, what he believed.” In general, professionals felt these patterns of replacement probably reduced overdoses, but only by shifting the problem onto some other drug.

V. Summary of Professionals’ Perceptions of Overdoses and Community Responses

In this section, we use interview data with professionals to answer the following key questions about overdoses in their communities and community responses to overdoses:

1. Do you think reporting of drug overdoses has changed?
2. How is your community been working to reduce overdoses?
3. Are “official” anti-drug efforts having an effect on ODs?
4. Is there more prevention messaging getting to the community?
5. Have you seen (heard) about an increase in harm reduction techniques?
6. What is coming?

All four counties have established drug and alcohol coalitions and/or task forces. They describe these coalitions as community-based. They facilitate increased communication, collaboration, and respect among frontline workers and treatment service providers. The coalitions also play a role in making service delivery more seamless. They have been successful because, in close-knit rural communities, many of the professionals personally know one another and/or have built long-term working relationships and friendships. They are also successful because they are headed by dynamic and passionate leaders.

Professionals and treatment providers also credit Certified Recovery Specialists (CRS) and grassroots awareness-raising campaigns as responsible for gains in preventing overdoses in the community. However, interviewees recognize these efforts are only small pieces of a complex puzzle. They suggest areas for improvement could include better relationships and coordination with law enforcement and increased capabilities for sharing data. There are also mixed sentiments about implementing harm reduction strategies and the use of Medication Assisted Treatment (MAT).

A. Perceptions on the Benefits of Drug Task Forces and Coalitions

All four counties currently have drug and alcohol coalitions and task forces. These organizations are “community based” and have an “everyone at the table approach to fighting the problem.” There is recognition that addiction in the community is complex and requires a multitude of players, each fulfilling a respective role, but working together through the coalition. As an EMS/hospital professional explained:

> *The coalition obviously has been great. This is so multi-factorial, and much, much more complicated than anyone can ever imagine. It makes it very difficult. You hear people chatting here and there, maybe at a restaurant or in the streets or something,*

> *gosh it seems so easy. It's just not that easy. You really start dabbling it up all together, there's so many facets of this that are very, very difficult to tackle.*

According to interviewees, these organizations have increased communication, information sharing, and collaboration among law enforcement, treatment providers, professionals, elected officials, and others involved in reducing overdoses in their communities. As one treatment provider said, "and everybody is working together. It's not just a state or a national top priority. This has been a community top priority way before somebody declared it a Pennsylvania epidemic or a national epidemic … Everybody's working together with the same goal."

Single County Authorities (SCA) are generally credited with coordinating these task force/coalitions, however, Cambria County formed a coalition outside the structure of the SCA. Its SCA is an entity housed at the county level. In most cases, because of frequent contact and meetings, individuals on these task forces/coalitions have become more open to hearing the perspectives of other professionals. One county official explained how the coalition has helped increase understanding of the roles of other organizations:

> *I think that's what it takes, the people who are at the front lines really communicating and working together … I mean, we have good judges who are willing to listen. We have law enforcement officers who not only are willing to listen but are a part of the community themselves. So, they know the people, or maybe they know their family ... I think everybody saw a problem, and everybody was attacking the problem.*

Frequent meetings and exposure to other professionals has also increased information sharing and collaboration. As one official said, "Our office, along with law enforcement, is working hand in hand with our attorney general's office, our drug task force in the early stages of a death investigation, that is presumed to be a drug overdose."

Some counties established taskforces/coalitions earlier than others. As a treatment provider noted, "Individuals have been coming together since probably that first overdose that I talked about, one in 2002. Here we are 16 years later, and hopefully we're still making an impact." A different county official said they only recently created a task force. Their coalition was put together "two or three years ago," because of a request from the city council. An EMS/hospital official said that in previous years, professionals, service providers, government officials, and other actors were "very siloed" but "the coalition has made inroads in trying to really break down those silos and get all of these entities working together and to share information." They elaborated on the mission of the coalition, which included a "central coordinated effort to bring all of these entities together," so that they can address the opioid epidemic.

B. Perceptions of Close-Knit Communities and their Coalition Leaders

Interviewees attributed the recent drop in accidental overdose rates to dynamic SCA/Drug and Alcohol Commission leaders and the close relationships between professionals in their communities. This was due in part because they live in tight-knit, rural communities. In Indiana, Armstrong and Blair Counties, for example, professionals frequently mentioned dynamic leaders like Kami Anderson and Judy Rosser. They also commended the efforts of elected officials (politicians and coroners, in particular). For example, one Indiana County professional said:

> *Kami and her crew and everybody just did a great job of trying to alleviate everybody's concerns … I think that helped us in this, in that everybody knows each other and was willing to work together. And, I thought, "That's amazing" and, that type of thing can only work when you have close relationships.*

Another Indiana County professional also praised the leadership and professional collaboration he observed. He said, "I just think the fact that the collaboration that we have, again, with the Armstrong-Indiana Drug and Alcohol Commission leadership has been phenomenal … It's second to none in the state … It's the players that make it work."

Professionals from Blair County also touted the SCA as "the best in the state," because of its coordination of services and leadership. Their leader was described as follows:

> *If there was one person that I thought really is pushing the decrease in drug use and the increase in treatment, I think the woman who sent you over to talk to me, Judy Rosser, is the reason why I think that's a factual statement that drug use has gone down, because people are getting better.*

Another professional from Blair County described the SCA leader as, "able to recognize addiction, who's passionate about it, who cares about people's lives, who really counts lives before they count dollars." They continued to say she does a "great job" contracting services. Similarly, another Blair County professional described the director as, "She's wonderful. She goes above and beyond trying to help people. I mean, I could call Judy and say, 'Hey, Judy. I have a problem. I need to send this kid to you," [and she would say] 'Sure, send him up.'"

Interviewees suggested that, in small rural areas, front line workers, treatment providers, law enforcement, and elected officials have easy access to one another. Participants in Indiana and Armstrong County spoke of "picking up the phone and calling each other" rather than "going through secretaries" or "formalities and red tape." In some cases, professionals said they feel close enough to their colleagues that they are "practically best friends."

Having close relationships also facilitates important leads for solving crimes and providing emotional support. As one Armstrong County official explained, "Look, when I have somebody die of drugs, I can call [name redacted]. He's the head man. 'You know this guy?' 'Oh yeah, this, this and this. I know where he's getting his drugs from.'" Another Blair County official described how personally knowing other professionals helped him cope with a traumatic on-the-job experience. He said, "Like when the little boy died and then [name and title redacted] came. We've been friends forever, we've taught together and there's all these people standing around, and he came in and he hugged me."

Coalitions are also playing a role in making service delivery more seamless, decreasing the "duplicating of services," and helping to identify and fill "holes" in service delivery. When services can be delivered seamlessly, interviewees believed, overdoses decrease. For example, in Indiana County, professionals partner with the County Assistance Office to ensure persons leaving jail have medical assistance immediately so their Vivitrol shots can continue without interruption. Similarly, jail release dates are also coordinated with a "bed date" at an inpatient treatment center. Additionally, the jail's Vivitrol program offers continued services in the community upon release. An official from Armstrong County was also proud their service coordination enabled a smooth "handoff," ensuring users "followed

through their treatment" from the hospital, to jail, to intensive outpatient services. The provider attributed their ability to coordinate these services to "the benefit of having a small community."

In Cambria County, respondents reported that professionals "stand shoulder to shoulder combating this problem." Another Cambria County official explained how his/her county's taskforce formed subcommittees to develop a "one-stop-shop" for special populations like maternal-fetal populations.

C. Perceptions on the Benefits of Certified Recovery Specialists

According to the research participants, Certified Recovery Specialists [CRS] are instrumental in ensuring the seamless delivery of services and as a result, are playing a critical role in combatting addiction and overdoses in communities. Professionals said CRS's are "relatable" and that their "peer influence" leads users toward services. One treatment provider said, "The CRS may offer to go to a Narcotics Anonymous meeting one night and help them find a sponsor." They elaborated, "It connects them more with treatment, or more with us, if we can get them to the point where we can talk to them as a peer." In Indiana County, an official explained how well CRS's are working with professionals:

> *So we set up a warm line where our staff are available 24 hours a day, and that policeman who is sitting there with that person, or EMT or whoever, or the nurse at the emergency department can pick up the phone and call our crisis line… and our crisis line keeps that person on the phone, and then makes a three-way call to one of our staff.*

CRS's are applauded for being present and helping users to access services both while inside hospitals and jails, and also when they leave. In Blair County, CRS's have been able to coordinate a quick response with the hospital emergency department. As one respondent said, "Actually, (we are in) all four of our hospitals." A treatment provider from Indiana County said, "I would say over 90% of our clients who leave here (treatment) leave with a CRS. It's somebody out in the community, somebody to reach out to."

An EMS/hospital professional in Cambria County also said he/she had a newly implemented "Warm Hand-off Protocol." This is where an individual who overdosed or has a suspected opioid use disorder can talk to a physician and then meets a CRS within 20 minutes who walks them through the process of treatment. The CRS will also "literally drive them there if they're willing to go at that moment."

D. Perceptions of Cross-Profession Exposure and Training

Many professionals reported that the taskforces/coalitions provided opportunities for cross-profession exposure and cross-profession training. This breaks down barriers between professionals and raises awareness of the challenges other professionals confront. By learning more about their colleagues in other professions, frontline workers and service providers developed a mutual respect.

One example given by a treatment provider was Narcan training. When SCA staff or treatment providers offered professionals Narcan training, the staff understood some of the professionals' resistance to Narcan administration because they were communicating with them in coalitions and on task forces. Providers learned frontline workers saw several people overdose more than once, confronted users who overdosed and refused treatment, and feared the possibility that users would enact violence on them. In some cases, treatment providers had to work hard to get law enforcement

and fire departments to sign on to using Narcan and were able to do so because of cross-professional exposure.

Through cross-profession training, treatment providers described enhancing hospital staff and medical providers' understanding of addiction. They have been able to make fruitful partnerships with medical professionals who believe "primary care should be at the head of this." A Blair County official praised cross-profession exposure by saying, "Basically, if you're a drug prosecutor or a drug investigator, it gives you education and hands-on experience. The attorneys get to see hands-on what the cops do. The cops get exposed a little bit to some of the practical issues the attorneys have to deal with." Similarly, a treatment provider said he was able to enhance professionals' addiction knowledge by assigning a CRS to "ride along for a day" with law enforcement officers.

When professionals and treatment service providers collaborated and learned more about one another's work, they increased the level of respect they had for colleagues in other professions. As one Cambria County official said, "These are the true heroes that are out on the frontline … the fire, police and EMS. And they're seeing this on a daily basis … And you know, these people are doing one hell of a job out there trying to combat this."

Another professional summarized the relationships between professionals: "There's such coordination … And I will get a call like, 'Hey, we got this person. They're struggling, man. Can you do anything to help?' Yeah, me personally, I've always had good experience with coordination of care from all levels of law enforcement with getting people the help they need."

E. Perceptions of Prevention Messaging and Harm Reduction Programs

Professionals and treatment providers generally expressed positive sentiments about the effectiveness of awareness-raising and prevention campaigns, but these professionals also recognize prevention programming is only one piece of a larger puzzle that is the opioid crisis. In all four counties, respondents commented that prevention programming was happening in schools, churches, and communities and these programs were "working" to increase public awareness and "lowering the numbers" of overdoses.

For example, in Armstrong County, several interviewees positively recognized the "strong, grassroots prevention programs" including Drugs Kill Dreams and the Reality Tour campaign. In Indiana County, a respondent commented on the effectiveness of "town hall meetings" in raising awareness about drug overdoses and "working together to combat the problem." Also, professionals in Blair County recognized the contributions of the faith-based community. Finally, a Cambria County official cited the "Remembering Adam" and "Parenting from Prison" programs as effectively engaging with families confronting addiction. His organization also works with "after school programs in some high poverty areas" including public housing communities where they partner with the University of Pittsburgh to have "trauma informed teaching strategies implemented into those programs." He said, "One positive I guess that's come from all of this is, we're looking closer at how we're doing programming and trying to get to some of the faith-based communities … We bring in, say, a treatment provider who is providing medication assisted treatment to educate these faith-based leaders on what that is."

While grassroots prevention programs were typically discussed positively, there were mixed sentiments about harm reduction strategies and Medication Assisted Treatment (MAT) programs. Professionals were mixed in their views of MAT. One law enforcement professional said, "from what I hear, Suboxone

is more addictive than the heroin. From talking to people that are on Suboxone, it's harder to get off of. It's more addicting." A treatment provider stated that, "a lot of folks would say that MAT is a harm reduction model. There's a lot of controversy over MATs …" They went on to say that "… there's a lot of co-use still going on. That's the one concern." All in all, the use of MAT has been supported by some professionals, but not all of them. Some professionals said that not all judges were initially supportive of the use of MAT. Presumably, support for MAT programs has increased over time.

Treatment providers and medical professionals most often advocated for harm reduction and MAT strategies. However, treatment providers also said they believed only a small number of clients in their treatment centers were practicing harm reduction strategies such as "testing small doses" or "altering their behavior in some way to circumvent negative consequences like overdosing." A Cambria County medical provider suggested there is a "gap between treatment and law enforcement." They explained that "certain law enforcement, or sometimes probation, or even judges … blatantly disregard or downplay MAT effectiveness and order people out of treatment."

Regarding needles, several respondents discussed the value of making clean needles available to users. One professional pointed out that "no, I don't think anybody's doing needle exchanges; I mean people have even talked about they've tried creating a safe house where people can use," but also acknowledged that there are people who wouldn't like it. Several professionals pointed out that Allegheny County has "…one of the most prevalent needle-sharing programs and it's been in existence for about 20 years." A treatment provider clarified that, "You used to have to have a prescription to buy needles, syringes at the pharmacies. You don't anymore. So, we see a lot more people, users, going in and buying a hundred syringes at a time. So, I think that's harm reduction." Another professional also pointed out that "… needles are free. You can go to any pharmacy … and get them across the counter; they have to give them to you. I think there's that program in Pennsylvania that you have to do that."

F. Perceptions of Factors Decreasing Overdoses

In sum, professionals and treatment service providers credit taskforces and coalitions with the reduction of overdoses in their communities. Typically organized by Single County Authorities, these entities enhance professionals' understanding of addiction, increase the coordination and seamless delivery of services, and build on the small, rural communities' strengths of tight-knit relationships. The perception is that coordination of services provided by professionals, medical providers, and treatment providers is helping to get users into treatment and stay in treatment. It is also believed CRS workers are essential in every step of this process and are responsible for reducing overdoses.

Treatment providers also found decreasing professionals' stigma may be contributing to the decrease in overdoses. For example, the use of Narcan and awareness of the challenges users confront has been helpful. Professionals and treatment providers also praise grassroots prevention programs for educating children in schools and members of the general community about the crisis in their communities.

G. Perceptions of Challenges to Decreasing Overdoses

While interviewees were overwhelmingly positive about the overdose prevention efforts being implemented in their communities, they also discussed areas for improvement. Treatment providers said they still experience challenges collaborating with the police. Conversely, several police felt frustrated by harm reduction efforts. They also said sometimes they served on coalitions whose mission

conflicted with their own. Finally, several respondents suggested better mechanisms for collecting and sharing data could help improve responses to overdoses and overdose prevention.

Treatment providers and county officials overwhelmingly praised their partnerships with police. But in several instances, police were criticized. For example, in Cambria County, police were described as "territorial" and "hard to get through" when it came to collaboration. In other counties, several respondents were frustrated with police resistance to carrying and using Narcan.

Some law enforcement officers also felt frustrated by laws that undid their work. They believed legal professionals and laws should hold people involved with drugs, especially dealers, more accountable. One officer summarized, "The laws need to be changed. They need to be harder, they need to be enforced. We need to get rid of the sources. A dealer doesn't need to go to counseling and therapy and treatment. A dealer needs to go to prison."

Other law enforcement professionals described feeling alienated from the task forces/coalitions, suggesting their goal of law enforcement contradicts coalition goals. Many police, reportedly, took some time before agreeing to using Narcan. One law enforcement professional explained his growth in understanding the benefits of Narcan while also describing law enforcement's resistance to Narcan, "As a patrolman I had the same mindset, that it wasn't my job, that it wasn't my part. And that's true to a certain extent, but if you don't understand a problem, you evolve with it. But the problem is, the treatment side is evolving, but law enforcement isn't." Another Armstrong County law enforcement professional echoed these sentiments. They said, "Law enforcement needs additional training on the resources and the reasoning why [they need to use Narcan]. I sit on the board and I walk in for the Narcan refills at our local office. I can't believe this. The first month we went through nine doses. Like, 'Man, I can't believe this'."

Another law enforcement officer described feelings of disconnect as a member of a local drug task force. They said, "I'm like, 'I don't think this is going to work.'" The officer felt his role was to arrest users and that role conflicted with the rehabilitation philosophy of the coalition on which he served. He was frustrated with the disconnect between the goals of law enforcement and public safety and the goals of treatment providers. He went on to explain his frustration as a member of the coalition,

> *I don't think that I ever feel that I make a valid point [in the coalition meetings]. .. So I'm trying. It is a big struggle wearing those two hats. And I'm trying and I'm going to give it, I'll give it a year. But at this point I would have to say that that continuation probably won't happen…There's not a place there, in my mind, for law enforcement. And it's no fault of theirs, or the system. We have two totally different goals in our professions; education and rehab, and arrest.*

One final discussion point that arose several times in the interviews was professionals' frustration with their ability to collect and share data. Some organizations do not have data collection capabilities, i.e., they lack software systems, or they have overworked/untrained staff who can't use data monitoring systems, which interferes with service delivery. Other professionals are working with incompatible data systems. Still other groups are collecting data but unwilling to share their data because they are fearful that it could be used to judge their service delivery and expose their challenges. How professionals and treatment service providers are collecting and sharing data should be further explored.

H. Perception of Drug Availability and Price

In this section, we use interview data with professionals and treatment service providers to answer the following key questions about availability, accessibility and pricing of drugs in the community.

1. Has the availability of drugs changed?
2. In the last two years, have drug prices changed?
3. Do you think drug dealers are responsible for a change in the number of drug overdoses?

Overall, many frontline professionals acknowledged they did not know the specifics regarding the costs of drugs on the street. Law enforcement professionals were most likely to know specific prices. Nonetheless, most professionals asserted that most kinds of drugs were readily available. One basic contention was that, as long as there is demand by the user, drugs will be available. Generally, the perception is that users will gravitate to using the drugs that are cheapest to purchase. The predominant perception is that at this time, fentanyl is the cheapest drug because it can be "made in the lab" or purchased from "China on the dark web" at a low cost.

The consensus seems to be that drugs are more readily available over the past few years in all four counties we studied, including heroin and heroin cut with fentanyl. As one professional, a former user, stated, "I would say 'yes, that it's become more available', particularly heroin. I know from my perspective, I lived in Indiana in 2005 and 2006, and during that time cocaine was pretty readily available. I could get cocaine or crack pretty easily but could rarely find heroin back then."

The professionals claimed a significant change was the increase in availability in small towns and rural areas. As one professional put it, "… and now it's on any street, you turn the corner …" In other words, heroin can be obtained almost anywhere. It was asserted that in the past, the user would have to travel to a population center such as Altoona or Johnstown.

According to one professional, compounding the problem of increased accessibility, is the decreasing stigmatization of using stronger drugs such as heroin. In the past, some drug users may have been deterred from using heroin because of the social reactions of others.

Professionals were also frustrated and confused by their perception that drug users would "chase" a bad batch of drugs to experience a stronger high. A bad batch was defined as a particularly dangerous batch that had caused one or more overdoses.

Many different types of drugs were mentioned as being available when professionals were queried about poly-drug use. Some examples were benzos, marijuana, alcohol, barbiturates, bath salts, muscle relaxants, Benadryl, cocaine, crack, meth, suboxone, methadone, and all kinds of opiates.

One professional asserted that heroin laced with fentanyl is very cheap and much cheaper than in the past. Moreover, carfentanyl is also cheaper because it is "… 100 to 1,000 times more powerful." Another professional said a stamp bag of heroin costs between $5 and $10. On the other hand, other professionals cited higher costs of $10 to $20 for a stamp bag in places like Altoona. It was also noted by one professional in Blair County that marijuana is up a little in price, but users can get it laced with fentanyl. Regardless, marijuana is viewed as "a staple." A professional familiar with Armstrong and Indiana Counties explained that heroin is cheap and even cheaper than marijuana. He pointed out, however, that as a user's tolerance increases, the costs go up because they "… need a lot more bags, you know, to maintain. But, initially it's cheaper than marijuana, which is crazy."

Regarding price, the perception of some professionals is that if the users hear there is a "bad batch," they seek it out because it will give them a better high. One professional stated that the price goes up if people die. The assertion was that users would be willing to pay a higher price because it will give a better high.

Several professionals asserted that methamphetamine is becoming more prevalent in Blair, Clarion, and northern Indiana County. Nevertheless, there is still an ample supply of opiates, as well as alcohol and marijuana, even in those areas where meth has become more common. In addition, at least one professional said that in Armstrong County in the past year, "…we've seen a lot more cocaine and crack, crack cocaine, than we've seen of heroin. We still see heroin, but it's more common for us to see crack cocaine."

VI. Summary of Professionals' Perceptions of Narcan

In this section, we use our interview data with professionals to answer the following key questions about Narcan distribution efforts and policies within the four counties.

1. Have you ever used (or attempted to use) Narcan to prevent someone from dying?
2. Where did you get Narcan? Where do you get refills?
3. Where is Narcan available in the community?
4. Are people using Narcan and not calling EMS or going to the hospital?
5. Is Narcan preventing overdoses in your community?

We found that most professionals are trained to use Narcan and most carry the tool as part of their work. However, most had not used Narcan unless they had frequent contact with overdose victims. Narcan use also varied based on whether they felt their work took a primary or secondary role in assisting overdose victims.

Professionals felt that Narcan was widely available across all four counties. However, answers varied across the counties when it came to the responder's ability to be specific about where families and users could obtain Narcan.

Some frontline workers worried that Narcan distribution may be having unintended consequences. These included worries that victims could turn combative and threatening when administered Narcan. Also, some professionals expressed concern that victims might refuse care, and/or that the administration of Narcan provided "legal cover" for them to avoid consequences. Some mentioned that it reduces the effectiveness of an overdose incident to "push" a person into recovery. Some commented that the community at large was giving them negative feedback about using Narcan because of stigma and stereotypes about drug users. A few felt that the tool was making the problem worse rather than better because it encouraged users to keep using, knowing that Narcan could be a "safety valve."

A. Professionals Carrying and Using Narcan

Most of the responders interviewed were trained to use Narcan but the number having used Narcan to prevent someone from dying varied greatly by profession. Two factors seem to govern this. First was the opportunity to deploy Narcan in the course of their profession. The second was the professional norms guiding who-does-what in an emergency response situation.

Most hospital emergency room staff and EMS professionals said they had used Narcan during overdose calls or were available when a teammate administered Narcan. Reports of regular use – ranging from several times monthly to yearly – was a common response among these professionals. For instance, one hospital worker said, “I bet we have at least four drug overdoses a month that we have to give Narcan.” An EMS worker said “I've given it to three patients myself this year. One was an overdose. The other two … had other medical conditions going on.” For these two professions, Narcan administration has recently increased. They view it as a useful tool that has been around for many years to revive overdoses and only recently has gained community and national attention. One EMS responder said they had used Narcan “hundreds” of times.

Compared to hospital staff and EMS, treatment professionals and coroners had far less experience administering Narcan. Both coroners and treatment professionals acknowledged having been trained but said they had not needed to use it. For instance, one coroner noted “My staff carries Narcan, but we have never administered Narcan.” A treatment professional thinking back on their ten years working in substance abuse said, “I actually haven't,” but added, “I guess I hadn't thought about that until now.” A treatment professional first noted they “used it in practice” but quickly followed that “it wasn't on a live person.” Another treatment professional explained in more detail why they did not use Narcan:

> *A lot of it was, individuals will be combatant if I give this to them. They're actually going to be more violent. I'm not medical personnel. I have trained medical personnel that can do it. It's not in my job description.*

Treatment professionals and coroners were generally trained to use Narcan but had few instances where they would need it. Also, they deferred the work of administering it to other professionals who had more experience.

Law enforcement officers had the unique situation of being present when Narcan was administered, but most often they stated that they took a passive role in this part of the response. They usually deferred to EMS. For instance, one law enforcement official stated, “No [I never used Narcan myself but], I know of several that are standing in my facility today because Narcan saved their life.” Another officer said while being on calls where Narcan was administered, “Me, personally, it's been under a half dozen [times I’ve been present. Our staff] we're using it monthly, two to three probably on average. Yeah, probably two to three, on average.” Another officer said, “I know of situations where our troopers have administered Narcan and had success with reviving the person,” but he had not used it himself.

One officer explained why he thought police were reluctant to use Narcan, especially when they can defer to EMS, “Because you might have one officer, and they might Narcan someone to save their life because they have to, but now their safety might be endangered.” Police were likely to use Narcan when they needed to, but only in the cases where they couldn’t defer to other professionals to administer it.

Almost all professionals who carried Narcan stated it was distributed by the state or their agency as part of their professional equipment. Most professionals were happy to have the kits for protection of themselves as they encounter opioids during their jobs. This was especially true for coroners. For instance, one coroner noted, “I carry it for my guys 'cause we're the ones that touch it first with the evidence first.” Another echoed this sentiment “I don't want my guys out there without a supply of Narcan.”

B. Perceptions of Availability of Narcan

Professionals generally felt that Narcan was widely available in their community but differed on their perceptions of where the community could access it. In Indiana and Armstrong counties, professionals could easily list a wide variety of places. In Cambria and Blair counties, there was less consensus on how an individual could access Narcan.

For instance, one county professional stated of Narcan availability in Armstrong and Indiana counties "[the SCA] director has really flooded the area with naloxone, worked with EMS, police, and the hospitals." Another treatment professional noted, "If anybody ran out of it, they could get it from her [SCA] at 9:00 o'clock on a Saturday night." Similarly, an Armstrong county EMS responder confirmed "I know the Drug and Alcohol Commission. They're at every function they can possibly be at talking to people and trying to get out there that you can get Narcan and how to get it." This perception that Narcan is widely available, particularly in Armstrong and Indiana counties, was directly attributed to the distribution policies of the local SCA.

Other Armstrong and Indiana professionals expressed impressions of easy access and wide availability of Narcan but did not directly note the distribution policy. One EMS professional emphasized the easy access, "You can go to the pharmacy, the Drug and Alcohol Commission, [a treatment provider]. You can go to all those places. And ... You're either given a prescription or it's provided for you." A law enforcement officer said, "I'm told that it's readily available for any civilian who would want to have it on hand." A county official noted that Narcan availability was "saturated" to the extent that "we don't even know how many people are actually using it." An EMS professional noted that overdoses were likely occurring where "people were using their public Narcan that they received" and reviving the individual without involving EMS.

In Blair and Cambria counties, professionals also perceived Narcan as being widely available, but their responses where more muted and they were less likely to be able to cite multiple points of access. In these responses, it seemed Narcan was claimed to be available, but it required a more active effort on the part of the user or family to access it. For instance, one official noted that "anybody can walk into our SCA's office and get it." An area law enforcement officer noted "you can without a prescription, buy Narcan at a pharmacy." An area treatment professional talked about how his/her organization "did Narcan trainings … and give out Narcan … every once in a while." They added "most free clinics will supply Narcan." The comments indicated a less aggressive approach to distributing Narcan to the wider community in Blair and Cambria counties.

C. Perceptions of the Effects of Narcan

Many professionals felt that Narcan was saving lives. One professional said, "I truly believe that the reduction in overdoses that I've seen in the last year is because [of] the availability of Narcan." The prevailing view is that the use of drugs and the overall number of overdoses did not decline, but the use of Narcan decreased the numbers of deaths due to the overdoses. As another professional asserted, "I would say from what I see the number of overdoses is probably staying the same, maybe more. But the number of overdose deaths statistically has gone down."

It was also observed that a few interviewees were worried that not all professionals knew how to properly administer Narcan. Some spoke about how the proper way was to wait a few minutes before

administering the next dose. They reported that not all front-line professionals, and certainly not all bystanders administering Narcan, were following this protocol.

Some professionals, especially EMS and law enforcement, perceived that Narcan distribution reduced their ability to effectively respond to the drug problem in their communities. This included the perception that the tool creates combative and threatening situations for responders. It also was perceived as providing a means for victims to refuse care even when they badly needed it. And it was believed that it created a means for legal cover that prevented proper law enforcement response.

One law enforcement official felt that when it came to reviving overdose victims who "basically for all purposes [are] dead or going to die … the first thank you they're going to give you is usually to be physically extremely combative with you because you've just ruined their high." Another EMS worker echoed this sentiment. "You wake people up with Narcan, they assault [us]." Others were worried about the risk of disease transmission. The focus of these discussions often centered on prioritizing the protection of professionals prior to the rescue of the overdose victim by Narcan.

Responders also often noted that Narcan provided the ability for overdose victims to refuse the care and services they needed. One recovery professional said, "There's a lot of people who will not go to the hospital or things like that. They just get their dose and can refuse any service further than that." An EMS worker worried that users are not calling for medical response to an overdose even if it may be needed. They stated in a broader discussion about the need for medical attention: "They are just fixing themselves before they need to call. Originally, before Narcan was so widely known, everybody would panic. Now they all, give him some Narcan, he'll wake up, he'll fine." One first responder worried that some EMS professionals may be encouraging overdose victims to sign off on further medical treatment and transportation. In a detailed response that included a discussion of compassion fatigue and unreimbursed costs to EMS agencies for overdose calls, the EMS professional worried that ultimately some colleagues encouraged the patient to sign off because:

> *I hate to say it, but they're starting to see them as not human. And that you know what? All I have to do is I have to give them a Narcan, they'll wake up and go away. And it's ... really, truly, I think it's becoming a major issue within EMS.*

Frontline workers also felt that Narcan policies create legal cover for drug users that reduces police ability to respond to the drug problem. One county professional noted that although Narcan is a great tool, "just to go to somebody's home and revive them with Narcan when they were doing something illegal to begin with and walking out the door, I don't think is right." A law enforcement professional noted that police felt their hands were tied and were frustrated responding to overdoses. While discussing a multiple-overdose victim, the official stated, "I hear cops telling me they've Narcan-ed Joe Blow two or three times in a day, that's a problem. I mean, it's a problem when you Narcan somebody once, but I mean two or three times." A law enforcement officer noted in the context of enforcing the law that, "I think law enforcement does the best that they can do [to prevent overdoses] but there's a lot of disagreement with [using] Narcan." Another police officer noted having "mixed feelings on [Narcan]."

D. Perceptions that Narcan Enables Addiction

In general, some professionals worried that the distribution of Narcan and its associated policies might have an "enabling" effect on users. They worried it encouraged behaviors that can lead to more overdoses, rather than fewer.

One source of irresponsibility that professionals perceived was the idea that Narcan will always save lives, which gives users a false sense of security. One coroner worried that users were becoming "immune to Narcan," then explained further that they didn't mean chemically, but socially immune. They went on to describe how this immunity might play out:

> *In a bad way it can give you a bad sense of security, I think. That's the only con to Narcan… I just see it that way because it seems like I see people who say to me, "Oh I've been Narcaned seven times." And all of a sudden Mom and Dad will tell me that and they are dead the eighth time. We administered it, but he didn't come back.*

Likewise, EMS professionals worried that it caused such a sense of security that diminished the urgency to have further Narcan on hand. One professional worried "people use it, then they don't restock it."

Some professionals believe that a few users are abusing Narcan in the form of "Narcan parties." One EMS/hospital professional discussed this trend: "Groups of people out there that now have what's called Narcan parties where they have it on hand and they have a designated person that's not using for that period of time." A treatment specialist discussed Narcan parties as follows:

> *I've heard people talk about Narcan parties, which I've seen media articles saying that, and this blows my mind, that a group of friends get together and they have a Narcan kit, and one of the friends decides not to use so they can be the lifeguard, for lack of a better word, and rescue any of their friends that overdose.*

An EMS professional described their impression of a Narcan party as, "They have their own Narcan and they take turns shooting up and protecting each other." When asked about whether they felt that Narcan parties were happening, one EMS/hospital worker answered "Possibly. I mean, come on, they have farm parties too where everybody puts all their pills in one jar and pick and choose. Russian roulette in pill form." Many professionals admit that Narcan parties are "rare" or "mostly hearsay" but claim that some may be occurring. However, another county official rejected the idea:

> *I don't think it happens. I've talked to many individuals who are in recovery, I've talked to people who are living in recovery, I've talked to people who were recently in recovery, people who are incarcerated who say that does not happen. It's a fallacy. It's a theory. Getting revived with Narcan is not fun. It immediately stops the opioid receptors in their brain. It's painful. It's uncomfortable.*

It is difficult to say how widespread the belief is that users are having Narcan parties. We did not systematically ask each professional. It was simply offered as a comment by some.

Some professionals expressed the perception that Narcan policies and distribution were prolonging addiction. One county official put it bluntly, "I think [Narcan] certainly has prevented some overdoses, but did that save them or change them, or fix them? No." A police officer noted that "it's almost emboldened the usage." An EMS professional questioned if Narcan is "maybe just prolonging life" rather

than leading to a chance at recovery. And a treatment professional added that Narcan "has nothing to do with whether the addiction [is going to] continue or not." Another county official summarized these concerns as:

> *I think there's a lot of attitudes and beliefs that's enabling people to continue using. I still see those attitudes and beliefs with Narcan. I've had professional people say that we're just allowing them to continue using without consequences. We're enabling them to continue using.*

E. Perceptions that Narcan Reduces Consequences

A few professionals were concerned about the cost and the supply of Narcan, especially when it came to the distribution of it to the public in the form of "free leave behinds" or distribution kits. They worried that users are over-reliant on the safety net of free Narcan and this may lead to more deadly overdoses. This was especially true among coroners. One official said, "they come in and revive me with Narcan that the tax payers are paying for and set me free." These professionals were pointing out the lack of consequences and costs for overdoses victims that are revived. Another official drew attention to the lack of safety practices among opioid users that cause overdoses. This person first posed the question about the decline in overdose deaths for the county: "Is it because Narcan is so prevalent and everyone has Narcan?" They quickly followed with, "My last two overdoses there was Narcan present in the houses, just no one was there to administer it." Here the official focused attention on how solitary use is the greater safety concern in overdoses. Yet another official offered that free distribution policies should be eliminated or heavily amended so victims shouldered some consequences and costs. They favored the idea that "if they're on any assistance and they use Narcan or they have Narcan given to them, that money should be divvied up, paid back, even if it's $20, $50 a month. That's what they lose for their bad behavior." A law enforcement official echoed these sentiments: "there should be something telling that guy [who overdosed] we're going to make your life a little bit unpleasant."

F. Perceptions of the Community's Response to Narcan

Although some professionals said that Narcan was "a wonderful chemical" in general, the overall perceptions of Narcan were neutral-to-negative. One reason was that some professionals felt pressured by a sense of community disapproval. This stigma against Narcan was related to the more general perception among community members that users try their best to abuse the system and get off without consequences. Multiple professionals noted this community stigma against Narcan use. One treatment professional noted, "I realize there's a lot of stigma. People are angry about it. They still think that people just did it to themselves and should not have done that." Another treatment professional said, "I was out in the community a lot. And, there was a huge stigma against Narcan. A lot of the public [thinks] we're enabling them." Yet another treatment professional spoke of seeing community reaction to Narcan on social media as "a huge proportion of the community … that are pretty much [saying] 'let them die.'"

Responders, as members of their community, sounded reluctant to push back on this stigma – more often they preferred to acknowledge the frustration of the community. When professionals did push back against community disapproval in these interviews, they did so in a muted way. For instance, in response to stigma, a treatment professional said that, "people never think about 'what if that was a loved one?'." Similarly, a law enforcement official said, "that's a life. That person has, maybe, children, a mother, a father. We don't know what made them start." Another law enforcement official said of the

stigma, “I understand the public resistance to it, but usually my answer to them is.’ Well, I would much rather give somebody Narcan and try to save them’ than have their parents saying, 'Why didn't they get Narcan?’” And a county official said, “I know there's people that have different opinions on the use of Narcan, but I can tell you from sitting in this chair, that every life is worth saving.”

VII. Users’ Self-Reported Consequences from Drug Use

Of the 50 users or ex-users interviewed for this study, nearly all would be considered “serious” drug users by most people. This conclusion was supported not only by the frequency of drug use but also by the consequences they had suffered from their drug use. This was measured by asking 12 questions of each user (found in the user interview guide.) These included questions such as “Have you ever had tremors or blackouts because of your drug use?,” “Have you ever physically struck another person?,” and “Have you been shunned?,” **Table 7.1: Users’ Self-Reported Consequences from Drug Use** reveals that a clear majority of these users had experienced nine or more of these consequences.

Of the 50 interviewees, 14 were still using either currently or very recently, 25 had quit within the past year, and 10 had quit within the last two years (one did not report). All but one had been arrested for something related to drugs and 27 reported having overdosed. Of those, 21 reported having been given Narcan.

VIII. Summary of User Perceptions of Drug Use and Overdoses

In this section, we use our interview data from users and ex-users to answer the following key questions:

1. Do you think overdose rates are increasing or decreasing in your community? Why or why not?
2. What are the major drugs consumed by drug users in your community?
3. In your opinion, are some drugs or combination of drugs more fatal than others?
4. Recently, has there been a change in the drugs, or combination of drugs used, in your community?
5. Has the availability of drugs in your community changed recently?
6. Did you use alone, or did you typically use with someone? If “someone,” who?
7. In the last two years, did the prices of any drugs go up or down?
8. Do you think a bad batch of drugs has had a significant impact on the overdose rate in your community?

The first conclusion our team can draw is that the user community is aware of the “opioid crisis.” However, we recruited heroin or illicit prescription pain pill users specifically. Nearly all of these users were also poly-drug users. All interviewees knew that heroin was being cut with fentanyl or carfentanyl and that more overdose deaths were occurring recently. However, this has led only a few of the users to adopt specific harm-reduction techniques. A clear majority said they were not doing anything differently because of the opioid crisis. Some were starting to test their heroin by taking a small dose before injecting their “usual dosage.” Some said their dealers were warning them about a new batch that might be harmful. A few users claimed that a “dangerous batch” was something they or others sought because it promised to give a strong high. None reported using any kind of fentanyl test strip, however, many of

the users in this study stopped using before 2018. The drugs that this group feels are gaining in popularity include cocaine/crack and methamphetamine, though Blair County residents also frequently mentioned bath salts.

Most of the respondents said they used heroin alone or preferred to use heroin alone and that heroin and other drugs were widely available. There were mixed responses about changes in the prices of heroin. Some felt it had gone up while many thought it had gone down. The answers seemed to be geographically specific. Prices in the rural communities were perceived as higher than in the cities, though availability had gone up recently in the rural communities.

A. User Perceptions of the Drug Crisis in Their Community

Most of these respondents believed the accidental overdose death rate had increased in recent years. This was true for all four counties. Nearly all the interviewees believed it was because heroin is now often cut with fentanyl and/or carfentanyl. One male user from Blair County in his 30s put it succinctly:

> I think (overdoses) are increasing in the community. I think it has to do a lot with these people are using drugs anyway, but the drugs that they're using are not the drugs that they're used to using. They're increased potency, either with fentanyl or carfentanyl, they just don't know what they're going to get. But that's not going to stop an addict from using. They're going to try and get high anyway. So the drugs have changed, which is why the overdoses have increased.

This comment was repeated in several ways by several users. For example, a female in her 30s from Blair County said:

> *Yeah, it seemed like toward the end of my using there were a lot more overdoses. I'm thinking because the color of the drug would change. You'd know there was a lot more Fentanyl involved in it, more than actual heroin.*

The user community in all four counties was aware of the introduction of fentanyl to the heroin supply. Many also knew that injecting a user's "usual dose" of heroin, now laced with fentanyl, could be the cause of many overdoses. For example, a male in his 30's from Armstrong said:

> *I was regularly doing 7 to 8 bags in a shot and probably the only real overdose that I ever had took place after doing a 4-bag shot. You can tell when you mix it that it doesn't mix the same and it's not the same color, it was probably more carfentanyl than actual heroin. Normally being able to handle 8 without really falling out, and then doing 4 and almost dying. I think that plays a significant role.*

A female in her late 20s from Cambria County said:

> *Because they were putting other stuff in it. Years ago, it was just heroin. You weren't worried about getting a fentanyl batch that can kill you.*

Another female in her 30s from Indiana County said:

> *This heroin that is straight fentanyl or cut with fentanyl or even whatever the elephant tranquilizer I was hearing, yeah, it has definitely increased the deaths*

because say someone that's used to shooting up five bags from Pittsburgh and it's just all right, they're thinking okay, I'm going to do five bags of this and it's not. It's stronger than what they think.

Regarding their own drug use, the population of users/ex-users recruited for this study were specifically heroin users or illicit prescription opioid users. Therefore, all of them commented on the use of opiates. However, nearly all also described their own and others' poly-drug use. The major drugs described included crack/cocaine, methamphetamine, and suboxone/methadone. However, the list of drugs mentioned extended to marijuana, alcohol, bath salts, benzos and more.

One male in his 30s from Blair County said, "Marijuana, heroin, Suboxone, cocaine, Neurontin, Tramadol. Whatever I could get my hands on, I would consider it. It didn't matter what it was. Anything to change the way I felt." Another male in his 30s from Blair County included a different list: "Anything from heroin, cocaine, alcohol, synthetic marijuana, marijuana, pills, prescription pills, rubbing alcohol." A female in her mid-20s from Cambria County said, "My main drug of choice was heroin, but I took whatever I could get, pretty much." A different female in her mid-20s from Indiana County said, "Heroin was my number one thing. If there was crack or coke I would do it, but if I had the money, I was buying heroin."

Drugs that respondents thought were on the rise included methamphetamine and crack/cocaine. For example, a male in his late 30s from Blair County said "heroin and cocaine" were on the rise, while a female in her late 20s from Blair County said, "Meth is really bad now. It's crazy how bad meth is right now. Bath salts, suboxone is even bad. Like, I think those are like the major ones right now." Another female in her 30s from Blair County said, "(I use) mostly heroin, a lot of crack, some coke. Bath salts came around for a while, those were pretty prevalent. Marijuana, alcohol, but heroin is definitely the one I see the worst of."

A female Blair County resident in her late 20s commented on the availability of heroin: "Meth, salt, salt's pretty big around here, heroin if they can get their hands on it. That seems to be a little harder than meth and salt."

A male in his late 30s from Indiana County pointed out that alcohol and marijuana are still heavily used, but the opiate epidemic seems to be getting more attention:

There's a lot of pills. A lot of synthetic opiates, heroin and fentanyl and carfentanyl, they talk about the opiate epidemic, but obviously alcohol and marijuana are a little more socially acceptable at this point, so that's pretty frequently used by most people, but the pills and things are used a lot.

A male in his late 30s from Armstrong County echoed that comment: "If I were a betting man, I would say probably heroin, or something very closely related. Of course, marijuana, and alcohol. That's pretty much everywhere you go." In another section of our report, we expand on perceptions of marijuana and alcohol use, as commented on by the professionals.

Though many users mentioned the danger of fentanyl, many commented on how this knowledge did not usually lead to avoidance. Instead, they claimed some users sought out these "strong batches" in search of a better high. A male in his mid-30s from Cambria County said:

> *It's just the way people think. Like hey, I heard Joe ... He overdosed on these bags called rocket fuel, so we've got to call everybody and see where we can get those ones that have rocket fuel on them. Because they figured if that killed that person that they're going to get really, really, really high. That's how they think.*

However, when a user mentioned a "bad batch," they were typically probed about whether they had firsthand knowledge of a "bad batch,", i.e. a batch that had killed several users. Nearly all interviewees, when pressed, cited a media source as the source of their knowledge, such as television. The interview team could not verify that these users had actually "chased" a bad batch or had witnessed a bad batch that had killed anyone.

"Bad batch" for some users meant heroin laced with fentanyl. An Armstrong County resident, a male in his late 30s, mentioned how a stronger dose was necessary for him because his tolerance had gotten too high for just heroin:

> *Heroin was my first, and fentanyl were my first choices. It turned into fentanyl because I couldn't really get high off of heroine anymore. I didn't have the money to spend it on heroin exclusively, because it just didn't do the trick.*

Though a few discussed upping their dosages, a few discussed personal harm reduction techniques they had adopted since the influx of fentanyl. Some mentioned having Narcan in the house, though surprisingly very few carried Narcan (Narcan is discussed more fully in a different section). A small number talked about trying a small dose from a new heroin buy before injecting the full amount. A female in her early 20s from Cambria County said:

> Sometimes not even a whole bag. It got to the point where I would, literally it would be like, the tip of my fingernail, just to try it. I was a little more cautious. Not everybody does that. Some people do, but I also have overdosed a lot less than other people, so I don't know if maybe that cautiousness worked.

Another Cambria County resident, a female in her early 30s, said:

> *Okay, when I would be in Pittsburgh, I got consistently off of the same few guys, and anytime I would get a new set of bags, then I would always push down how many. I would do at least one and a half because my tolerance was up and I never wanted to waste it, so I would do at least enough that I knew and could gauge to get a feel of how much, the intensity of it before I used the normal dose that I would use.*

An Indiana County female in her mid-20s echoed this comment:

> *Obviously, when you go to someone like a different dealer or someone like that, the potency of whatever you're going to get is not the same of what your other stuff is. One bag could equal five bags of somebody else's stuff. You can't just throw three bags on your spoon and just do it. You've got to test it out first. I'll take one bag, do half of it, no matter what kind of stuff I get, just do half. There's people that die from one bag.*

One user, an Indiana female in her 40s, said her dealer would warn her: “My dealer would tell me whether it was a new batch, so be careful. So maybe try one first.”

In general, less than 20% of the respondents mentioned a harm reduction technique, even though nearly all could describe how fentanyl/carfentanyl had invaded the region. The majority of users said “no” when asked if they were doing anything to reduce their chances of overdosing, despite the comments above.

When a drug different from fentanyl/carfentanyl was mentioned as a new drug or a drug that was on the rise, it was usually methamphetamine. Several users believed meth was increasing in their area. This comment occurred in all four counties.

Regarding dangerous lethal combinations, heroin mixed with alcohol or benzodiazepines was cited most often. A Blair County female in her 30s said: “You know I know some people that died. Benzodiazepines would really knock things up a level. I saw a lot of people overdose on that.” An Armstrong County male in his 20s said, “I know I've overdosed multiple times, and every time I've overdosed it was because of benzos.”

A very small number of users commented that the overdose rate may have recently decreased. They attributed it to people getting into treatment or perhaps receiving Narcan. (The Narcan topic is treated extensively in another section.) One user, a male in his late 30s from Blair County, believed treatment was helping, but this type of comment was rare: “I believe that they're getting more people into treatment before it gets to that point of overdosing.”

The only change in drug delivery that most of the users commented on was the typical progression from snorting heroin to eventually injecting it. All but two of the respondents said they injected heroin. Nearly all knew of other people who were also injecting heroin. It was by far the most common way to use the drug.

B. User Reports on Drug Taking Situations and Price Changes

About half of the respondents reported using drugs alone nearly all of the time. Of those users who did not say that, they often said they preferred to use alone but used occasionally with family, close friends, or, rarely, their dealer. It was very rare for a user/ex-user to say they did drugs with more than one person present. Some example quotes included this from a male in his 30s from Blair County: “Myself. I only use with myself. I'm not going to worry about sharing my shit, my drugs. If I'm using, it's all for me. I'm not sharing it. I can't. I just can't.” A male in his 60s from Armstrong County said: “Basically myself, because it was more for me. I was a greedy user. I wanted it all.” A male from Indiana County in his 30s said: “Yeah, with some of my girlfriends, but primarily I didn't like to share. I would prefer to shoot heroin by myself.”

Others commented that it removed an element of responsibility or fear when they used alone. A Cambria County female in her late 20s said:

> *There were two or three friends that I would do things with but I mean, typically I liked to kind of be alone so I didn't have to worry about something happening to somebody else and me get in trouble for it, honestly.*

Similarly, an Indiana County male in his 30s said:

Yes. I prefer my own company. I don't like hanging out with groups. Because usually when I do that somebody overdoses or cops get called so I just like no drama, I just like to be myself.

When someone else was present, it was often as a matter of convenience. One Cambria County resident, a female in her 20s, said:

The people that I used with, were people that I could benefit from, so like somebody had a car, and they were really only just people that were acquaintances that I would use with, but I never hung out with them, or spent time with. We would run, we would pick up drugs, we would use and I would go home.

When a second person was mentioned, it was most often someone described as an "acquaintance." However, a Cambria County male in his 30s specifically mentioned he used alone because he was ashamed: "The shame factor. Even though people knew I was doing it, I just didn't like doing it around people." Occasionally a user would say "just about anybody." One Blair County female in her 20s said: "My old man, my mother, my father, my brother, my mother-in-law, people that were so called friends. Anybody that used, I didn't give a f--- who it was, I just used with anybody." Similarly, a male from Armstrong County in his 30s said: "Everybody in my family, from mother, brother, sisters, aunts, uncles, cousins, girlfriend, caring friends, people I have never even met before."

Almost all respondents said heroin was widely available. However, there were mixed responses regarding the price of drugs. Many said prices were going up, while many also said prices were going down. The Indiana County residents were the ones who most often said the price for heroin had been going down. Blair, Cambria and Armstrong County respondents often said it had been going up. For example, a female in her 40s from Indiana County said: "Down. Doesn't cost nearly as much to get a bundle. You can get a bundle for $80-90 bucks now. When I was selling it, I wanted at least two. At least, and that was if I like you, you only paid $200." In contrast, a Blair County female in her late 20s said: "They absolutely went up. It's crazy what you would have to pay now for shit. Like, I remember it was like eighty bucks for a bundle of heroin, now they want $145, $150 for heroin." An Armstrong County male in his 20s said: "Yeah. Heroin now is 15 bucks a bag I guess, around here. It used to be 10, less than that. Probably goes back to the availability thing, you know, the price went up."

Some commented on how pain pills, including the MAT treatment drug, Suboxone, were getting more expensive. One Blair County male in his 30s said:

Prices went up. Suboxone, you used to be able to get for $10, $15. Now they're costing between $20 and $30. Roxicet, perc 30s used to only be $8 to $10. Now they're between $30 and $40. Even weed, man. People are paying $60, $70 an eighth for weed. Coke, people are paying $60 for a half a gram, when it used to only be like $30 or $40. So it's definitely went up.

Notably, most agreed that prices were higher in the rural communities and less in the cities. One Cambria County female in her 20s said: "You could charge $20 for a bag of heroin that in the bigger towns you would charge (less)." Another Cambria County female in her 30s agreed: "I feel like, in smaller areas where it's a little bit harder to get, prices for heroin ... I know I was paying a lot more here than I was in the city." An Indiana County male in his 20s combined the price drop with the increased

availability of heroin: “The farther you go to the city the lower the prices get. In the past five, four, three years they've just been declining too 'cause of how available it is.”

IX. Summary of User Perceptions of Narcan

In this section, we use our interview data with users to answer the following key questions about Narcan (naxalone):

1. Did you carry Narcan when you used drugs?
2. Do any of your friends who use drugs carry Narcan?
3. When you use drugs, is someone nearby with Narcan*?*
4. Has anyone ever used Narcan on you to treat an overdose?
5. Have you ever used Narcan to prevent someone from dying?
6. Over time, would you say the availability of Narcan has increased or decreased in your community?
7. Is Narcan preventing overdose deaths in your community? And are some of them going unreported?

All users were aware of Narcan and at least 21 had had it administered to them during an overdose. Seventeen of the 50 were interviewed a second time about their overdoses. These results are discussed in a following section (“Overdose Interviews”). Regarding Narcan (naloxone), of the 50, most did not carry Narcan themselves. Only seven answered a clear “yes” to this question. As mentioned above, though all knew about fentanyl and carfentanyl in the heroin supply, only a few changed their drug-taking behaviors. However, many of the interviewees were in recovery in 2018, so the distribution of Narcan to the community may have occurred after they were in active addiction.

Many of the respondents (at least 11, explicitly) had used Narcan to revive someone. Most could state exact places where Narcan was available. A clear majority thought the wide distribution of Narcan was helping to reduce overdose deaths. Many (at least 13) could also describe situations where Narcan had been used on an overdose victim and EMS or law enforcement had not been called. Usually, this was because of a desire to keep law enforcement away from the situation, but other reasons were also given. In particular, most users did not feel Pennsylvania’s “Good Samaritan Law” would protect them. Some described specific situations where they felt the law had not protected them.

There was no clear evidence of any users having “Narcan parties.” These were described in the “Professionals” section as simultaneous drug use by a group of users where one person would be ready with Narcan in case anyone overdosed. One user speculated that this occurred but had not witnessed it. No users provided any specific evidence that “Narcan parties” occurred in the four counties.

A. User Reports and Perceptions of Narcan

One question we asked the users was “Did you carry Narcan when you used drugs?” Only seven answered “yes” to this question. Four were from Indiana County, two from Armstrong County, and one from Cambria County. The rest said “no.” When asked if their friends carried it, only eight said “yes.” When users did indicate Narcan was nearby, they often did not know exactly where. One Armstrong County male in his 30s said: “I don't know if I carry, but it's at my house. I know that I don't carry it. It's

at my house. It's not like it's with me all the time." A Blair County male in his 30s said: "I was at a house where I overdosed and the girl that I was at her house actually had it upstairs. After some heated discussion about whether they should waste it on me, they decided to." Another Armstrong County female in her 20s said: "I think my boyfriend has some, but I don't know if he knows where it's at."

Almost none of the 50 respondents said they carried Narcan specifically as a harm reduction technique, i.e., they were not expecting someone would use Narcan on them in case they overdosed. One Cambria County male in his late 20s said explicitly: "No, I don't think so, not that I know of. I don't really care, either." A user who did carry Narcan, a male in his late 30s from Cambria County, said: "Maybe, I don't know. Maybe nowadays because it's more ... I have it here, but when I'm out there using, I don't care, period."

When users said they did carry Narcan, it was often said to have been acquired recently. A Cambria County male in his 30s said: "Not up until the last year or two, whenever all these bad drugs started really going around and people dying. That's when I started carrying Narcan." The very few that did have Narcan sometimes mentioned it was really for others. An Armstrong County female in her 20s said:

> *Yeah, I do. I carry Narcan with me all the time just because, even if it's not for myself, there's so many people, especially in this area, because I know everybody, that it happens all the time. It scares the shit out of me.*

A Cambria County male in his 30s said: "I never paid attention. I only started carrying it whenever I was using with people that I cared about. Such as a sibling or a significant other." Similarly, no respondent said he/she had someone nearby ready with Narcan in case he/she overdosed. Some users volunteered that Narcan had recently become more accessible and/or popular. Therefore, during their heavy using years they didn't carry, but might now – if they were still using. However, the users in the study who are still currently using very rarely backed up this claim.

There were a few instances where users discussed Narcan as a general harm reduction technique. One Cambria County female in her 20s said:

> *Over the years, before, no one would ever be like, "Hey, just in case, does anyone have Narcan?" Now, people will really ask each other that, like, "Does anyone here have Narcan?" And most of the time at least one person does.*

An Indiana County female in her 20s said: "I don't know if it's been around, but whenever I learned about it, I carried at least two on me." Overall, in our sample, less than 20% of user respondents carried Narcan or knew that Narcan was around them, either in the house or possessed by a relative or spouse.

When asked if someone had ever used Narcan on them to prevent an accidental death by overdose, a few volunteered specific instances. The most detailed answers to this question can be found in the "Overdose Interviews" section of this report. We discovered a large percentage of our sample had been revived by Narcan. Some sample comments from this initial interview include, from a Cambria County female in her 20s: "I've been Narcaned over 10 times myself; whether it be in an ambulance, or on someone's living room floor." An Indiana County male in his 30s said, "15, 20, maybe more, I don't know." An Indiana County male in his 20s said, "Every time, 18 times all together." A male Cambria County resident in his 30s said: "I've been asked to speak for Narcan because I've been Narcaned so many times."

When asked if they themselves had used Narcan to revive someone, more than 20% responded "yes." Again, the "Overdose Interviews" section of this report has more details about respondents' use of Narcan. However, in this initial survey, a female in her 20s from Armstrong County said: "There's four different people that I've used Narcan on, one of them, well, one was that girl at my house, I really didn't know her, but then there was one person that was a total stranger." Several others did not elaborate, but admitted to using Narcan once, twice, three times or more.

Many users said Narcan was available in their communities. They were often aware of multiple locations where it could be acquired at no charge. Many acknowledged it had come on the scene only recently. For example, a male in his 30s from Blair County said:

> *I would say it's increased because a couple years ago I don't think I ever heard of anyone talking about having Narcan on them, and now I feel like I hear about it a good bit… I would say it's increased a lot, the availability and the word of it.*

Another Blair County male in his 30s said: "Narcan. It's everywhere. It's more available than it used to be when I was using heroin. I don't even remember Narcan being spoke about when I was using heroin." When they said they had Narcan, they usually said they received it free from either a treatment facility or the local drug and alcohol commission. A Cambria County female in her 20s said: "Any doctor will give you prescription for it. Everybody that comes out of treatment is now written a script for it." An Indiana County female said: "Through our outpatient treatment center. Like I said, the rehab in town had been giving them out when they left treatment, and our drug and alcohol commission."

When asked directly if they thought Narcan in the community was helping to prevent overdose deaths, at least 30 of the respondents said "yes." For example, a Blair County male in his 30s said:

> *Just because if it wasn't available before and now it's available… when people are overdosing they're a lot more likely to use it or have someone use it on them. I feel like the fact that it's around more is helping save people in this community from overdosing.*

An Indiana County female in her 60s said, "I know so many people that have overdosed and been revived by Narcan." An Armstrong County female in her 20s said, "People are still overdosing, but I think it's helping people not die from overdosing." A Cambria County female in her 20s said, "Narcan out there. I think it's probably saved a lot of lives, even ones that we don't even know."

Many users were also aware of occasions when Narcan was used and EMS (or any other kind of first responder) was NOT called. This is again documented more thoroughly in the "Overdose Interviews" section of this report, but in these initial interviews, nearly all respondents indicated they thought this was true. At least 13 users recalled specific situations where Narcan had been used but EMS wasn't called. One Blair County female in her 30s said:

> *I would probably say that the availability of Narcan would be the reason that the reporting would go down. You know, a lot of people don't want to call the police. Because of situations like I got in, I got arrested when I you know, called the police for an overdose. So, a lot of people are afraid of that.*

An Armstrong County male in his 20s said:

> *That's exactly probably the drop you're talking about. Guaranteed, because I was saying before Narcan wasn't readily available. Now that it is I'm sure people are trying not to go to the hospital. It definitely does make sense.*

Another Armstrong County male in his 30s blamed it partly on the immediate withdrawal that Narcan causes:

> *That's definitely going unreported. I would think that. I would say 100% of the time, unless the person dies, it's going unreported because they want to immediately get high again from the Narcan f------- their high up, and then nobody's going to jail over drugs because jail to a drug addict is hell because it's immediately you have to go through withdrawals until you get out.*

An Indiana County male in his 30s said something similar: "I mean I've heard stories of people getting Narcaned back to life and they were mad at the person who Narcaned them because they ruined their high." A Blair County male in his 30s said "no harm, no foul":

> *There was drugs in the house, so that was not something that we were really interested in. Yeah. We weren't ... The consensus is no harm, no foul. As long as you've got a pulse, then we're good. We're good.*

A Cambria County male in his 30s didn't want to get the police involved:

> *Absolutely. Why would you call the authorities? You guys are out partying together or something and someone falls out, overdoses. Narcan brings him out of it and why would you go ahead and call the cops on yourself then?*

A Blair County male in his 30s also expressed:

> *Absolutely they're using it like that. I mean, no one wants to. If they can bring someone back from an overdose, they're not going to call 911. They're not going to get any kind of legal things involved.*

So did an Indiana County female in her's 30s:

> *Yeah. I believe that because why would they want to call for help when there's a house full of drugs and people using, so they figure "he's out. I'll Narcan him." But why call the police? They don't want the police involved.*

The reasons given for why EMS was not called varied, but the most frequent answer was a desire not to get police involved. This occurred despite some of the users making specific mention of the "Good Samaritan Law" in Pennsylvania. An Armstrong County male in his 20s said: "I would not call EMS unless it was a last resort, 'cause I don't want to go to jail. Even though they have that law (Good Samaritan Law) …Yeah, that ain't always effective." A Cambria County male in his 30s believed the law didn't really work:

> *Yeah, because I know that they passed the law that if you're with someone when they overdose, you call and you can't get in trouble. But then, this last time I was in jail there was three people in there that someone was with them that overdosed, and*

they called the ambulance, or the cops. They showed up, found drugs on him, and he ended up in jail for possession.

Though not specifically probed during every interview, the few times the Good Samaritan Law was mentioned, most users felt there would be legal consequences if the police were involved. A Blair County male in his 30s said:

Yeah, no doubt. And oftentimes, the people that are overdosing, they have outstanding warrants. So, although there is the good Samaritan law, that doesn't really apply to warrants that you have for whatever the other crimes would be.

Interestingly, in only one case did a user bring up the concept of "Narcan parties." It was described this way by the same Blair County resident:

So, a lot of this is swept under the rug. I've heard stories of Narcan parties where essentially, they get Narcan and they use near fatal amounts of opioids and attempt to reach the ultimate high and then if the person goes into an overdose, they administer the Narcan to save them, to revive them. At least one story that I heard, it didn't work. So yeah, they're kind of playing Russian roulette with that.

Importantly, this appears to be a secondhand account. Given that most of the users reported using alone or preferred to use alone, this story stands out as an anomaly in the data set.

X. Summary of User Perceptions of Community Responses

In this section, we use our interview data with users/ex-users to answer the following key questions about the users' perceptions of community drug use.

1. Is drug treatment available in your community?
2. What kind of treatments are available?
3. Are treatments initiated in jail decreasing overdoses in the community?
4. Do you think your community is working on reducing overdoses? Why or why not?
5. Has law enforcement contributed to the decrease in drug availability and drug use in the community?
6. Do you think drug dealers are responsible for the increase in drug overdoses in your community?
7. Has the PDMP (Prescription Drug Monitoring Database) program reduced the use of prescribed opiate painkillers in the community?
8. Do you think there has been more prevention messaging getting to the community?

Nearly all users could describe multiple treatment options in their community and nearly all said it was easy to get and free if one couldn't pay. All interviewees had received some sort of treatment and most were at some stage of recovery. Only seven were still actively using at the time of the interview. When they discussed treatment, a clear majority said it would only work if the user was ready for treatment, i.e. they wanted to get clean.

Treatments in the jail systems received mixed reviews. Very few said treatment in jail started them on the road to recovery. Many said it was inadequate. A few mentioned specific MAT treatments that were available in jail, such as Vivitrol. These were regarded favorably when discussed. However, most discussed only meetings or 12-step programs that were available in the jails. These were not viewed as effective.

Many felt their community was working to prevent overdoses, but the specifics of how were varied. Many brought up Narcan (discussed elsewhere in this report). When asked about the possibility of law enforcement reducing the supply of drugs, less than 20% said "yes." Many felt drug dealers would simply be replaced if they were taken off the streets. A few said it could have a temporary effect, if a large supplier was removed. Some mentioned that making some drugs harder to get might increase overdoses by forcing users to use new drugs or try new suppliers.

Users generally did not place blame on local drug dealers. Local dealers were often described as users who were simply funding their habit. Many users blamed the fentanyl on "upstream" dealers and traffickers. Many also blamed the users for their own choices. A few users said their dealers would warn them about a new batch. Meanwhile, some users put the blame on hospitals or pharmacies for recklessly distributing pain pills. However, when asked about Pennsylvania's PDMP, most could not describe it.

A. User Perceptions Regarding Treatment

Regarding treatment, users were nearly unanimous in saying that treatment was available and accessible. The one exception was the lack of a detox facility in Cambria County.

When pressed, most users could describe the levels of treatment available, the public assistance available for paying for it if one's private insurance ran out, and the ease of initiating treatment. The treatments described ran the gamut from detoxing, inpatient treatment, outpatient treatment, counseling, recovery houses, maintenance clinics and meetings. Lack of treatment options was not seen as a barrier to entering recovery for most users. Of course, most of these respondents had already experienced treatment for a substance use disorder. Most of these interviewees were in recovery.

Regarding availability, one Cambria County female in her 20s said:

> *It's available to us all, I think. Most of the inpatient facilities, your insurance, even if people have Medicare or the county insurance, it will still cover that, for at least three weeks. Now the methadone, suboxone, medically assisted treatment takes a little while to get in … The meetings are available to everyone, everyday. You don't need insurance. You don't need to pay. It's an hour out of your day, and they're in every single town. They're everywhere.*

A second respondent, a Blair County female in her 30s, echoed this sentiment:

> *There're treatment centers in Indiana, Somerset, Altoona. There're treatment centers all around our area. And they have, I forget, the Cambria County Drug and Alcohol that you can to, if you're seeking any kind of help they'll guide you in the right direction. So, I know about those.*

Many users added that treatment would only work if the user was ready for it. One Blair County male in his 30s said:

> *Treatment is there for anybody that needs it, man. The problem is not many people want it, or they just haven't hit rock bottom, you know? They haven't hit a level low enough for them to want to do something different about themselves. Treatment is available to everybody. I don't care if you have insurance or you don't have insurance, the county will pay for it.*

This thought was expressed in different ways by most of the users, and the same majority said treatment would only work if the user was ready for it.

When it came to treatments available in jail, not all residents were familiar with the options. Those that had some knowledge expressed mixed reactions. Some respondents felt meetings in the jails were not effective. A couple of respondents said inmates might attend some meetings just to get off the cell block. A small number noted how jail at least kept some people from overdosing. Others commented that, though they resented starting treatment in jail, when they looked back on it, it was probably a good thing. A Blair County male in his 20s made this point clearly:

> *I know that I always was bummed out every time that my PO (probation officer) picked me up when I would go to jail, and I would say that was not what I needed and deep down inside today I admit that, that's really what I needed at that moment because you got to start somewhere and going to jail is the first step to going to treatment because we're in denial, and we want to refuse help and then when you're in jail you ain't got a choice really. You kind of get forced into it, but in the end it's what you need.*

A female in her 20s from Indiana County said:

> *Every time I go to jail, I do the treatment in there. It makes my time go faster, I definitely like it. Open Door comes in, there's Celebrate Recovery and stuff like that. I always enjoy it. They bring NA and there was not a lot of people that take it seriously. The ones that do, I think they get something out of it. Then there's always that one person that gets released from jail and then you hear them a week later, not even a week later, two days later they got out and they're dead. It's sad, but it always takes something like that for people to realize the shit's real.*

However, this type of comment was rare. Many did not feel treatment in jail was effective or there was enough of it. An Indiana County female in her 50s said: “There's very limited treatments in jails. This is part of the problem. They're not treating people like addicts, they're treating them like criminals.” A third Indiana County resident, a male in his 30s, said:

> *I don't think so, because they don't really have any kind of programs in jail. They have an NA/AA meeting every once in a while, but that's the most they have in jail besides just detoxing and being away from everything period.*

The general perception is that treatment in jail is either not available or not effective. Occasionally, a user may get started on recovery during this period, but most did not claim this is how they started.

A few did, however, make specific mention of Vivitrol, a new MAT offered in some of the jails. One Armstrong County male in his 20s even went so far as to say: “But I definitely think Vivitrol is a great tool to use when you're first getting clean. I know I, myself, used it for the first nine months I got clean. It saved my life, for sure.”

B. User Perceptions on the Effectiveness of Law Enforcement

When asked if they thought their community was working to prevent overdoses, more than half of the respondents said “yes.” The specifics of why they felt that way varied. Many mentioned Narcan (discussed in greater detail in another section of this report). When a non-Narcan comment was made, it varied substantially. Our interviewers often followed up with specific questions about law enforcement, drug dealers, the PDMP program and/or possible increases in prevention messaging. However, one user captured a very important sentiment in the following quote. At least one user, an Armstrong County female in her 20s, is aware that the community is trying to help, despite the user community’s possible reaction:

> *Look at our community, look how many people died and how much the drug taskforce is going out and being super Nazi-ish about opioids, and stuff like that, I mean, which is a good thing, it's like you don't want us to die, great, but everybody else, it's like druggies are just like, "Oh, you dicks. Just let us be." No, it's because people care, but it's because we're f------ up and they have to care because we don't.*

When asked specifically if they thought the police had a significant impact on reducing overdoses, less than 20% said “yes.” The reasons for why they thought the police did or did not have an impact varied considerably. A few discussed the possible impact busting drug dealers might have on drug availability. One Armstrong County male in his 20s said: “I think in general just getting rid of the carfentanyl and the main drug dealers around. I guess you could relate that back to law enforcement.” Another Indiana County female in her 30s said:

> *All I can really say on that one is since the people that have gotten incarcerated were 90% of the heroin and crack was distributed has left … They have been in jail now for about three months.*

An additional Indiana County male in his 30s said, “’Cause some of the major people who were dealing around here are in jail.” However, other users pointed out that busting one dealer didn’t have a significant impact because one or more dealers would just move in. One Armstrong County male in his 20s said:

> *I don't know. I would say that it's gonna be probably not. Because if one person gets arrested, there's always 20 more people that will have it, you know what I mean? It might make a little difference, but not anything (big).*

Another Indiana County female in her 40s said: “When one drug dealer gets popped, three more move in. So, you know what I mean? It's give and take.” A few users discussed how the police might make use of a user to get to other dealers. A male in his 60s from Armstrong County said:

> *They have a lot of informants. They work out a lot of deals, more deals than they used to work out. They've got a lot of people telling on everybody that's selling the drugs, and the different users.*

An Indiana County male in his 30s confirmed this:

> *Like I said, everybody's afraid to sell drugs around here because it's just so ... they know the game up here, like the cops and the court system has learned so much from everybody that you can't trust none of your friends, they'll snitch you out. Everybody will rat you out.*

A Cambria County male in his 30s was even more explicit:

> *Let's see. I'm a drug addict. You (the police) come to my door because you got me on sales. You want me to continue to do drugs to help you, possibly kill me, and put my family in danger. Instead, I tell you no and you threaten me that you're gonna give me a max sentence if I don't help. Now I have a problem.*

An Indiana County female in her 20s also felt that this system may help some users continue to be substance users:

> *They say that they think that they're helping, but then they're the ones, they enable it too. They have CIs, confidential informants, they're enabling them to continue to be drug addicts. They let those people go and allow them to get high. I don't know, I see that is ... I'm indifferent to that situation. It makes me angry. They allow certain people to get away with it, but then other people they can't, they go to jail. I don't know. They should be going after the people that are coming from New Ken, not the people that have the real problem, that are the drug addicts that need help.*

A Cambria County male in his 30s said something similar – getting the users is not the same as getting the real drug dealers:

> *They're going around getting a couple dealers, but mostly they're getting drug addicts that are out there to try to survive and get their next fix, whether they're selling dope so they can go get heroin, or stuff like that. So, they're cutting down the availability to an extent, but I still think the main issue is they're getting drug addicts and not the drug dealers.*

However, a male in his 30s from Armstrong County seemed to say that eventually, using informants might be less and less effective:

> *You're not going to find anybody that doesn't want to be found, you know? I mean, sometimes they'll trip up on somebody or somebody will narc, but even the snitches around here are known. There's no private narcs around here. Everybody knows who's talking, so I don't think that they're going to find something they can't see.*

A female in her 20s from Armstrong County expressed concern about the newer, more aggressive approach to opioids, as opposed to other drugs:

> *You could have a pound of marijuana and you could have four bags and you can get in way more trouble for having bags than that pound of marijuana because the opioid epidemic here is crazy. I mean, I am a felon for having a pound of marijuana*

and I went to jail for having five bags of f------ dope on me. There's a big difference. There's a huge difference. I didn't go to jail for having the marijuana.

However, the more frequent sentiment was that law enforcement had little effect on drug availability. A male in his 20s from Indiana County said it succinctly: "I'm not saying they shouldn't bust them, but I don't think it decreases the usage or availability at all. Somebody else just has it and then they sell it." A Blair County male in his 20s said: "They'll never do that. That's just unrealistic. Law enforcement can do whatever they want, there's just going to be new slicker ways to get around different s---." A Cambria County female in her 20s said the decrease may be only temporary:

One guy would be selling and then all of a sudden he's in jail, there's always somebody to fill his place eventually but we've seen it … like the one guy got busted and he has a partner. That partner is going to lay low for at least two to four weeks before coming around.

Another Cambria County female in her 20s said:

When the drug busts are going on, a lot of times people get more cautious. They will change their number, they will say a different name, they will meet you at a different spot, however, they still will get their sales … because we are addicts and we're fiends, and if we want it, we're gonna get it. It might be a bump and it might take a minute for us to figure out the next person, but we will figure it out. We always do.

One Cambria County female in her 20s was even pessimistic about the long-term prospects:

You may have a major drug bust, and you get this guy, and he has so much drugs and money and guns, and this and that. And you capture him. Yeah, that's great. But, there's already one, two, three, four, five people replacing him. There's always someone bigger. There's always stuff gonna be coming. It's unfortunately never going to stop.

At least two users speculated that a crackdown by law enforcement could lead to more deaths. A female in her 20s from Cambria County said:

I would love to say yeah. Not for me. It kinda just relocates. They bust one area, and then it might move two streets over, you know? …The sellers that are left don't want to sell 'til things calm down. They're nervous. They don't know who's telling, and who they can trust. Things get vicious. People want their fix. At that point, since things are so unstable, do you think that there might be a higher chance of some user getting the wrong stuff in desperation and might be more at risk of an overdose at that point?

Another Cambria County female in her late 20s expressed fear that enlisting law enforcement assistance might lead to trouble:

I got in trouble for trying to help somebody. So, it's like, I think a lot more people overdose because everyone's afraid to call the cops and ask for help when something happens 'cause they don't want to get in trouble. That's what I think.

This idea, that users are not calling for help during overdoses, is explored more deeply in the "Narcan" section and the "Overdose Interviews" section.

Not all users had something negative to say about law enforcement. One Armstrong County male in his 30s said: "I've had my legal issues, but I don't think cops are bad like a lot of people do. However, the problem ... They just are part of the cycle. I don't really think they cause it or prevent it." Another Indiana County female in her 20s told of a positive interaction she had with the police:

> *I felt like that they were actually pretty nice … The times on the porch, when I was just not hostile, I was kinda just coming off being sleepy and all that, they tried to give me the talk about quitting and all that, but it never works unless you really want to.*

Finally, an Armstrong County female in her 20s made a plea to law enforcement:

> *I really wish that there was something out there for law enforcement to really get into, like instead of just scaring the shit out of people, to actually just show that they care because, I don't know, you see in other areas, there's officers and stuff out there that actually go out and just pour their heart out to people. I'm not talking like don't go and spend money, like, "Oh, here," shower them with candy and s---, whatever, but I don't know, there's just ways to touch a human heart that money can't buy, and things like that. Just going out and just talking to people. It really does f------ help a lot, just reaching out.*

C. Perceptions Regarding the Role of Drug Dealers

Users were asked if they believed drug dealers were responsible for an increase in overdose deaths. In general, two types of answers were most common. Either the interviewee simply blamed users and their choice to do drugs, or the user blamed dealers who were mixing fentanyl (or similar) into heroin. When they mentioned these dealers they very often distinguished between local dealers, who were simply users trying to support their habit, and "higher up" dealers who were responsible for mixing the new substances into heroin. An Armstrong County male in his 20s said when asked about blaming drug dealers, "Yeah. Maybe bigger drug dealers that actually mix the drugs. But street-level drug dealers, no. I wouldn't say so." A Blair County male in his 30s said: "Maybe not the local dealers, but the dealers above them. Absolutely. If they can cut it to stretch it, to go further, to make more money, that's going to be the game forever." Another Blair County male in his 30s said, "Nobody on street level is getting kilos of carfentanyl. Somebody higher up is getting it, but point blank, is that higher up person still a drug dealer just like you or me? ". A Blair County female in her 30s said: "Yes, the drug dealers are the ones making the choice to, you know, put more powerful chemicals in for a lower cost. And I think that contributes a lot to the overdose rate." A Cambria County female in her 20s explained it was only to make more money:

> *If they mix it with something stronger, they only have to put a little bit in it and then they can make their money by only putting a little bit in it for us to do, but it's potent. So, if they add a little bit of fentanyl into a bag, it makes it bigger ... I don't know how to explain it. If they have a bag and there is dope in it and then they just add a pinch*

of ... or, half is cut and then they put a pinch of fentanyl in it and it's up killing people, they're making tons of money doing that.

One female in her 20s from Cambria County believed some local dealers would leave an overdose victim if one of their buyers overdosed:

(The user would be) physically with (the dealer), buy the drugs, use them, so in the presence of the dealer, and they leave them there, because they don't want to deal with it, or they call 911 and leave, if they even do that, and just leave them to die. So yes, I think that they play a huge part in the overdose rates here.

This comment occurred only once. More common were responses that didn't solely blame the dealer, such as this comment from a male in his 30s from Indiana County:

Well, without the dealers, you know, where would we get it from? So, the traffickers which bring it in, to give it to the dealers, for the dealers to distribute. You know, they're not all to blame, not for everything, but if there were no dealers it'd be a lot harder to get. Other than legal scrips.

Often, users blamed themselves. This Blair County male in his 30s said it clearly:

I don't think drug dealers are responsible for it. I feel like the people that are buying the drugs are responsible on an individual basis. We're all responsible for what we do to ourselves, you know. The drugs are always gonna be available, I think. It's your choice whether you want to use them or not.

A Blair County female in her 20s also referred to "choice" when she said: "Yes, they (drug dealers) contribute to it, yes they bring it, you know what I mean. But us as people, that's our choice to go get it from them." And a Cambria County female in her 20s said something similar: "We are responsible for our actions and if I'm taking the chance to go and get this dope, I'm killing myself. Yeah. I'm doing it, they're not putting a gun to my head, making me shoot their stuff." Supply and demand was mentioned several times. An Indiana County male in his 30s said:

There's supply and demand and it's all up to you on how much you want to do. You get to being irresponsible and kill yourself, or you could be smart about it and do a little bit and not harm yourself or others. So, no, I don't ... as much as I hate drug dealers dealing it, somebody's got to do it.

This mixed sentiment, that, only to a certain extent were the dealers responsible, evoked interesting reactions from some users. At least two users said they were warned by their regular dealer not to take too much of a new batch. An Indiana County male in his 30s said:

They tell you, they'll be like, "Listen, let me do one bag. Do a half a bag. This is Fentanyl mixed." They don't want to get a body. They'll catch a homicide charge if they caught you "death by overdose," or death by dealing drugs. Yeah, I've multiple times they'd be like, "Listen, these are really good. Be careful with them." They'll tell you. They won't just send you on your way with unknown.

However, this same story was sometimes used to explain the danger of having to find a new dealer. A Cambria County female in her 20s said:

> *And he's telling me that it's not as potent as last time, or it is as potent and you better not do as much. Then when he goes to jail and I find somebody and I'm dying and I don't care who it is, what it is, I want it, whatever. But this person I don't know, and he doesn't tell me nothing, or he puts something in it like battery acid, of course.*

What became obvious from the bulk of the user's comments was that all the users were aware that fentanyl (or carfentanyl) was being mixed into heroin. As referenced in another section, this sometimes led users to seek out this more potent batch of heroin. A Cambria County female in her 20s said:

> *If the person would die, definitely, I wouldn't think (avoid). But, they won't advertise it. But, addicts are still gonna think, "I bet he got it from so and so. So, you know that's good. I just won't take as much." They'll justify it that way.*

An Indiana County male in his 30s was more explicit about his behavior:

> *When I was using, if somebody was like, "Whoa, these people are falling out or overdosing on these bags"… Me and my thinking at the time, I would be like, "Wow, I need to go get that." Because it's strong … Like I shot heroin for 17 years. A lot of the time you're not getting high, you're just not getting sick. And then, you hear something like that, and tolerance levels ... I haven't put a needle in my arm in almost a year, and I still have track marks everywhere. No, you hear people are dying off of it, just makes you want it more.*

A different Indiana County male in his 30s confirmed this sentiment:

> *If there's like a bag out there that people are dying on, that's the shit you want to be known as strong, but you can only do a little bit. That's stuff like people like me seek. I look at it as a positive because that's how I know, all right, there's good shit around.*

However, a different male in his 30s from Indiana County said a user still had to be careful. The dealers could use this against you:

> *They got the best out there on the streets. Let's go to them. You know, pay $8 a bag, you know, get the best stuff out there. … What happens a lot is they'll give you some good stuff to bring you in. Then they'll start slacking just to keep you there and then sometimes like, "Oh, here. Try this stuff, this stuff's new stuff, or here's some more," and it'd be good stuff again. So, you keep going back thinking they're going to have the same thing, that's going to change.*

In the end, the user-dealer relationship was only partially explored in these interviews, but it appears to be very complex. Many users do not blame the local dealer for overdose deaths, but when pressed, they will blame the "upstream" dealer/trafficker who is mixing fentanyl or a fentanyl derivative in with heroin. Many are also OK with putting the ultimate blame on the user.

However, some also put the blame on "dealers" who did not sell on the streets. This Blair County male in

his 30s mentioned hospitals:

> *I also believe hospitals are a contributor, too, because they're handing out all these pain pills, all these barbiturates and benzos. I believe it's a mix of things that's contributing to our overdoses.*

A Cambria County male in his 20s placed blame squarely on pharmacists:

> *The only drug dealers that are responsible are the pharmacists. They're the real drug dealers. They're the ones that are responsible. The street drug dealers are just trying to make money so they can feed their f------- kids, and that's it. The real drug dealers, the real criminals, are the pharmaceutical ones.*

An Armstrong County male in his 30s also mentioned pharmacists and doctors:

> *I don't think they (drug dealers) are any dirtier than the banker or the pharmacist or the f------- doctor writing out scripts to people who really don't need them like that. Definitely there are drug dealers out there. They got to take responsibility for what they're doing, but I'm saying doctors are taking zero responsibility for what they're doing. That motorcycle accident I was in in 2005 was the whole reason I even started using drugs.*

D. Users Perceptions on the Effectiveness of the PDMP

In the past few years, Pennsylvania has implemented a Prescription Drug Monitoring Program (PDMP). This permits doctors and pharmacies to view the past prescriptions of a patient. It is intended to cut down on "doctor shopping" and to lead to more effective and safe prescribing practices. When the users were asked about the PDMP, most did not know what it was. When it was briefly explained, some speculated that it was probably helpful. A few had heard of it but provided a variety of reactions. Some said it helped. One Cambria County female in her 20s said:

> *Yeah. But that's definitely making a huge difference 'cause you can't go to different doctors and be getting all kinds of stuff and you know, if you're on suboxone you can't be getting pain pills filled and I think it's a good thing.*

An Indiana County female in her 30s shared a specific story:

> *Yes. Yes, because I remember people would have two scripts. Oh, well, I'll drop this one off at this pharmacy and I'll pay cash for it. There were ways to get around that, but now the way that the doctors know, just like you said, what date, what pharmacy, so I do believe that has stopped because years ago you could go to the hospital and say, "I have a migraine," and they would give you morphine. Today, you know what I mean, they're going to give you ibuprofen.*

A Blair County male in his 30s commented:

> *I remember like six years ago, I used to have a guy that that's exactly what he would do. He would fill a couple different prescriptions at a couple of different places. He took a huge hit when they stopped filling multiple prescriptions, which meant less*

drugs were coming onto the street, which means I was able to get less. …Yeah, I believe that has an impact on the community, a positive impact.

A Blair County female in her 20s said she benefited directly from the program:

Oh absolutely. That's a wonderful program. I think it's definitely helping, because I was one of those mother f------ that would go, I even fixed the date on a prescription before, so it's definitely yeah, it's definitely helping. And I think it's a wonderful idea that they're doing that now.

However, a few said it probably didn't help. For example, a Blair County male in his 30s said:

I feel like it makes no difference if they limit the pain pill output, because most of the people that are addicted have already gotten pain pills in the past, so if they're limited to getting it from a doctor, they're gonna get it off the street in heroin form, or buying pills off someone that has them.

This quote demonstrates one concern that some have about the PDMP, that it moves some people to heroin. A Cambria County female in her 20s stated that theory:

Yeah, (the PDMP) makes sense, 'cause I remember, that's what got me from pills to heroin was because everyone was getting cut off by their doctors. And no one could find a new doctor to go to. So, you've run out of that, you gotta find something else, and it was cheaper.

Another Indiana County male in his 30s used discussion of the PDMP to target doctors:

Oh yeah, absolutely (it cut some people off). They cut my father off of his Percocet. A lot of people got cut off from their pain meds. That's why people are on Suboxone now. It's just pretty much they're drug dealers but it's legal. Because you get addicted to Suboxone. It's just a twisted game out here. It's all about money. It's just a messed up game, because the doctors contribute to addictions, but they don't get in trouble for it.

An Armstrong County female in her 20s was upset that the PDMP may cut patients from legitimate doses of pain medicine, though she remained hopeful:

How are you going to give somebody painkillers for 25 years, every f-------day of her life for 25 years and then cut them off? Now my Mom's looked at as a junkie, and stuff, and so she can't get certain drugs because she went to a suboxone clinic to get herself better from being pill sick. It's gonna have its good and its gonna have a lot of bad, too. Yeah, I mean, but there's so many people in this town that are selling mad pills because they have access to them. I mean, it might be a good thing for the system to, hopefully, pick up that kind of crap. I mean, I have high hopes for it, at least.

An interesting point was made by a Blair County male in his 30s who asked, "Is it not safer for people to be on a regulated medicine with standardized doses, than a street drug?"

They are safer than an elicit opioid in my mind. All day, every day. Purdue, Glaxo, Smith Klein … know what they're putting in there. They actually have to tell you what they're putting in there. The guy on the street corner does not. So, it's like a double edged sword. What do you do? Do you put stuff out there that could kill somebody, or do you just let them go and get the stuff that is killing people? You know what I mean?

XI. Overdose Interviews

This section of the report reviews the interviews with 17 overdose survivors. According to Medline Plus, an opioid overdose is an overdose resulting from high doses of opioids, at times in conjunction with other substances, that affects the part of the brain that regulates breathing (https://medlineplus.gov/opioidoverdose.html). As reported by the World Health Organization, "an opioid overdose can be identified by a combination of three signs and symptoms referred to as the 'opioid overdose triad'". The three are pinpoint pupils, unconsciousness, and respiratory depression (https://www.who.int/substance_abuse/information-sheet/en/). The overdoses in our sample were not clinically diagnosed. They were self-reports and self-defined as lapsing into unconscientiousness after ingesting an opioid and being revived by someone present with Narcan or other measures.

A. Demographic Characteristics

Table 10.1: Demographic Characteristics for Overdose Interviews lists the 17 interviewees who agreed to a follow-up interview on their overdose experiences. Each of them was one of the 27 overdose survivors identified in the original user interviews. The age range of the 17 was 22 to 41 years, with a mean of 30.3. Most of the interviews were conducted in Armstrong and Indiana Counties. The proportion of men to women was nearly equal; nine women and eight men. Six completed high school or earned their GED, and eight attended college or trade school. Regarding marital status, 16 respondents were single at the time of the interview. Thirteen were living with family, peers, or a significant other. Nine had children. Four of the 17 were employed for more than a year, while three were unemployed. The demographic characteristics of the 17 overdose case interviews did not depart in a significant fashion from the larger user sample.

B. Overdoses, Counties, and Overdose Ages

Table 10.2: Overdose Numbers, Counties, and Overdose Age shows the number of overdoses of the 17 overdose cases, the county, and the age at the time of the overdose. Because of potential recollection problems, the overdose interviewees were only asked about eight of their overdoses. If they had more than eight overdoses, they were also asked about their 15th and last overdose. Tables on these specific recollections are discussed later. Five overdose interviewees were from Armstrong County, three were from Blair County, three from Cambria County, and three from Indiana County. The youngest age at the time of overdose was 16 and the oldest was 37. The interviewee identified as OD 15 only overdosed once at the age of 37. Seven overdosed twice, two in the same year, and the others one or two years apart. Two overdosed three times, one or two years apart. Two overdosed four times, one at one year apart and the other three at five years apart. The remaining interviewees overdosed 14 or more times. One interviewee claimed to have overdosed 10 times in one year. Another, who overdosed 15 times, overdosed seven times in one year. Another, who was 22 years of age at the time of the interview,

overdosed 18 times; as a minor, they overdosed three times at the age of 16, and six times at the age of 17.

I. Age of Substance Use

Table 10.3: Onset Age of Major Substance Use, I & II lists the age at which various substances were first consumed. All the respondents reported ingesting more than one substance. Cigarettes, alcohol, and cannabis were consumed at an early age by nearly all respondents, in one case as early as eight years old. Cigarettes were the first substance for two of the overdose cases, alcohol for three of them, and cannabis for one. Some started their substance use by using more than one drug, in one case as early as 12 years of age. Five started with a combination of alcohol and cannabis, two with cigarettes and alcohol, and three with cigarettes, alcohol, and cannabis together.

Regarding opioids, all of them except one (OD 10) started their use with opioid-based pain medication obtained illicitly. OD 10 started with heroin at the age of 18. Eleven of the overdose cases started using opioid-based pain medication for recreational purposes as minors, the youngest at the age of 15 years. The others started using pain pills as adults. The time it took to transition from pain medication to heroin varied, ranging from a few months to 13 years. On average, the transition to heroin was 4.2 years, but this number was large due to a few outliers. The overdoses were described as occurring later in the opioid use trajectory, once they were using heroin and exhibiting evidence of suffering from an opioid use disorder (OUD), particularly opioid dependence. As will be discussed later in the report, all the overdoses involved heroin, but nearly two-thirds also involved other substances.

Table 10.4: Year of Overdoses lists the years in which 16 overdose interviewees underwent an overdose. Like **Table 10.2: Overdose Numbers, Counties, and Overdose Age,** it is limited to eight overdoses. The overdoses occurred from 2005 to 2018. Only three of the interviewees overdosed before 2010; one in 2005 and 2007; another in 2006 and 2007; and another in 2005. Of the three who overdosed before 2010, two also overdosed recently in 2016 and 2017, when the overdose rate peaked in the region. Ten of the cases overdosed from 2015 to 2018. These ten individuals account for 32 overdoses.

All interviewees described their situation as putting them at high risk for an opioid overdose, including overdosing more than once over the course of many years. Although not all were officially diagnosed with an OUD, all were exhibiting characteristic signs of opioid dependence at the time of their overdose. They were ingesting heroin daily, sometimes more than once. Opioid dependence kept them from stopping or reducing their daily use of heroin. While not usually life-threatening, withdrawal from heroin is painful and extremely unpleasant, which makes it challenging for users to quit. These interviewees were also injecting heroin, another indicator of opioid dependence. By ingesting heroin in this way, instead of snorting or smoking it, the substance is absorbed into the body sooner and can result in a quicker, more intense high. Additionally, many said they injected heroin while also taking other sedatives, such as benzodiazepines. This is another indicator of chemical dependence.

II. Overdose Incidents

Table 10.5: First Overdose, Table 10.6: Second Overdose, Table 10.7: Third Overdose, Table 10.8: Fourth Overdose, Table 10.9: Fifth Overdose, Table 10.10: Sixth Overdose, Table 10.11: Seventh Overdose, Table 10.12: Eight Overdose, Table 10.13: Fifteenth, and Table 10.14: Last Overdose

provide information on 10 overdoses. As mentioned earlier, there were more than eight overdoses for some interviewees, one as many as 18 overdoses, but we only focused on ten: the first eight overdoses, overdose 15 and the last overdose. The tables provide information on the location of the overdose, whether the individual was alone or with others, substances used, causes of the overdose, prevention measures taken on site to prevent death, hospitalization after the overdose, and length of time before drug use was resumed after an overdose. An overview of the tables is presented at the end of all 10 tables.

III. Overdose Locations

Across the 10 tables, it can be observed that most overdoses occurred at the home of the individual, parents or grandparents, another relative, or a friend. Other venues were personal cars, public restrooms, or public facilities, such as a detox center or a juvenile facility. Some do not recall the venue. **Table 10.15: Overdose Locations** lists the major locations of the overdoses. In 15 instances, subjects did not recall where they overdosed. Because some were minors or living at home at the time of their overdose, "Relative's home" includes overdoses at their parents' home. Their home or their parents' home was listed 21 out of the 45 times a specific place could be recalled.

IV. Alone or With Others

The majority of the 60 overdoses occurred while the users were alone. In almost all the 32 instances that users were alone, they were found by a relative or friend who then sought help. In only 20 instances were they in the company of others, such as a significant other, friend, or relative. Sometimes they were using drugs together. The remainder of the overdose cases do not recall if they were alone or in the presence of others during their overdose.

V. Overdose Substances

Table 10.16: Overdose Substances lists the drugs ingested during an overdose. All the overdose cases involved opioids, usually heroin. Out of the 17 overdose interviewees, four respondents used heroin one year or less before they had their first overdose; four others used heroin between three to five years before their first overdose; and seven respondents used heroin between six to eight years before their first overdose. Only two overdoses did not include heroin. These involved fentanyl and methadone. Most of the interviewees, (10), ingested other substances during their overdoses. Heroin was the only substance used in two cases; both cases involved males in their thirties.

The substances combined with heroin were fentanyl and benzodiazepines. Six overdose cases combined it with fentanyl and six with benzodiazepines. Two of these cases combined heroin with both fentanyl and benzodiazepines. These combinations can be fatal, depending on the dose. Some of the most prescribed and commonly abused benzodiazepines are Ativan (lorazepam), Halcion (triazolam), Klonopin (clonazepam), Restoril (temazepam), Valium (diazepam), and Xanax (alprazolam). They are prescribed for conditions like panic attacks and alcohol withdrawal treatment, and most typically for anxiety and sleep disorders. Individuals with opioid use disorders (OUDs) abuse benzodiazepines with other drugs because of the euphoric effect benzos produce in conjunction with an opioid and because they relieve certain side effects that follow a heroin high, such as feelings of anxiety or depression.

The clear majority, 15 of the 17 overdose cases, started their opioid use with unprescribed opiods not heroin. They were usually obtained from family members or friends. Curiosity and peer pressure were

mentioned as reasons for using opiates. A 26-year-old male overdose interviewee from Cambria County said:

> *I don't know. I started hanging out a lot with the kids that I kinda were closer to in age. We became adults and they started ... it was a big time for opiates coming out ... 1998. That was the first really opioid rush. That was the time that they were like Oxy 80s started flooding the block and Percocets were widely available and we just ... inquiring minds wanted to know. I decided to take one. Somebody probably told me you smoke weed, this is much better. They lied. Obviously. I wanted to know what it would do to me and how it would make me feel. I began using.*

A female overdose interviewee, a 26-year-old who lives in Cambria County, shared a similar reason for using opiates:

> *The first thing that I started taking was pain pills. I was living in Conemaugh. I was 17. I got them from my mom. I did that because of friends and stuff. I wanted to feel how they were feeling. I wanted to just experience it, never thinking that I was going to keep doing it the way that I did.*

In some cases, parents were abusing opiates, and this influenced use in their children. For example, a female overdose interviewee, 27 years old from Indiana County, said:

> *Peer pressure, curiosity, wasn't educated... Figured, 'why not?'... my mom identifies as an addict and... So, she wasn't hanging out with the most reliable, good influences. And, her friends, actually, would give me Fentanyl patches. Yeah. And, like OxyContin, so it progressed.*

She also used OxyContin with Fentanyl. In her words:

> *Oh yeah, after I started, I was snorting oxies and using Fentanyl, I would put the patch in my mouth and chew on it. That was, I am going to say, 16, 17.*

A female overdose interviewee, a 25-year-old from Indiana County, provided another example of parental influence. She said:

> *I mean from what I was seeing, my Dad was like really addicted to it and he acted like it made him feel good. I guess I just wanted to try like everything. I was probably googling all this stuff.*

In one case it was immediately preferred over other drugs. A male overdose interviewee, a 35-year-old from Blair County, said:

> *One of my friends' older brother had some from an injury, and I took some and man, that was just like ... It didn't stink like alcohol. I wasn't sloppy. My eyes didn't get red like the weed did, and I wasn't smelling like anything, so like I could get away with it real easy but still feel really high, and really good. So, to me, it was like the perfect drug.*

The reasons for the transition from opiates to heroin were many, including availability and price. Heroin was available and cheaper than unprescribed pain pills. A 23-year-old female overdose interviewee, who lives in Cambria County, said:

> *The reason I started taking heroin was because I already had, throughout this whole thing, I was already dependent on prescription pain pills, probably from 15 on. So, there was, we'll say, a deficit of pain pills right around the time I was 17 where everyone that had them was not really able to get them as much anymore, so the people that did still have them, the price went sky high.*
>
> *And then in my world, I don't know about everybody else, but heroin just arose, got very big. All the people that had ... that were selling pills… because couldn't get them, or people wouldn't buy them because they were too expensive, started getting heroin. So, it was like, "Take the pills out and heroin was there."*

The prohibitive costs of pain pills was mentioned more than once in the 17 overdose cases. For example, a 26-year-old male overdose interviewee from Cambria County said:

> *To be completely honest with you, I wondered why I wasted so much money on prescription pills because $10 worth (of heroin) was getting me the same feeling basically that $50 a pill would take, would get me. Of course, I said this is my answer. This is what I'm going to do. I'm not going to spend $50 on a pill that makes me feel half as good as something for $10. There was no complaints. There was no complaints. I was happy with it. Obviously, I don't know what I know about it now and where it took me. At that very moment, I was cool. I was happy.*

A 26-year-old female overdose interviewee who lives in Cambria County also mentioned the cost:

> *A pain pill was $20 to $25 at the time. A bag of heroin was $10. You just weigh your options, plus it was easier ... Heroin was more easier to get than the pain pills.*

A 33-year-old female overdose interviewee from Blair County said:

> *I had become addicted to them because I kept abusing the Percocets, so then it became ... I was addicted. The first time I was sick, I didn't know what dope sick was. My sister told me. She's like, "You're dope sick." That's when I had started Oxys, and then I was dope sick. She was like, "Heroin. Do heroin. It's cheaper. I can get it. I can't get you any pills." You know what I mean? So, I did.*

A similar story was told by a 26-year-old male from Cambria County:

> *So in addition to trying cocaine at that time I also had an opiate addiction. Like a full-fledged opiate addiction. It was really pills at that time. Oxycontins and stuff. There was a major crackdown at that time. A lot of the doctors that I knew, people were going to those doctors and getting outrageous prescriptions, amounts. That part of the thing slowed down. Some people actually got completely cut off. I was no longer able to get the pills. I still had this opiate addiction on my back. Somebody said "well*

we got this stuff (heroin)". Me again, needing basically to get the monkey off my back, I did it.

A 38-year-old male who lives in Armstrong County expressed how addictive heroin was in the following:

That was a very kind of ... A seemingly innocuous type of experience, but it's amazing how fast it grasps hold of somebody. Because that next Friday, I wanted to get more. And within three months I was absolutely positively addicted to it, where I was doing it almost every day.

A 41-year-old woman from Armstrong County said the following:

You know my ex-husband and I were in the process of us getting divorced. My boyfriend and I had just broken up, you know. I just… I felt hopeless. I just, I was, I was just really in a bad place. And a girlfriend of mine introduced me to heroin. And it just, it, I thought it was just the most amazing thing. It made me feel all better. I didn't care about anything. I wasn't depressed, I wasn't sad.

A 27-year-old woman from Indiana County talked about the progression of the addiction:

So, 17 to 18 is when I started snorting heroin and then it progressed quickly to me using an IV. And once again, it was my mom's friend that convinced me to start mainlining it instead of snorting.

A 22-year-old male who lives in Indiana County and overdosed 18 times experienced his first overdose within weeks of starting heroin:

I overdosed like two months after I started doing heroin, when I was 16 … All my overdoses were before I turned 18 … I don't remember the dates exactly but a lot of them happened when I was 16 and 17.

He had the following to say about his 18th and last overdose:

I was so miserable that I just used as much as I could. Like my last overdose was almost an intentional overdose, pretty much.

He saw several of his friends overdose when they used drugs together, as he explained in the following:

Almost all of my friends overdosed at least once when we were getting high together ... Some of them passed away, some survived.

Although unable to make a connection with certainty, he witnessed his brother overdose. In his words:

My brother, I found him passed out...I was like 12 years old.... They called 911, but he passed away, too...They gave him Narcan, but he didn't make it.

VI. Overdose Causes

Table 10.17: Overdose Causes lists the reasons for the overdoses, according to the overdose interviewees. They attributed their overdoses to several factors, including dosage and drug combinations. Dosage refers to the perceived potency of what they took. Quantity refers to the amount. Only two mentioned drug combinations, although, as mentioned earlier, many of the overdose cases combined heroin with other substances. High risk drug combinations for an overdose are heroin with either fentanyl or benzodiazepines.

C. Unintentional vs. Intentional Overdoses

Most overdoses were described as unintentional; that is, individuals did not intend to overdose when they ingested heroin. A few described their overdose as intentional. They wanted to commit suicide out of despair over their drug use. This was described by only two individuals, but their overdoses were numerous.

I. Unintentional Overdoses

Unintentional overdoses were mainly the result of the dosage, either the potency or amount of the dosage. This was usually because of fentanyl, or heroin in combination with fentanyl and/or benzodiazepines.

II. Fentanyl Use

Many who overdosed on fentanyl were not always aware they were ingesting it. They thought it was heroin. It was not until after the overdose that they discovered they ingested fentanyl. For example, a 38-year-old male who lives in Armstrong County overdosed twice in 2018. He said the following about his first overdose:

> *I believed it was heroin. Looking back, I'm gonna guess it was somewhat laced with fentanyl. It had to have been, because I was buying this stuff regular, and I was using a couple bags, and it wasn't really ... Making me okay, maybe a little high, but it wasn't making me blasted. Because when you use that stuff, you know, if you're burning holes in things and don't care. You're pretty high vs. I'm still pretty with it, what's going on?*

He purchased his dosage from a familiar dealer; someone known to him. He said:

> *I had bought that stuff from the same person that was getting it from the same person, fairly regularly, meaning for a couple weeks.*

The dosage was also unchanged from his usual amount. So, it was not an increase in dosage:

> *And I don't know ... I didn't do anything different. I didn't do any different amount. So, it had to have been laced with something, for that to have happened. There's no question about it. But I would guess it was probably heavy on the fentanyl side.*

A 37-year-old male from Cambria County who overdosed four times had a similar experience. He suspects that his heroin was mixed with fentanyl. He overdosed four times and said about the fourth overdose:

I remember going down to my office, doing my thing for work and I remember going into the bathroom to do a little more and that's all I remember.

I think at this time, a lot of the heroin as changing. Like, it wasn't what it used to be. Like, it was really white all the time. So, I think it was a lot of just like, Fentanyl mixed with something else. Like, a laxative or something. It used to be like heroin was mixed with Fentanyl. Now, it went to Fentanyl mixed with something else.

A 30-year-old female living in Armstrong County, who overdosed twice, mentioned the potency of fentanyl. She said about her second overdose:

Because fentanyl's crazy. Heroin's crazy and fentanyl's crazier. That's what most of the people that I know of that have passed away, is because there was fentanyl in their stuff, and either they did or didn't know about.

A 36-year-old male living in Blair County, who overdosed more than 14 times, was aware of fentanyl's potency and adjusted his dosage to avoid an overdose. Despite using caution, he overdosed. He described ingesting a very small amount:

I did an amount that I would have never considered taking. A match head, basically.

A 26-year-old female who lives in Cambria County and overdosed once, said:

Again, I was clean for how long, and Fentanyl is very potent. Very, very potent. In the back of my head I knew that I'm just going to take a little bit because I know that I've been clean. I knew not to overdo it, but I guess I just didn't really know how much.

Some of the overdose interviewees learned that fentanyl was the cause of the overdose after undergoing a drug test. A male, 38 years old who lives Armstrong County, said about his two overdoses:

For this, for both instances that week in January, I thought I was using heroin. I had gotten drug tests after both of those instances, just random, and I had no heroin come up in my system for either.

Similarly, a female, a 23-year-old resident of Cambria County, who overdosed four times in 2017, made the same discovery with a drug test. She said about her first two overdoses:

For both instances … I thought I was using heroin. I had drug tests … and I had no heroin come up.

One interviewee also discussed the shortness of the euphoria associated with fentanyl, despite the potency of the drug. She reported it had a rapid onset and generally the effects last less than a couple of hours. A 30-year-old female from Armstrong County said:

We were doing heroin and it had fentanyl in it. We had a bunch, and so ... When you do fentanyl, the feeling wears off really fast, but it's still there in your system, so every time ... We had an abundance, so every time I felt like I was not high, I just kept doing more. So, it was my third or fourth hit, and I don't remember anything, but I was on the couch and I woke up in the bathroom. I guess I pissed myself and

everything. And my boyfriend didn't call the cops or anything. He recorded me and he was screaming and smacking my face. I was blue.

Some said that fentanyl was more addictive than heroin. A male talked about the strength of fentanyl after overdosing the first time:

Funny thing, I started to like fentanyl more. I started liking it more, even to the point that by the time I went to rehab later that year, I really couldn't get high off of heroin. I had to have fentanyl.

A 22-year-old male who lives in Indiana County and overdosed 18 times, said:

Yeah, it's more Fentanyl than anything anymore. If anything, it's pure Fentanyl. And that's what people want because it's more potent. If I'd get high, I'd get Fentanyl before I'd get heroin.

Some overdose cases ingested fentanyl using fentanyl patches. The patches are used to treat moderate to severe chronic pain around the clock. When prescribed, the fentanyl patch can be used when non-opioid pain medicines or immediate-release opioid medicines do not relieve pain. A 22-year-old male, who lives in Indiana County and has overdosed 18 times, said, "When I first did it, when it wasn't mixed in heroin, I'd just chew on a patch."

A 25-year-old female from Indiana County, who overdosed three times, also used patches to access fentanyl: "Yeah, we were shooting fentanyl patches. You have to use lemon juice and they can extract the fentanyl out of the patch."

III. Benzodiazepine Use

Benzodiazepine was also mentioned as a major drug combination that lead to overdoses. A 23-year-old male from Armstrong County said about his first overdose:

It wasn't like a "take the needle out of my arm and overdose" type thing. It was like a ... I think I had used 30 minutes prior to. I'm pretty sure I used benzos that day, and opiates and benzos obviously make you more prone to ... It's more dangerous. I just remember I definitely got Narcaned and my mother called the paramedics and I got Narcaned and I went to the hospital.

A 26-year-old male from Cambria County also attributed his overdoses to benzodiazepines:

Yeah it was mostly, for a long time, I did Xanax in addition to heroin. That's just like a lethal cocktail. One tells your mind to not do anything and the other tells your body not to do anything.

A 41-year-old female from Armstrong County, who only overdosed once, shared her experience with Xanax:

I had, I drank two bottles of methadone and took like 20 Xanaxes on top of the alcohol and the weed....It was my birthday and I wanted to party like a rock star.

IV. Intentional Overdoses

In some cases, the overdoses were intentional. A 36-year-old male from Indiana County who overdosed several times, said:

> *The summer of 2017 I had, like 14 intentional overdoses, and then I went to rehab ... At the time I didn't have a car, because I wrecked it on purpose like a week before I went to rehab, when I tried to kill myself, because overdoses weren't working.*
>
> *At that point in my life I just did not want to ... I had been to rehab a couple times. I felt it was not for me. I didn't feel like I would be one of those people that would get it or eventually get it to get better. Just the culmination of how your life is when you shoot heroin for 17 years, I just had reached the end of that road. I got high, did this even more when I came to, and nothing happened that time.*
>
> *They were large amounts that should kill somebody. That was the end game. That was the plan I had.*

A 35-year-old male from Blair County who overdosed three times, said the following about his third and last overdose:

> *I had zero cares in the world about my drug use at this point. I didn't care. I was using to die. I was using to either die or just get so high out of my mind that I didn't have to feel or think about anything. So, it had no bearing. I had no cares about anything.*
>
> *This last time I overdosed was November 2016. I was on methadone at the time, 140 milligrams, something pretty high dosage. I mean, and I was partying with these guys that lived downstairs, in the apartment downstairs and they had a bottle of liquid Xanax.*

D. Overdose Prevention Measures

Table 10.18: Overdose Prevention Measures lists the interventions taken when an overdose occurred. These measures were taken by family, friends, and EMS responders. Narcan was used in 26 of the 62 overdoses in the ten tables. Other responses were administering CPR, give a slap on the face with a dose of cold water, or dip the person in cold water. A significant number were uncertain about the measures taken to revive them and could not remember the event. **Chart 10.19 and Table 10.19 Narcan Usage** by year shows 2013, 2016 and 2017 were the years with the most Narcan administration by this group. But two respondents who overdosed frequently in 2016 and 2017 could not remember if they were administered Narcan.

Narcan saved lives, as described by the 17 overdose interviewees. For example, a 26-year-old male from Cambria County described his first overdose:

> *Then they came up, found me unconscious, got the Narcan, shot me up with Narcan, and it was still five to seven minutes before I came to.*

They were probably freaking out. Thinking that I was probably dying and not knowing what to do. Thank God that they gave me the Narcan at all.

A 36-year-old male from Indiana County shared a similar experience when discussing his last (15th) overdose:

The next thing I know, I woke up and I was getting Narcan ... I came to, and I was completely naked, sitting on the toilet with a needle in my foot, with my mom over here crying hysterics, my dad slapping on my face and crying, and the emergency room doctor putting a third needle of Narcan in my thigh.

Another example was provided by a 25-year-old female from Indiana County who said about her third overdose:

Then yeah, they said I started losing my color and then my Mom found the Narcan wherever we had it packed at. She called 911, gave me the Narcan. She said as soon as she gave it to me, I started having a seizure.

So maybe it wasn't the heroin and that was just a reaction of whatever weird drug it was that maybe somebody had tried to pass off in those bags.

Receiving Narcan was usually not appreciated by the individual who was revived. It made them go into withdrawal and become "dope sick." Dope sickness refers to symptoms experienced as a result of withdrawal, and may include nausea, headache, cramps, insomnia and restlessness. A 23-year-old male from Indiana County said about his first overdose:

I wanted to kill myself. I was sick as hell. I was mad that I didn't get to get high … I was sick again cause Narcan throws you into instant withdrawal so you're sick as soon as you wake up. Dope sick. Every time I was dope sick I just wanted to get high or die, or both.

Regardless of the withdrawal caused by being Narcaned, several of the 17 overdose interviewees said they believed Narcan was saving lives and was contributing to the decline in overdose-related deaths. A 26-year-old male interviewee, a resident of Cambria County, said about his first overdose and Narcan use:

They had Narcan there. The EMS wasn't called or anything. That's another thing, most addicts that use heroin in Johnstown have that on deck cause they know it's a very real possibility that they could fall out. So, thank God they do … Narcan changed the game. You think the overdose rates are high now. If it wasn't for Narcan, they'd be through the roof. I mean, through the roof … I don't necessarily think that overdoses are down. I just think that Narcan's reviving more people.

A 22-year-old male from Indiana County, who had 18 overdoses, said:

Yeah. Narcan saved my life a lot of the times.

Users and friends of users sometimes know where they can find Narcan. For example, a 26-year-old female from Cambria County said:

Yeah, because there is somebody that I know that was overdosing. (His brother) stopped at this lady's house that he knew had Narcan because she was a nurse. She happened to have it at her house. He stopped there and saved his brother's life because he figured she had it and she did.

Some users had it available but used unorthodox ways of acquiring it. A 31-year-old male from Indiana County said:

I was trading drugs for Narcan, so I always had Narcan ... I didn't want people dying on my hands.

Even when Narcan was available, some people were hesitant to administer aid to someone overdosing. A 27-year-old female from Indiana County who has overdosed twice said:

I had Narcan at my Dad's and I had to actually drive to my dad's house to get it ... Yeah, I was, to be honest with you, the only reason why I was nervous, not because of what was about to happen to her, but I was worried about what was about to happen to me. Like, legal repercussions for me and very selfish. Very, very, very selfish.

A 36-year-old male from Indiana County who overdosed several times, offered the following explanation:

When you're with one or two people, and you guys are getting high, and somebody overdoses, people freak out. Most of the time 911 is not called, because you're also shooting heroin with the person. People are afraid to give people help or try to give people help, because they don't want to have a record. They don't want to get in trouble, or they don't want to add to their record, or they're on probation. Then they get hit, and you gotta go sit in county again for six months.

The reluctance to get involved when someone was overdosing was mentioned many times. A 22-year-old male residing in Indiana County said this about when he overdosed with friends in a car:

My friend kept slapping me 'cause he thought I was just nodding out...I ended up passing out and I woke up on the side of the road. I woke up on my own. They kicked me out of the car ... I figured I overdosed, and they just pushed me out.

He went on to explain that after he woke up, he:

Just continued about my day ... Didn't really put much thought into it. I ended up getting high with them again ... we didn't even bring it up. They were scared to get into trouble.

I. Hospitalization and Treatment

Table 10.20: Overdose Hospitalizations indicates that the overdose interviewees were not hospitalized a majority of the times they overdosed. Of the 61 documented overdoses they were not hospitalized 40 times. They could not recall for eight overdoses.

Not all overdose interviewees sought treatment immediately after an overdose. Overdose interviewee 1 did not seek treatment after the first three overdoses but did participate in a 12-step program and recovery community within a couple of days after the last overdose. Overdose interviewee 2 never went into a treatment program after any of the three overdoses. Overdose interviewee 3 went into treatment 20 days after the first overdose but did not seek treatment for the other overdoses except for the last one. After the last overdose, OI3 was incarcerated three years and then went directly into a 120-day recovery program. Overdose interviewee 4 sought treatment four years after her overdose. She became pregnant and went on a Subutex maintenance program. Overdose Interviewee 5 went into treatment one year after the last overdose, and because of a Drug Court program, currently receives Vivitrol shots. Overdose interviewee 6 overdosed on sleeping pills due to being forced unwillingly into treatment for an SUD, and is currently on Vivitrol injections. Overdose Interviewee 7 has participated in several rehabs in between many overdoses. OI7 was already in treatment when he/she overdosed the final time but returned one week after the overdose. Overdose interviewee 8 did not seek treatment after the first overdose but sought treatment after the second overdose and did the same after the last overdose. Overdose interviewee 9 did not seek treatment after the first overdose, entering a treatment program two months after the second overdose. Overdose interviewee 10 contacted rehab right away after the first overdose and went into treatment two weeks later. Two years after the second overdose, OI10 entered a methadone program. Overdose interviewee 11 shared that after the first overdose, treatment was sought seven or eight times, varying from 5–21 days. Overdose interviewee 12 did not seek treatment after the first overdose but did go into treatment after the second overdose. Overdose interviewee 13 did not seek treatment after the first two overdoses. Three months after the third overdose, he/she went into treatment. Overdose interviewee 14 went into treatment within 48 hours of the first overdose, and within 72 hours of the last overdose. Overdose interviewee 15 entered a Drug Court treatment program six months after his/her only overdose. Overdose interviewee 16 did not seek treatment after the first overdose, but two months after the second overdose, was incarcerated and went into treatment. Overdose interviewee 17 did not seek treatment after the first overdose. Six months after the second overdose, OI17 went into treatment.

Only five of the 17 that were interviewed sought treatment after the first overdose. An additional interviewee said they were forced into treatment. For the rest, it took many more months of drug use, and in most cases, one or more additional overdoses before they sought treatment.

Most overdose interviewees said they did not want the police involved in their revival from an overdose for fear of going to jail. A female interviewee, a 25-year-old from Indiana County, said about her mother calling the police to revive her:

> *I was completely ungrateful that she called the police. I was mad because I probably had to go to jail. So, I was just kinda like, "Why would you call the police because I'm alive."*

Fear of incarceration was mentioned as a reason for not seeking hospitalization or treatment after an overdose. A 22-year-old male residing in Indiana County had been incarcerated in the past and went through detoxification "cold turkey"; that is, while in jail he endured the physical and psychological pains of opioid withdrawal without any palliative care. He explained why he did not seek treatment after his 15th overdose:

Sick, miserable. It's when I started to realize I had a problem, really bad. I knew I had a problem at this point ... really I should stop. But I couldn't … No, because I figured if I sought treatment I would have to go to jail because I was already on probation.

Most of the 17 overdose interviewees were in treatment at one time. A male interviewee, a 38-year-old resident of Armstrong County, said the following about treatment:

You have to give your will up. You have to put your trust in other people that they can make the right decision for you, in terms of treatment, which is what I did the second time I went. I was like, "I cannot make these decisions." That's not the easiest thing to do, especially as an adult.

Many of the overdose interviewees have participated in 12-step programs. A 23-year-old male overdose interviewee from Indiana County said:

So today I just take it one day at a time. I got my psych meds right, which is a very big important part for a lot of people. I work a program, just like 12 Steps. Anybody can work 12 Steps, even a drug addict. To help you deal with anger and resentments, and self-sabotage.

A 26-year-old male Cambria County resident who had 14 overdoses, said about his 12-Step plan:

So personally, for me, the only thing that has ever worked, as far as recovery, is a 12 Step based program. It just provides moral support, you know what I mean? It gives me a place to vent, because with certain people that don't understand addiction or have never went through it, I can't be honest with them. But those people in the 12 Step program, I can definitely be honest with them and just kind of spill my guts, and that's part of it. Pain shared is pain lessened. I believe in that 100%, and that's one of the things that's gotten me through. The biggest thing, especially dealing with guilt and shame is to not add guilt and shame to it.

A female, 24 years old and from Cambria County, explained that reconnecting with a local recovery community immediately after her overdose helped her again begin the path to recovery. She said:

So, when this guy came in the room, as soon as I saw him, I already knew him because I had seen him at 12-step meetings and events. And so, as soon as I saw him come in with a clipboard and I realized that this is what his job was, but he was also an addict in recovery with several years clean, I just started crying. Because I was like, "Oh, my god." I don't even know what it was that made me cry. I was just ... I was very emotional, and I was ashamed too, because I had seen him and talked to him, and people thought I was doing well. So, for me to be in a hospital bed and him coming with that, I mean, it was a turning point for me and it was good thing, but it was ... I was very just emotional. I just started crying. It was like, "Man."

Some were treated for the SUD in jail. For example, a 30-year-old female living in Armstrong County said:

> *I was in jail for two months and went to rehab for a month, and I mean, it definitely opened my eyes to so much stuff. There were so many things about myself that I didn't even know, going through my addiction, how to deal with things and even things that I put my family through. I never thought about those things. It was a very selfish drug, and you don't see that. You're not yourself. You're not you. And I wasn't.*

Court-mandated treatment was another way of receiving treatment. For example, a 23-year-old male from Armstrong County said:

> *I knew I was out of control. I just couldn't stop. I wasn't able to stop until I got in so much trouble that they were going to send me to prison and they actually offered me drug court. The county probation offered me drug court and I went through an 18-month program and I've been clean ever since.*

The benefits of treatment are recognized by some of the overdose interviewees. For example, a 33-year-old female from Blair County shared how treatment helped her:

> *Again, once you have a taste of recovery, getting high is never the same again because, once you have that taste of recovery, you get high, and you're like, "Sh--- there's a better way of life." You know what I mean? Or you know all these people in recovery, and you're trying to hide from them. It's just never the same again.*

Along the same lines, a 33-year-old female from Blair County said about treatment:

> *Now, recovery teaches you how to live. Drugs teach you how to ... Well, drugs don't teach you s---, but being in addiction teaches you how to be a piece of s---, and recovery teaches you how to be not only a productive member of society, but a better version of whoever you were before you started using.*

Treatment was life changing for a female overdose interviewee, 41 years old and from Armstrong County. She said:

> *Like, you know addicts are, you know, they're wanting to get clean and stay clean and they're finding that new way of life, like working a program of recovery. I go to Narcotics Anonymous and I'm, we learn how to completely change our life and become a new person. A better person. And we get morals and you know you just become a good person and other people see that and they want to be like that.*

Despite the contributions of treatment, not all overdose interviewees benefitted each time from treatment. For example, a 23-year-old male from Armstrong County said:

> *I've been in treatment multiple times, so I can't even remember when I went. It's probably been seven or eight times for short periods of time. I didn't really stick with it. Sometimes I'd go for five days just for detox and other days, other times I'd go for 14 to 21 days. It all depended on what was going on.*

E. Drug Resumption After Overdose

Many individuals who overdosed resumed drug use within hours, days, weeks, or months of their overdose. This pattern usually continued until they entered treatment. Two frequently mentioned reasons for not seeking treatment after an overdose were because they didn't think they had a problem, or they were not ready to quit yet. A 22-year-old male from Indiana County who overdosed 18 times said:

> *Cause I didn't want to be clean. I didn't see the sense in going to rehab if I didn't have to … Then I didn't see an issue with it ... It wasn't until I was like 19, I realized I had a problem.*

A 38-year-old male from Armstrong County who overdosed twice did not seek treatment and continued using drugs after he overdosed. He said:

> *I wasn't ready for it. I was okay with what I was doing. I was being enabled enough, and could swing things enough that at that point, hadn't hit the bottom of the box.*

Similarly, a 36-year-old male from Indiana County who overdosed 15 times, said:

> *I didn't think at the time I needed it. I was not ready … Nobody that overdoses, or at least me when I overdosed, the last thing I'm gonna do is go to a hospital where you're in a setting where you can't get high. You don't have access to your drugs or your phone. That sounds like a horrible idea. Yeah.*

The decision to enter a treatment program is a personal choice. A 26-year-old female from Cambria County did not want to go into treatment after she overdosed:

> *I just think that I wasn't ready to be done using drugs. I felt like I was being forced to stop. That just didn't sit well, I guess … It does not work. You cannot force somebody. There's a difference in if somebody is a little bit willing to somebody that's not willing at all. You can almost manipulate somebody to think there is a better life and stuff, but when somebody's mind is just completely set on they want to do it again, don't waste your time.*

Sometimes users will go into treatment, but not so they can learn how to recover from substance use. A 25-year-old female from Indiana County who overdosed three times said:

> *The only times I ever went to rehab, I did it purposely to avoid being in jail or to get out of a charge or something. So I always felt like, yeah, that I didn't need it.*

Shame kept a 27-year-old female from Indiana County from entering treatment after she overdosed:

> *I just didn't know really where to turn. Like, I did know where to turn but I was ashamed.*

XII. Discussion

After carefully analyzing more than 1,500 pages of transcript, our team believes several findings can be drawn from this research. A summary is provided before discussing each in context.

First, regarding drug use, our research shows that:

1. Polydrug use is the norm in these rural areas;
2. Drugs have become easier to get in small towns and the rural areas;
3. Fentanyl and its analogs were the main cause of the recent spike in overdose deaths;
4. Most heroin users first use illicit prescription pain pills; most have also used cigarettes, alcohol and marijuana in their teenage years;
5. A slight majority of users overdose alone;
6. "Narcan parties" are not occurring very often, if at all; and
7. "Dope sickness" is extremely difficult and many users seek out drugs simply to avoid it.

Regarding treatment, our major conclusions are:

1. Nearly all users know that treatment is available and affordable;
2. Typically, users do not seek out treatment after their first overdose;
3. Professionals perceive the warm handoff programs and the use of CRSs as helpful;
4. Users and professionals agree that treatment will only work if the user wants to change; and
5. Many professionals advocate for the use of MAT, although law enforcement and EMS personnel are less likely to favor it and they note the dangers and problems with suboxone.

Regarding the impact of community response:

1. Collaboration was excellent, although not necessarily the same in each county, and the collaboration was considered valuable in dealing with the problem;
2. Users and professionals agree, as long as there is a demand for drugs, there will be a supply. Communities cannot "arrest" their way out of this problem;
3. Professionals are deeply concerned about the use of alcohol and marijuana and believe they shouldn't be neglected;
4. Law enforcement has had an impact, though not through arrests and deterrence, but through their willingness to carry and administer Narcan;
5. Education and prevention efforts have been helpful, but probably have not had a significant impact on overdose rates;
6. The Good Samaritan Act, while well-intentioned, hasn't really worked because of mistrust by the users; and
7. The PDP has helped reduce illicit prescription drug use, but many users are not familiar with it and pills are still available on the streets.

Finally,

1. Both users and professionals perceive that Narcan has been very important in the reduction of overdose deaths;

2. Users, in different ways and at different times, engaged in adaptive behaviors once they observed the dangers of fentanyl, and although some had a fatalistic attitude or valued getting high over safety, the community began keeping itself safer over time.

A. Drugs in the Community

It was believed by professionals and confirmed by users that there is widespread polydrug use in all four counties studied. Nearly all users said this, and it was re-confirmed in the 17 overdose follow-up interviews. Notably, all users claimed to have started using either heroin or opioids before they reached the age of 20. All also used several other drugs, including cannabis, cigarettes, and alcohol before age 20, and most used benzos, ecstasy, cocaine, and/or Adderall before age 20.

Both groups agreed that the introduction of fentanyl and similar substances into the heroin supply was the main cause of the rapid rise in accidental overdose deaths in the region. This confirms a supporting theory proposed by the DEA and other law enforcement agencies. Interestingly, many overdose victims explained they didn't know they were taking fentanyl at the time of their overdose. However, for those who survived, fentanyl became a substance they grew warier of. Some adopted harm reduction techniques such as testing a small dose before taking their full dose. Others were alerted in conversations with their drug dealer about potentially harmful batches. Only two of the 50 interviewed users claimed they ever "chased down" bad batches of drugs, i.e. particularly strong batches of heroin that might have killed others but promised a particularly strong high. Far more interviewees claimed they became of aware of the danger of fentanyl and were trying to avoid it.

This confirms one hypothesis outlined at the beginning of this report; that the rise in the rate of accidental overdose deaths was due to the introduction of a harmful, deadly chemical to the drug supply and that it quickly killed some drug users. The fall in the rate of deaths was, in part, because the user population then changed its behavior. They adapted to this danger, and though fentanyl was still being mixed with heroin, more users survived.

Chiefly, we did not find strong evidence that this population intentionally stopped using drugs because of the invasion of a more dangerous drug. Users in these counties did not stop doing any drug that might contain fentanyl. Also, though many of these users were in treatment, none of them reported going to treatment because of the danger of fentanyl.

The majority of the 17 heroin users we re-interviewed did report that their use of opioids began with prescription pain pills. Nearly all said they started with unprescribed, illicit pills. The usual reason for switching to heroin was because of price ("heroin is cheaper") and/or availability ("pills became hard to find".)

During the overdose survivor interviews, different aspects of each overdose incident were catalogued. These were particularly informative. For example, 9 of the 16 first overdoses occurred while the user was alone. Similarly, 8 of the 13 second overdoses occurred while the user was alone. In the larger group of 50 user interviews, most claimed to use heroin alone. In no case could it be confirmed that a group of users gathered specifically with the intention of having one or more members not use to "save" the others. This scenario was described by several professionals; however, it was not confirmed by our interviews of drug users.

It may be the case that some heroin users use in groups, and perhaps the users we interviewed were all acute users, deep into their addiction. It may be that shame or stigma encouraged them to use alone. Some added that they did not like to share as another reason they preferred to use alone. Two of the 17 overdose interviewees said they attempted suicide multiple times by using drugs.

B. Availability and Price of Drugs

There was some disagreement about the price of heroin. Some felt it had recently gone down while others claimed it had gone up. All agreed it was far more available now than in years past. However, professionals offered strong comments about alcohol and marijuana. They often spoke about these as "gateway" drugs and felt their use in the teen years contributed to later drug use. They also claimed that these two drugs were abused far more often in their communities than heroin. Many said that, though the opioid crisis was getting a lot of recent attention, marijuana and alcohol deserved to be "front and center." When asked about any emerging drug trends in their county, the most frequently cited drugs were methamphetamine and cocaine/crack, by both users and professionals.

Regarding supply, all interviewees felt it was easier to get a wider variety of drugs today than in prior years. Many spoke about how it was easier to find drugs in rural areas and small towns than in the past. Many discussed how a person could go to an urban center to get drugs cheaper, but, unless a larger dealer in the rural area had been recently arrested, the drug supply was robust in all areas of each county. Both groups said when a drug bust did occur, its effect on supply was temporary. Both also said that while there was demand, there would always be supply. Notably, nothing in the interviews lead us to believe that the fall in overdose deaths experienced in the counties could be attributed to a large reduction in supply of either heroin or fentanyl/carfentanyl.

C. Treatment

Nearly all participants in both groups described treatment as available and affordable. Most could describe many levels of treatment available, including inpatient and outpatient services. Nearly all interviewees knew a drug user could access these services free of charge if they qualified. Users were particularly knowledgeable about available treatments, but nearly all user interviewees had gone through a treatment protocol before entering our study. Some from both groups commented on how current treatment plans were too short. They argued longer inpatient and outpatient stays were needed. Some also discussed barriers to treatment such as waiting for a bed, transportation issues (mainly for outpatient care) and missing employment for treatment.

Some of the professionals discussed the use of Medication Assisted Therapy (MAT). Many in this group mentioned how suboxone or methadone could be diverted and used illicitly. Others were aware that some treatment providers were against the use of MAT to assist with drug recovery, though most of the treatment providers interviewed appeared to be pro-MAT. All interviewees, in both groups, agreed that no treatment program was effective if the patient did not want to recover. This was brought up numerous times, though interestingly, at least one user did say they "got to recovery" by being incarcerated and forced to go to treatment. However, most in both groups felt treatment in jail was not effective. Finally, 12 of the 17 overdose interviewees were currently attending a 12-step program of some type.

Importantly, most of our interviewees did not seek treatment right after his or her first overdose. When asked, nearly all said they were "not ready yet" after their first overdose, or "I didn't see it as a

problem." Many users said they continued to use heroin/opioids even after when it wasn't about getting high, in order to avoid extremely painful withdrawal symptoms. This is generally referred to as "dope sickness."

D. Community Response to Overdoses: Policies, Laws and Official Efforts

The professionals often spoke about the high level of collaboration and cooperation in their area, particularly in Indiana, Armstrong and Blair Counties. The smaller size and closer-knit communities that make up these counties caused the respondents to remark on how they knew each other personally and could pick up the phone and call just about anyone. These remarks were not as frequently made in Cambria County, perhaps because of its larger size, more decentralized structure and turnover in personnel.

The users were not convinced that law enforcement had made a significant impact on the drug problem, nor on the overdose death rates, in their communities. Most professionals agreed. Therefore, it cannot be concluded that the death rate dropped because the heroin/fentanyl supply dried up.

However, many law enforcement personnel did describe a conflict between their traditional role of arresting drug users/dealers, and their new additional role of saving and treating drug users. Despite making statements that revealed their concern about those suffering, such as one officer who described how horrible it was to see a child in his neighborhood grow up and die from this crisis, many were frustrated by their recent experiences.

Regarding official anti-drug campaigns, most participants in both groups acknowledged seeing more prevention and education messaging in their communities. However, though a few speculated it might have an impact, no one said they thought overall drug use, or heroin use in particular, had dropped significantly. Thus, these campaigns are not likely the cause of the drop in accidental overdose deaths.

Many in both groups felt the "Good Samaritan" law was not dramatically changing user behavior. Professionals suspected users still didn't trust that they would be free of legal consequences if they called EMS, police or 911 for a friend who had overdosed. Our interviews with users confirmed this. In some circumstances, users had personal stories of how they had still suffered legal consequences after calling. Some law enforcement personnel confirmed this sometimes happens. Interestingly, some users said that being coerced into being an informant for law enforcement had contributed to their continued use.

One effort heavily praised by the professionals (it was not brought up my most users) was the recent aggressive expansion of "warm hand-off" efforts. In Pennsylvania, this is often accomplished by employing Certified Recovery Specialists (CRSs). These are previous drug users in long-term recovery who have gone through extensive training. Indiana and Armstrong Counties were the first of these counties to ramp up these efforts, both at local hospitals and through on-call centers, but Blair and Cambria County interviewees also discussed them. The professionals who were familiar with these efforts felt it was an important program and should result in more users getting into treatment. However, no one said it had been successful enough recently to account for the dramatic drop in overdose deaths.

Most of the professionals were aware of the PDMP in Pennsylvania, but only a few in the user group knew about it. Data collected by others does show the rate of opioid pain pills prescribed per individual

in all four counties has decreased in recent years. Though a few users could describe a personal story where "doctor shopping" or "pharmacy shopping" had reduced, most could not. It was often speculated by both groups that a reduction in the available street supply of pain pills would create demand for heroin. However, whenever the price of a pain pill on the street was discussed, it was never described as rising dramatically. Nearly all users said $1 per milligram was the standard rate.

E. Narcan

Nearly all respondents from both groups were aware of Narcan (naxalone) and its increased availability in their communities. Indiana and Armstrong County professionals were particularly emphatic that "flooding the area" with Narcan had the potential to decrease overdose death rates. This aligned with the Narcan distribution data provided in the first section of this report: Indiana County had the most Narcan distributed, followed by Armstrong County, then Blair and Cambria Counties.

Some of the professionals felt Narcan was being used as a "safety net" by users. This was most frequently stated by law enforcement and EMS personnel, though not by all. Those who said this either (mistakenly) described how the user could use it to save themselves from an overdose, or how other users would be ready to use it if a fellow drug user overdosed. But this suspicion, though often repeated, was not confirmed by our data. First, most users reported using alone. Second, most users did not report carrying Narcan. Third, many reported that they "just didn't care" about their own safety, thus, they were not worried about Narcan being available. Fourth, when an overdose survivor in our study said they were revived with Narcan, it was most often described as an unplanned occurrence, something like a "bystander intervention." While a few users did describe how they had recently started carrying Narcan, they said it was not so that it could be used on them, but so they could use it on others.

It is possible that "flooding the region" with Narcan did have a significant impact on overdose deaths, because many of the users interviewed described specific instances where they had revived someone or been revived. Interestingly, at least 10 of the 16 first time overdoses instances described did not result in a trip to a hospital (though most were revived by Narcan). Similarly, 9 of the 15 second overdose survivors did not go to the hospital, and 40 out of the entire 69 overdose survivors we documented did not go to the hospital. Also, at least 10 of the 50 users said they had revived someone else with Narcan. In only a small number of these responses did they then go on to say police or EMS were involved. Therefore, there is a lot of data in our interviews that suggest Narcan has saved lives in the four counties studied, and these instances were not reported to authorities. Unfortunately, we cannot conclude that users are being logical and systematic in their use of Narcan. It appears that most of these are essentially "bystander interventions."

When asked, most of the users said they did not get Narcan by buying it from a pharmacy or hospital. Some claimed they received it free upon discharge from treatment, and many claimed they got if from the local SCA (these were mostly Indiana and Armstrong County residents.) Of these, most knew where to get refills, but most did not say they obtained refills. This suggests a possible problem described by one of the professionals; wide Narcan distribution might create a false sense of security in the minds of users. It could possibly lead to more overdoses because if the only Narcan available had been used and not refilled, a later overdose could result in death. However, we did not have this specific story told to us.

Law enforcement and EMS providers were most conflicted about the use of Narcan. Some people in each group described the existence of "Narcan parties," though our data disputes this. Some law enforcement personnel discussed how using Narcan created a possible conflict with their traditional job role. Some also worried about how the community was reacting to the use of Narcan to save "drug addicts." Some thought members of their own profession were reluctant to use Narcan and, all agreed it was probably saving lives. However, because it was being used in the community without a call to EMS, perhaps Narcan was not "all good."

XIII. Recommendations

Different people will find different things surprising and informative in this report. We encourage readers to draw their own conclusions from the data we've presented. However, it is also important that we provide our interpretations of what this data is telling us.

Our team has met many times to discuss these data and has developed several recommendations. It is important to point out that the qualitative data we gathered does not allow one to draw causational or correlational conclusions. It is not that type of data. However, we believe that many of these findings have implications for how communities can or should respond to the opioid crisis.

Another important point to make is that this is a very complex problem and there is no one pathway into addiction nor one way out of it. There are many different types of people struggling with OUD, so multiple approaches and solutions should be tried. Some of them will work for some people.

However, drug users, like all of us, operate in a social ecological environment. Institutional, cultural and legal variables affect their behaviors and thoughts, and sometimes in unintended ways. What is most desirable is that communities attempt to adopt data-driven decision-making strategies. The more they think through the implications of their decisions and decide what data could or should be collected, the more the changes they implement can push their goals forward. And even though a decision might work at cross purposes with some other agenda, at least that will be known, and adjustments can be made, if desired.

In this section, we will first provide a list of recommendations for consideration, followed by discussion and rationale.

Recommendations for Professionals

1) The community coalitions and professionals should be cognizant of the polydrug use and not just concentrate on opioid use disorders. An important component of this strategy is to be alert to the latest trends regarding drug use in their communities, which will facilitate timely and rapid responses to emerging crises.
2) Each community should continue its ongoing collaborations. Because the drug crisis is dynamic, collaborative efforts need to be flexible and agile, ready to respond to changing circumstances regarding drug usage in their community.
3) Each community should continue to make Narcan widely available and easily accessible. Stakeholders should continue to develop strategies for broad dissemination of Narcan among all professional groups, as well as among users and their families and friends. Part of this distribution strategy should involve addressing the issue of refills and training.

4) The critical role of law enforcement personnel as important members of community collaboration is vital. There should be acknowledgement of the fundamental role conflict between the traditional function of law enforcement (arrest and deterrence) and the emerging function as first responders. Law enforcement personnel should be encouraged to continue or begin to carry and use Narcan with appropriate training.
5) To the extent possible, current users and persons in recovery should be invited as important stakeholders in collaborative efforts. Users can be important "informants," not for traditional policing efforts, but instead for understanding the latest trends and patterns in substance use.
6) To the extent possible, community coalitions should attempt to develop comprehensive and ongoing data collection, data management, and data analysis capacities, including both quantitative and qualitative data. Related to this development of research and evaluation capacity, key objectives and outcomes of various initiatives should be carefully and clearly explicated, and measures developed to assess these outcomes.
7) All relevant stakeholders should be encouraged to use the PMDP.
8) Law enforcement personnel should be encouraged to strictly adhere to the Good Samaritan law.

Recommendations for User Outreach

9) Prevention and educational campaigns, including those that attempt to de-stigmatize users and their families, should be continued and updated on an ongoing basis. In particular, educational campaigns that emphasize the medical model (addiction as a disease) are helpful in reducing barriers to treatment. The demonization of substance use as a moral failure, particularly among professionals, creates roadblocks to treatment and recovery.
10) Communities should continue to develop and use warm handoff programs and programs that saturate the community with Certified Recovery Specialists (CRS).
11) Community coalitions should develop strategies for addressing issues of compassion fatigue and burnout among front-line responders and treatment providers.

Recommendations for User Harm Prevention

12) All relevant stakeholders should be educated to understand that treatment and recovery is not a "one and done" process; instead, recovery is an ongoing process that often requires multiple attempts at treatment.
13) Users coming out of jail and/or treatment should be clearly educated on the increased risks of overdose because of lower tolerance levels after detox.
14) Users should be taught harm reduction techniques, such as fentanyl test strips, dose testing, and more intentional questioning of dealers.
15) Additional research should be conducted among family members to understand barriers and facilitators to treatment and recovery.

Recommendations for Professionals

Our first recommendation is that communities not focus exclusively on the heroin/fentanyl crisis, but instead look at the full range of drug/alcohol issues they face. All the acute drug users we interviewed were polydrug users. Though the majority preferred heroin, all were taking other drugs as well. Also, none of them started with heroin as his or her first illegal substance. The 17 overdose survivors we interviewed, and that we have the best data from, all began with cigarettes, marijuana and alcohol.

Most had taken unprescribed pain pills as a teen, and many had taken benzos, ecstasy or cocaine before they were deep into their Opioid Use Disorder. Opioids cannot be the only drug communities worry about.

Additionally, by only concentrating on the heroin/fentanyl crisis, communities will not be prepared to address the increase of other substances in their midst. Currently, the counties in the study reported a recent increase in methamphetamine and cocaine/crack use. Though our data did not show users were intentionally switching drugs from heroin to either of these, long-standing research does show that drug epidemics will come in waves. Heroin/fentanyl is still very present in these counties, but the dangers of drug use and overdose deaths are not limited to this drug category. Already, federal funding for abating OUDs are placing communities in jeopardy of not addressing other drugs use on the rise, as some federal monies can only be used for OUDs.

Our second recommendation is to continue making Narcan widely available. One of the most frequent harm reduction techniques we documented was the use of Narcan. Many of the overdose incidents reported to us involved first responders administering Narcan, however, a surprisingly large number did not involve first responders. At least 40 of the 60 overdoses studied did not involve any first responders nor a trip to the hospital. Instead, Narcan or other methods were used by bystanders to revive users. We use "bystander" intentionally because there was almost no instance in which an overdose survivor said they had prepared a "Narcan reversal" ahead of time, in case they "nodded out." In almost all cases, the user said he or she was using alone and was revived by someone who came upon them. These were usually other users, family members, friends, or occasionally, true bystanders. Having Narcan available to these other individuals has saved many lives in these counties, since our data can only be considered the tip of the iceberg. Also, since Indiana County was the most successful at distributing Narcan to the community at large, it is quite possible this led to the earlier drop in overdose deaths in Indiana County in contrast to the other three counties. However, nearly all the users interviewed in all four counties knew about Narcan.

Therefore, we highly recommend communities make Narcan widely available. It should be in the hands of as many people as possible who surround the user. This can include other drug users but also should include family, co-workers, friends, etc. This need is made even clearer by the fact that most of the users preferred to shoot heroin alone, and most of them were not intentionally preparing for an overdose. Therefore, they did not report to us that they had Narcan nearby or visible. The overdose victims themselves were not supplying the Narcan. Thus, "flooding" the community with Narcan is perhaps the only rational way of using Narcan to prevent overdose deaths.

Additionally, we did not find evidence that the users were having "Narcan parties." These were widely mentioned by the professionals, and speculated on by some users, but it is our opinion the "Narcan party" -- where one heroin user refrains from using so they can Narcan anyone who overdoses -- is largely a myth. Acute heroin users are not behaving this way. It is our recommendation that communities prepare to combat this myth as they distribute Narcan.

We are concerned, however, that so few of our user interviewees discussed Narcan refills. Since some overdoses require more than one administration of Narcan, and, because some users may overdose again in a short time period, we are concerned that the user community (or perhaps their family or friends) are not being diligent about getting refills. Communities will want to address this additional issue as they develop a Narcan distribution program.

Our third recommendation is incorporating more ex-drug users into SUDs reduction programs and community efforts. One of the clear findings from our report was the high level of respect and collaboration among the various personnel and organizations involved in the fight against the opioid crisis. We heard often of the ease of communication and the new efforts that were launched without much trouble. However, this was not always the case and we did notice there was an absence of representation by the user community. We do recommend communities establish task forces and coalitions, and that these bodies proactively develop new programs and initiatives. We recommend users and ex-users be active members. The inaccurate beliefs the professionals have about users and their behaviors were substantial. Dispelling these myths, and being informed about local conditions, would be valuable to communities.

Having a tight knit community does have other implications besides easier trust and communications. Some users spoke about the dangers of being "out-ed" as a user. This may mean that rural heroin users are even more prone to hide their drug use, and perhaps for a longer time (which delays getting to treatment). Community stakeholders will want to be thoughtful about how they address the stigma and shame that can be a greater factor in rural areas.

Among the various good ideas we heard discussed in these communities, the "leave behind kits" and the expanded "warm hand-off" programs were particularly noteworthy. The first involves packets of materials in a bright green envelope (often with a Narcan kit included) distributed to a revived overdose victim or their family/friends. The second includes the ARMOT program begun in Indiana and Armstrong counties that involves CRS's on call or at the hospital to immediately talk to a revived overdose victim (or any other person interested in drug treatment). It is not our conclusion at this time that these efforts have substantially modified the overdose death rate in these counties, but, again, if only some are helped by these efforts, then the efforts are worth it.

Recommendations for User Outreach

Our recommendation is that heroin users need to be targeted for aggressive outreach with the aim of getting them into treatment before they experience multiple overdoses. Many of our 17 overdose interviewees underwent multiple overdoses before entering a treatment program. These high-risk individuals for a fatal overdose could have benefited from intervention and treatment after their first overdose, not their last one. All of them except for two were long-term users, and quitting heroin use and starting treatment was not easy as their use progressed over the years. Heroin is a highly addictive narcotic with extreme physical and psychological dependence, and the longer the use, the greater the dependence on the substance. Targeting these individuals for an intervention later in their use is nearly impossible; after a few years, they become a hidden drug using population and difficult to find. They do not self-identify to health care practitioners for several or other reasons, among them, stigma, increased dependence, and fear of withdrawal pains. It is imperative that local substance use prevention organizations target these individuals for intervention and treatment early in their use. This will not be easy because not all overdoses, as we discovered, involve first responders. Without first responders on the scene, warm hand-off efforts are complicated, despite the intense efforts by some of these counties. Periodic overdose community campaigns, not just one per year, are needed to bring attention to heroin overdoses. The campaigns should target families who know or suspect that a family member is in the throes of heroin use. It is easier to reach out to families than it is to get the attention of the heroin user. Additionally, a long-term approach to heroin dependence across different programs and organizations is required to provide individuals with heroin dependence with needed medical care,

counseling, behavioral therapy, and social support to achieve lasting recovery. Recovery takes years and requires follow-up care in the years that follow, just like any other chronic disease.

Recommendations for User Harm Prevention

Our third recommendation is developing measures that heroin users can use to detect fentanyl. Most of the rapid rise in deaths in these counties was due to fentanyl. Since it was being mixed predominantly with heroin, that makes the heroin/opioid user population particularly vulnerable. The mixing is not limited to heroin. Law enforcement professionals are increasingly reporting that fentanyl is being mixed or laced in with other drugs.

At first it appears the user community was not aware or could not identify the threat of fentanyl and its analogs, so deaths rose rapidly in each community. However, it is our finding that the user community began to adapt and, in a scattered fashion, began to adopt some limited harm reduction behaviors. Some started testing a small batch of heroin before ingesting their usual dose. Others spoke of noticing a change in color when they suspected fentanyl was present. Still others said they were having conversations with their suppliers about the potential strength of a new batch. It is our conclusion that these adaptions were saving lives. Users, as a group, were making some scattered adjustments to their behavior. Many may have started to avoid fatal overdoses because of this. We therefore recommend efforts to educate users and encourage these behaviors. For example, fentanyl strips could be made available to the heroin using community. Though none of these users described adopting this harm reduction approach, perhaps because test strips were not widely discussed or available in these rural communities during our interview period, we recommend communities consider this. The availability of test strips should be accompanied by information regarding local treatments to aid in the goal of recovery.

This recommendation may seem counterintuitive to reducing overdoses, but it is no different than other harm reduction programs designed to save lives, like needle exchange programs. The objective of these programs is to help stop the spread of disease and to save lives in the process. Needle exchange programs give individuals with an OUDs the ability to use clean needles and to learn how to reduce the risks of opioid use. These programs are a middle ground in outreach; it doesn't force anyone into rehabilitation or require anyone to practice sobriety over time. It creates trust between drug reduction organizations and opioid users and provides opportunities for dialogue with the users about treatment and recovery.

Closely related to recommendation 3, we also think it's possible the new law "Section 2506 – Drug delivery resulting in death" has caused some suppliers to be more careful about what and how they distribute heroin to their customers. We heard many stories of users dialoguing with their suppliers. This may have saved lives. We encourage users to question their suppliers more aggressively about the substances they are buying. This may reduce overdose deaths.

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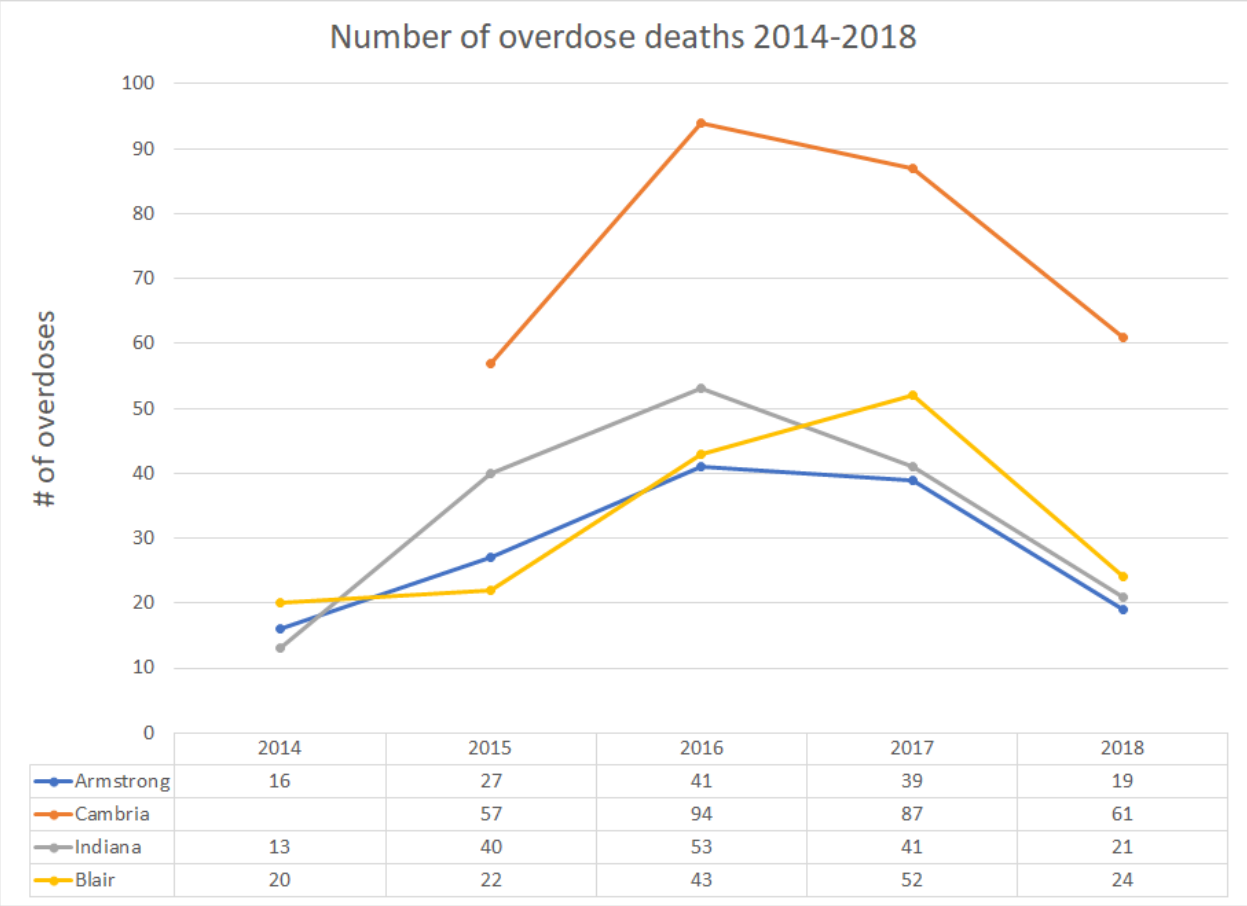
Appendices

Appendix A: Charts, Diagrams, and Figures

Chart 2.1: Overdose Deaths per County by Year



	2014	2015	2016	2017	2018
Armstrong	16	27	41	39	19
Cambria		57	94	87	61
Indiana	13	40	53	41	21
Blair	20	22	43	52	24

Chart 2.2: Overdose Death Rate (per 100,000) per County per Year

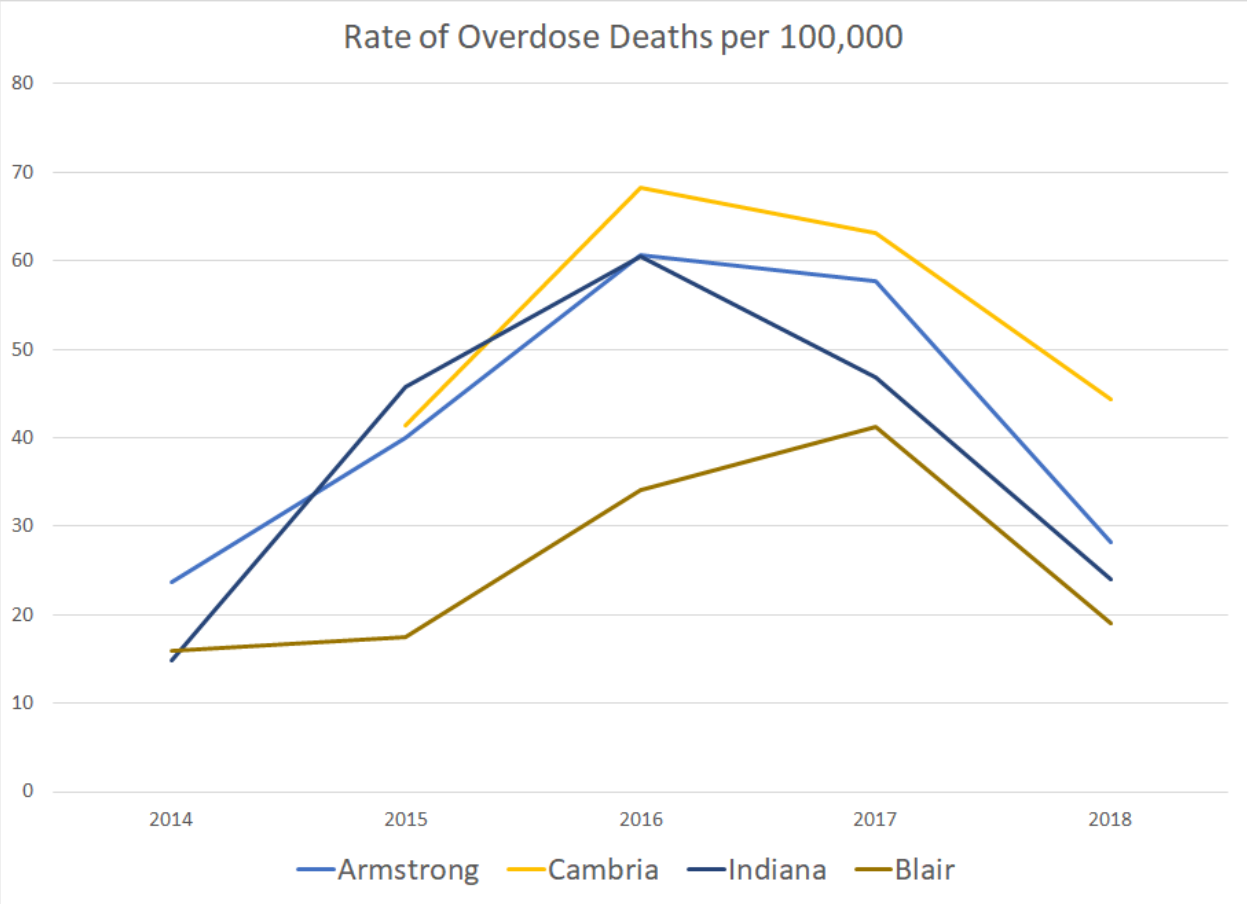


Chart 2.3: Ambulance visits for Indiana County by month.

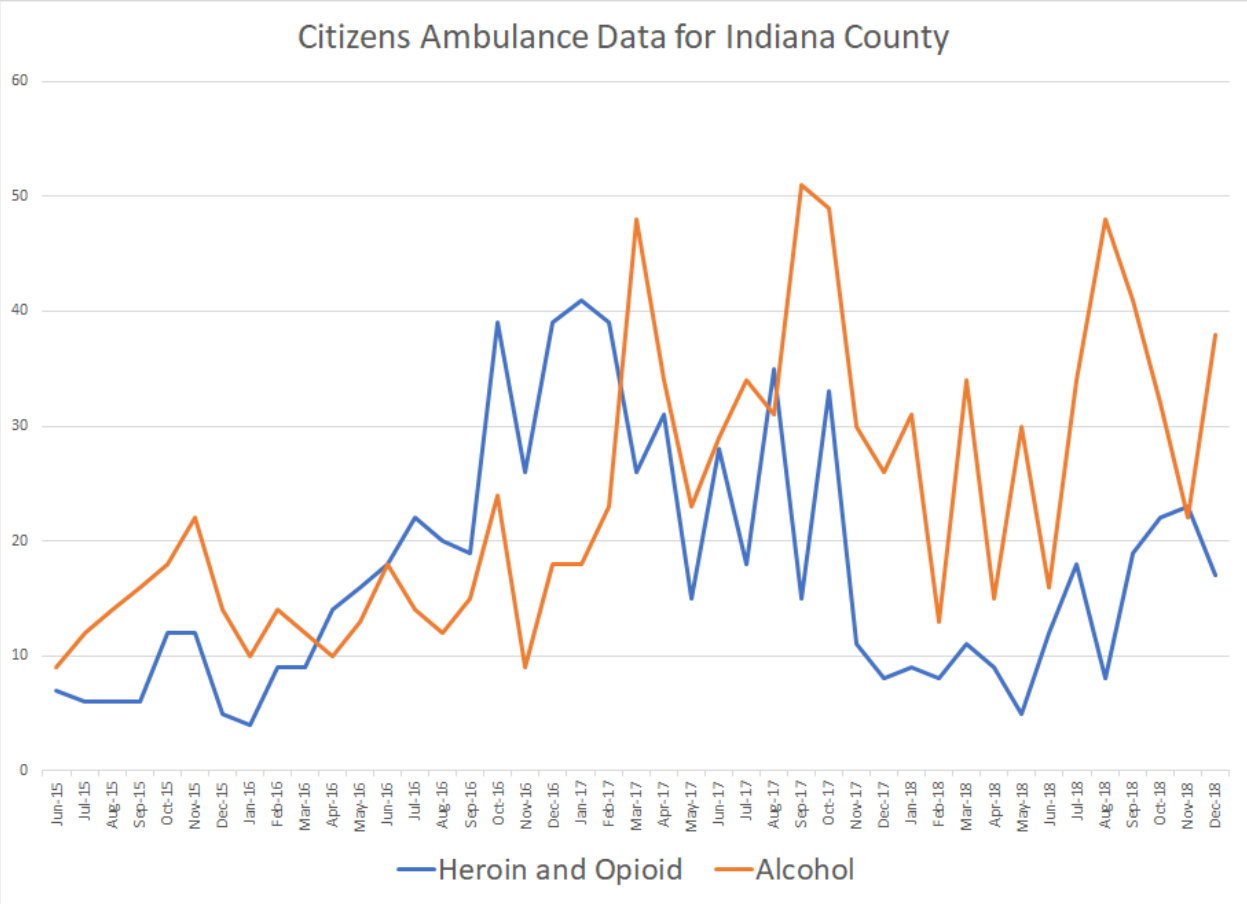


Chart 2.4: ER visits for Indiana Regional Medical Center.

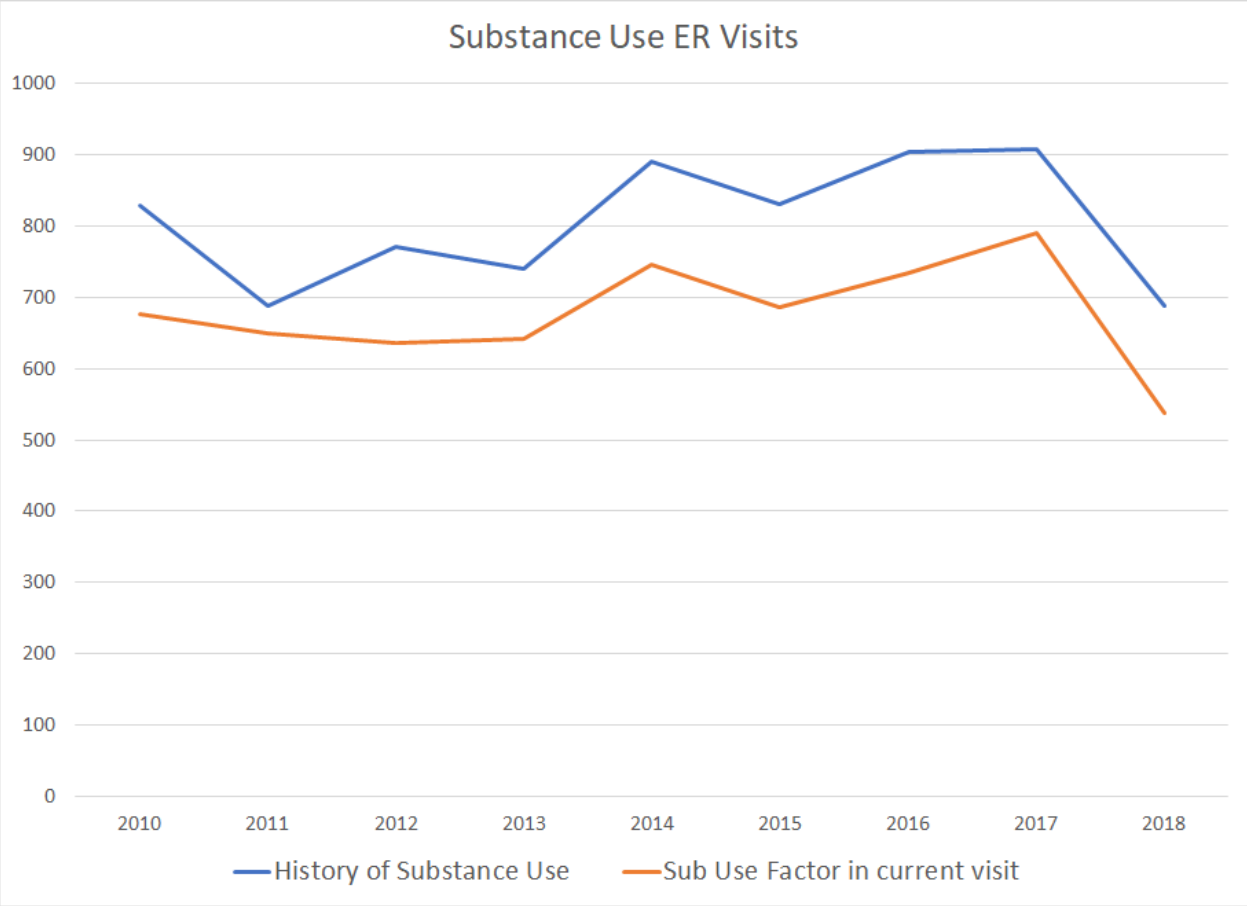


Chart 2.5: Warm Hand-off Contacts at IRMC Reporting an Overdose

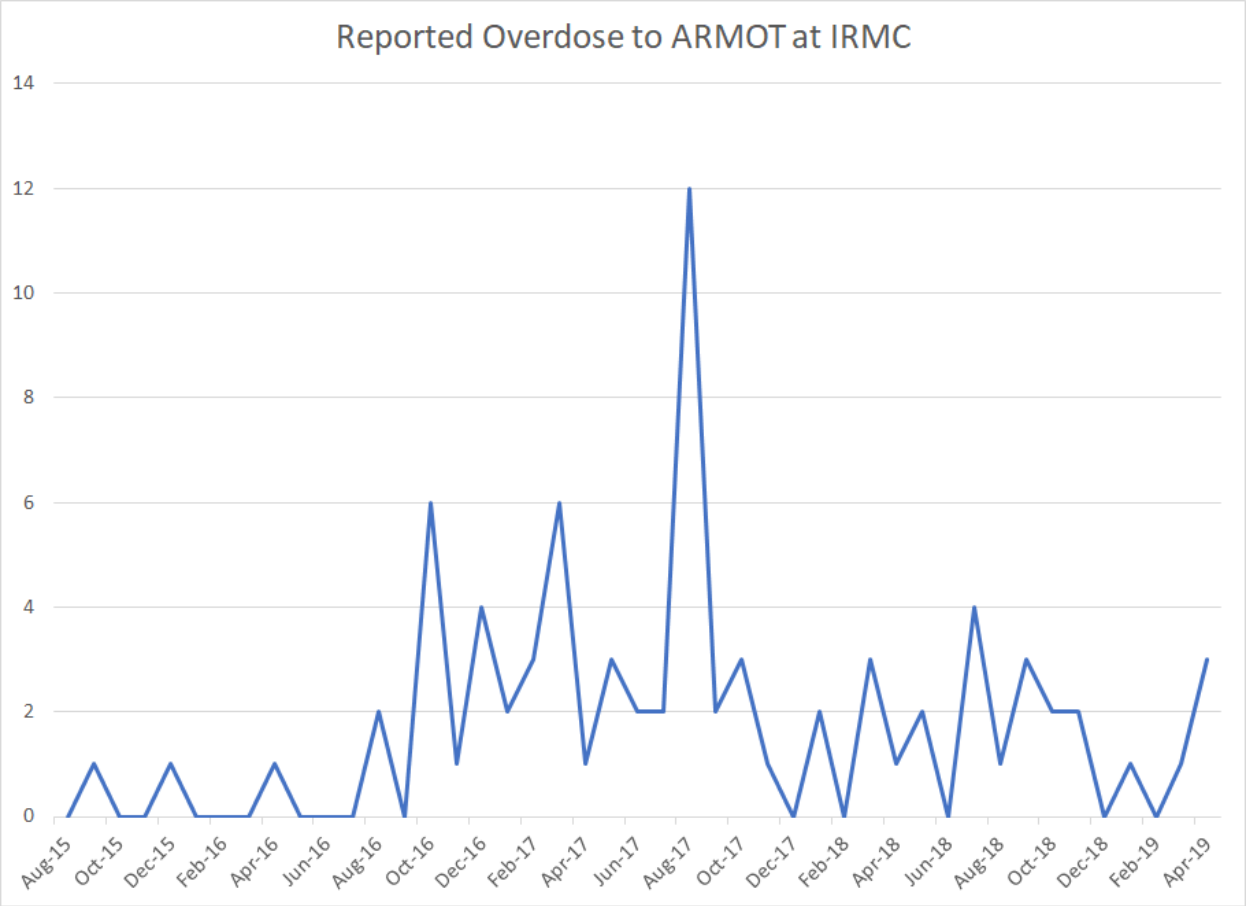


Chart 2.6: Patients Seen for Heroin Use in Indiana County

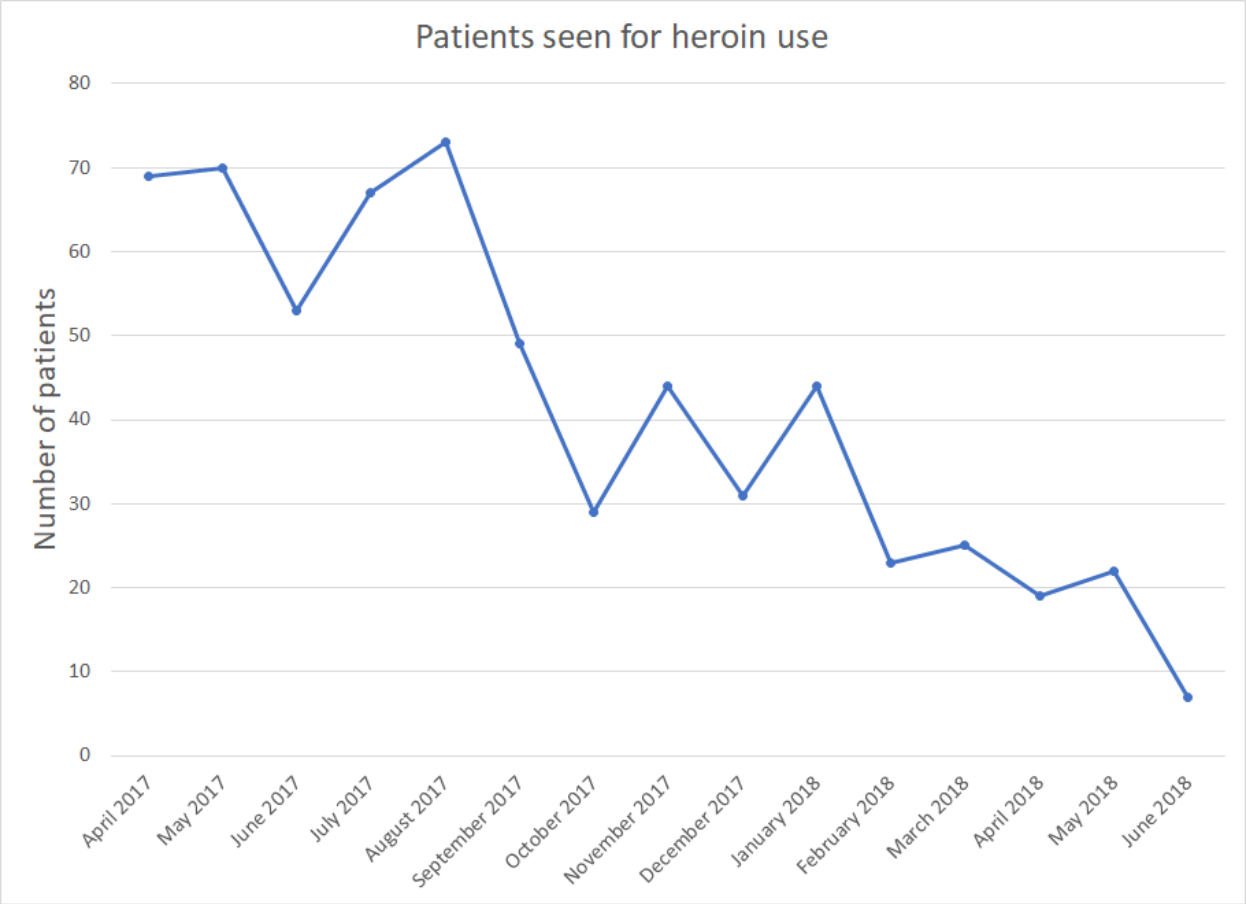


Chart 2.7: Patients Receiving Opioid-related Therapy vs. Non-Opioid Therapy by VBH

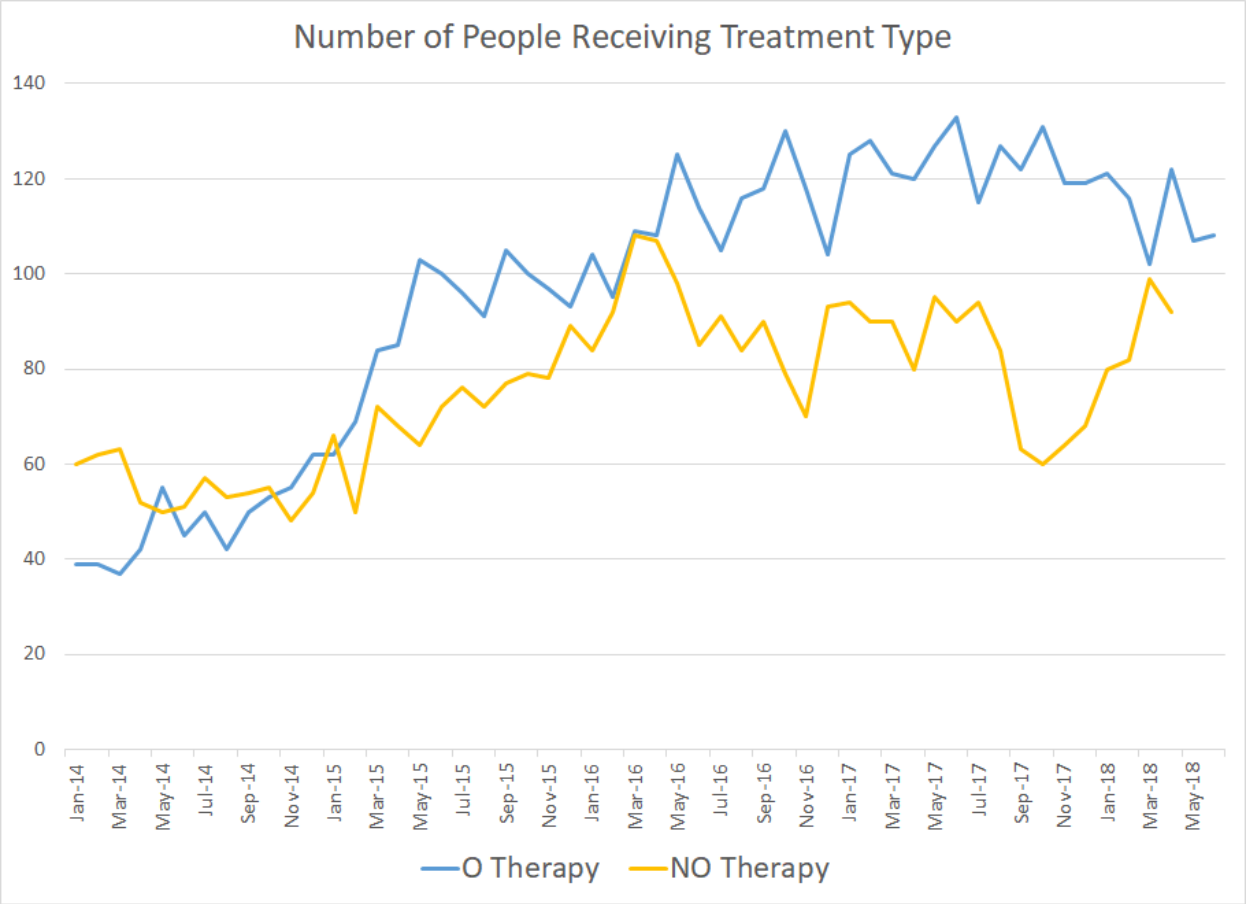


Chart 2.8: Cumulative Distribution of Narcan by AICDAC

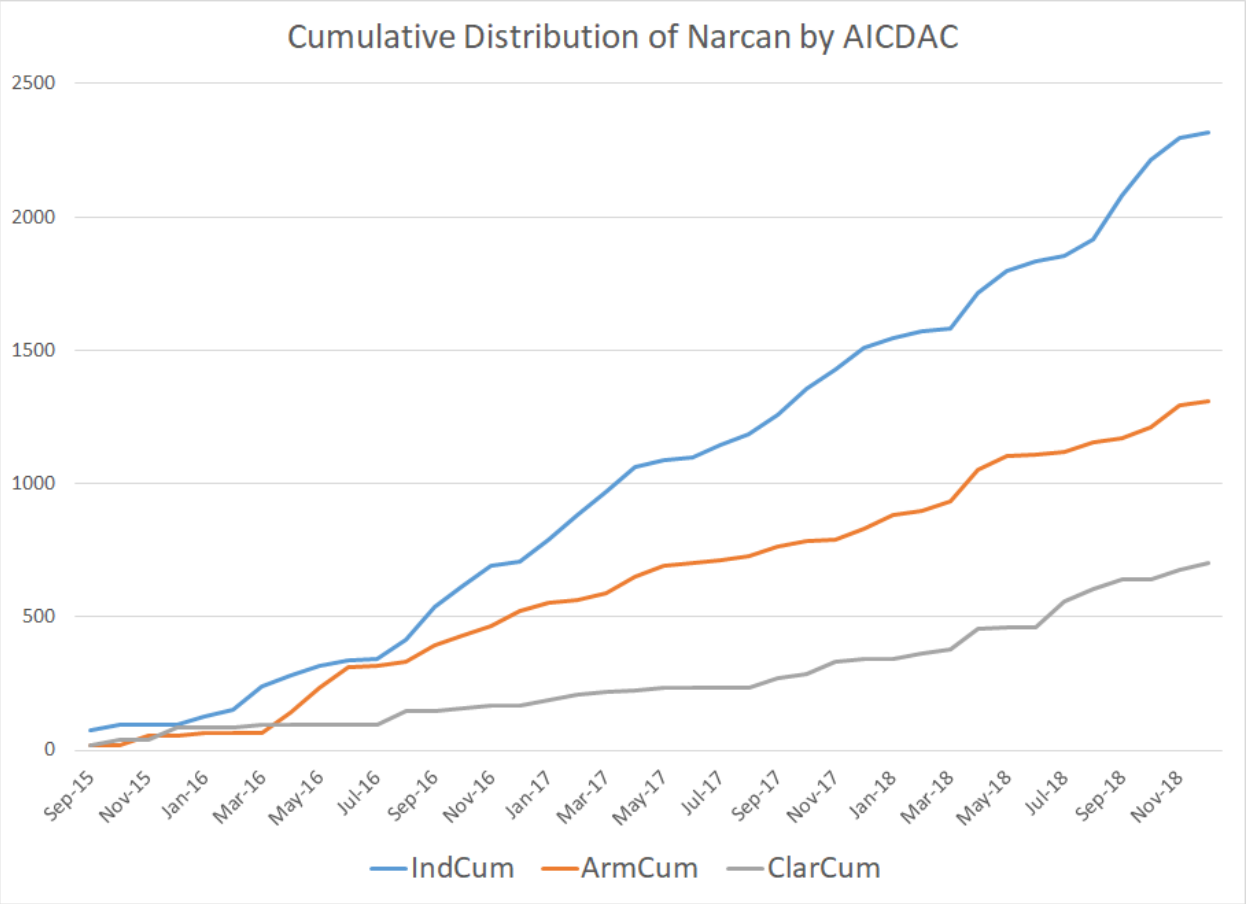


Chart 2.9: Armstrong County Toxicology Results for Overdose Deaths in 2018

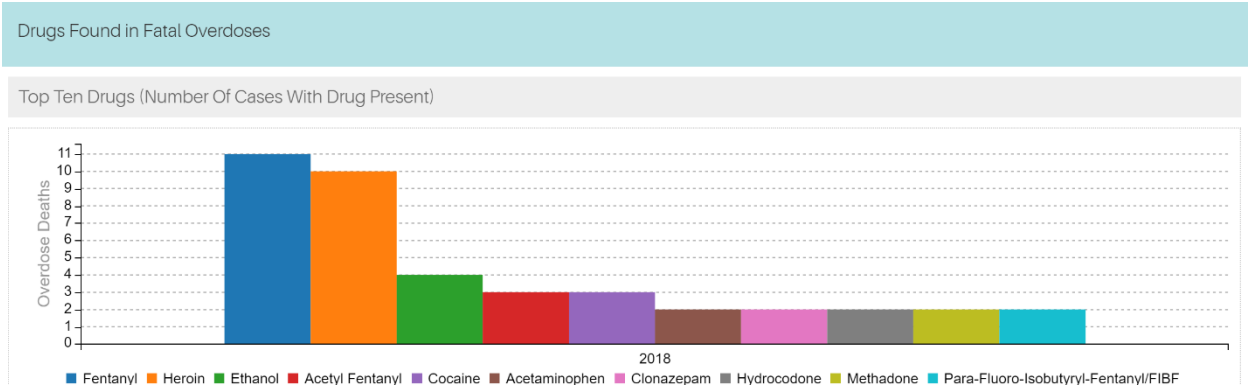


Chart 2.10: Cambria County Toxicology Results for Overdose Deaths in 2018

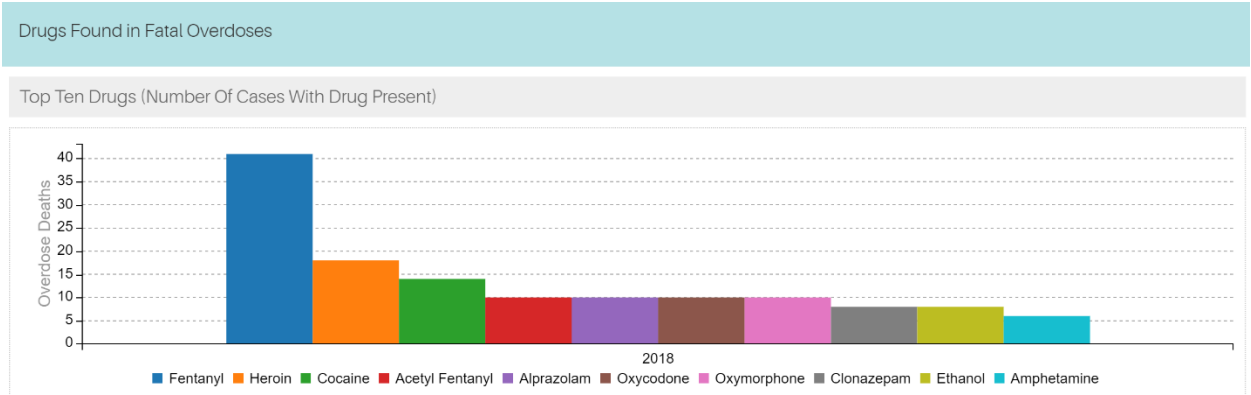


Chart 2.11: Indiana County Toxicology Results for Overdose Deaths in 2018

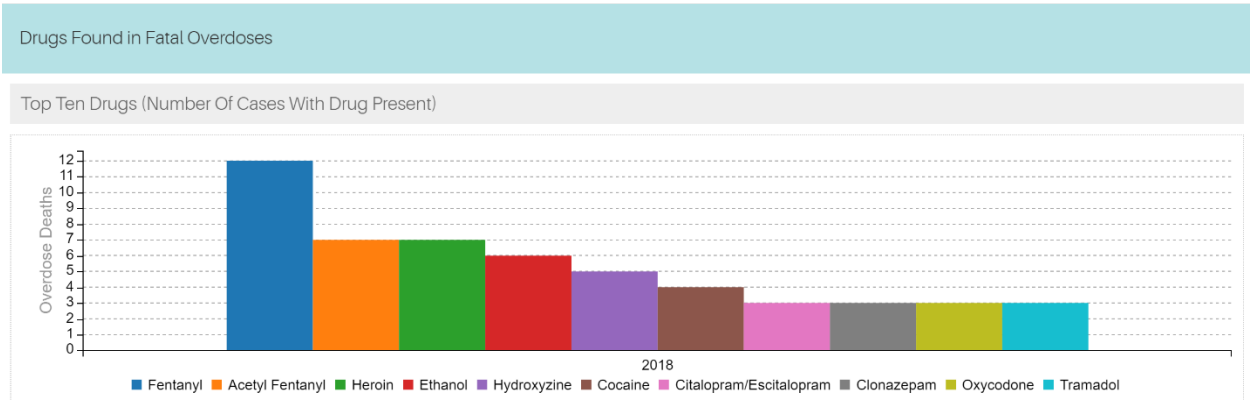
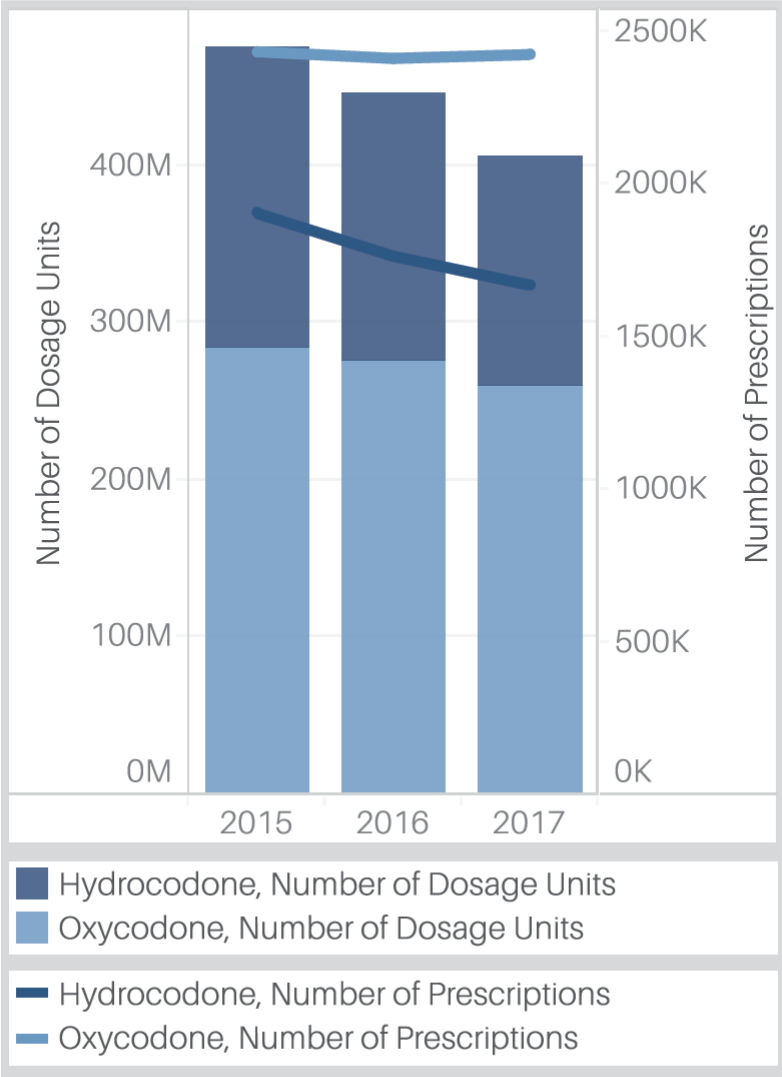


Chart 2.12: Prescriptions and Dosage Units for Oxy and Hydrocodone from 2015-2017

(U) Figure 2. Number of Prescriptions and Dosage Units of Oxycodone and Hydrocodone Products Dispensed by Pennsylvania Pharmacies, 2015-2017



Source: Pennsylvania Department of Health, University of Pittsburgh School of Pharmacy, Program Evaluation Research Unit

Appendix B: Tables

Table 3.1: Demographic Characteristics of Armstrong, Blair, Cambria, and Indiana Counties

Criteria	Armstrong	Blair	Cambria	Indiana
POPULATION				
Total population	65,642	123,457	133,054	84,953
% Change (2010-2017)	-4.8	-2.9	-7.4	-4.4
Median age of population	46	43.1	44.7	39
# Persons <18 years old (2016)	13,204	26,013	26,655	16,041
# Persons 18-64 years old (2016)	40,642	75,588	83,029	56,502
# Persons 65+ years old (2016)	13,666	24,316	28,078	14,948
% White	97.3	95	93.1	94
% Black	0.94	1.58	3.18	2.28
% Hispanic	0.68	1.14	1.53	1.26
% Asian	0.27	0.71	0.47	1.14
POVERTY				
% Poverty rate	13.2	14.8	15.6	17.8
Highest poverty by demographic	Female 35-44	Female 18-24	Female 25-34	Male 18-24
Highest poverty by race/ethnicity	White	White	White	White
EDUCATIONAL ATTAINMENT				
% No HS diploma	10.9	9.3	9.5	11
% HS diploma or equivalent	48.8	48.1	45.5	44.1
% Some college, no degree	15.5	14.8	15.1	14.3
% Associate degree	9.2	8.2	9.6	8.4
% Bachelor degree or higher	15.5	19.5	20.2	22.2
WORKFORCE				
Total number of employees	29,647	56,996	57,641	38,587
% Change in employees	-0.84	-0.45	-0.65	-0.81

Unemployment rate	6.1	4.80	6.00	5.90
# Disabled, age 18-64 (2016)	6,388	10,612.00	11,777.00	6,426.00
OTHER				
# Medicare enrollees	3919	9733	7660	4427

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DataUSA. (n.d.) Indiana County, PA. Retrieved from https://datausa.io/profile/geo/indiana-county-pa/

Table 3.2: Coroner, EMS Responders, ER Personnel, Treatment Providers and Law Enforcement

Occupation	**County**			
	Armstrong	Blair	Cambria	Indiana
Coroner	1	1	1	1
SCA Director	1/2	1	3	1/2
District Atty/ Asst. DA	1	1	1	1
EMS Responder	1	0	2	3
ER or Medical Personnel	3	2	2	2
Law Enforcement	2	2	2	2
Treatment Provider	4	3	5	6
Total	13	10	16	16

Table 3.3: Armstrong County Users Demographic Characteristics

Characteristic	n (%)
Age (in years)	
Mean	34
Median	33
Range	
20-24	2 (18.2)
25-29	3 (27.2)
30-34	3 (27.2)
35-40	1 (9.1)
over 40	2 (18.2)
Gender	
Male	7 (63.6)
Female	4 (36.7)
Education	
Elementary	0
Middle	0
High School	
Incomplete	0
Complete	6 (54.5)
GED	2 (18.2)
College	
Incomplete	2 (18.2)
Complete	0
College (Graduate)	1 (9.1)
Trade School	
Incomplete	0
Complete	0
N/A	0
Marital Status	
Married	0
Divorced	2 (18.2)
Single	9 (81.8)
Widowed	0
Separated	0
Cohabitation Status	
W/ Family	0

Characteristic	n (%)
W/ Peers	1 (9.1)
W/ Significant Other	3 (27.2)
W/ No One	4 (36.7)
Halfway House	0
N/A	3 (27.2)
Number of Children	
None	4 (36.7)
1	0
2	3 (27.2)
3	0
4	1 (9.1)
More than 4	1 (9.1)
Expecting Child	2 (18.2)
Employment Period	
Not Employed	0
1-5 Months	1 (9.1)
6-11 Months	6 (54.5)
1 Year	2 (18.2)
2 Years	2 (18.2)
3 Years and Over	0
Disabled	0
N/A	1 (9.1)

Table 3.4: Blair County Users Demographic Characteristics

Characteristic	n (%)
Age (in years)	
Mean	32
Median	33
Range	
20-24	1 (9.1)
25-29	2 (18.2)
30-34	6 (54.5)
35-40	2 (18.2)
over 40	0
Gender	
Male	8 (72.7)

Characteristic	n (%)
Female	3 (27.3)
Education	
Elementary	0
Middle	0
High School	
Incomplete	3 (27.3)
Complete	4 (36.7)
GED	0
College	
Incomplete	4 (36.7)
Complete	0
Trade School	
Incomplete	0
Complete	0
N/A	0
Marital Status	
Married	0
Divorced	0
Single	11 (100)
Widowed	0
Separated	0
Cohabitation Status	
W/ Family	0
W/ Peers	1 (9.1)
W/ Significant Other	6 (54.5)
W/ No One	3 (27.3)
Halfway House	0
N/A	1 (9.1)
Number of Children	
None	4 (36.7)
1	2 (18.2)
2	3 (27.3)
3	1 (9.1)
4	1 (9.1)
More than 4	0
Expecting Child	0
Employment Period	

Characteristic	n (%)
Not Employed	2 (18.2)
1-5 Months	4 (36.7)
6-11 Months	2 (18.2)
1 Year	1 (9.1)
2 Years	2 (18.2)
3 Years and Over	0
Disabled	0
N/A	0

Table 3.5: Cambria County Users Demographic Characteristics

Characteristic	n (%)
Age (in years)	
Mean	32
Median	29
Range	
20-24	2 (14.3)
25-29	6 (42.9)
30-34	2 (14.3)
35-40	3 (21.4)
over 40	1 (7.1)
Gender	
Male	6 (42.9)
Female	8 (57.1)
Education	
Elementary	0
Middle	0
High School	
Incomplete	1 (7.1)
Complete	3 (21.4)
GED	2 (14.3)
College	
Incomplete	2 (14.3)
Complete	1 (7.1)
Trade School	
Incomplete	0

Characteristic	n (%)
Complete	3 (21.4)
N/A	2 (14.3)
Marital Status	
Married	0
Divorced	0
Single	13 (92.9)
Widowed	0
Separated	1 (7.1)
Cohabitation Status	
W/ Family	9 (64.3)
W/ Peers	0
W/ Significant Other	3 (21.4)
W/ No One	2 (14.3)
Halfway House	0
N/A	0
Number of Children	
None	4 (28.6)
1	2 (14.3)
2	8 (57.1)
3	0
4	0
More than 4	0
Expecting Child	0
Employment Period	
Not Employed	5 (35.7)
1-5 Months	0
6-11 Months	1 (7.1)
1 Year	5 (35.7)
2 Years	1 (7.1)
3 Years and Over	0
Disabled	1 (7.1)
N/A	1 (7.1)

Table 3.6: Indiana County Users Demographic Characteristics

Characteristic	n (%)
Age (in years)	
Mean	35
Median	32
Range	
20-24	2 (14.9)
25-29	3 (21.4)
30-34	5 (35.7)
35-40	1 (7.1)
over 40	3 (21.4)
Gender	
Male	6 (42.9)
Female	8 (57.1)
Education	
Elementary	0
Middle	1 (7.1)
High School	
Incomplete	0
Complete	4 (28.9)
GED	3 (21.4)
College	
Incomplete	2 (14.9)
Complete	1 (7.1)
Trade School	
Incomplete	0
Complete	2 (14.9)
N/A	1 (7.1)
Marital Status	
Married	0
Divorced	1 (7.1)
Single	12 (85.7)
Widowed	0
Separated	1 (7.1)
Cohabitation Status	
W/ Family	5 (35.7)
W/ Peers	3 (21.4)
W/ Significant Other	2 (14.9)

Characteristic	n (%)
W/ No One	2 (14.9)
Halfway House	0
N/A	2 (14.9)
Number of Children	
None	9 (64.3)
1	2 (14.9)
2	2 (14.9)
3	1 (7.1)
4	0
More than 4	0
Expecting Child	0
Employment Period	
Not Employed	4 (28.9)
1-5 Months	2 (14.9)
6-11 Months	3 (21.4)
1 Year	0
2 Years	2 (14.9)
3 Years and Over	1 (7.1)
Disabled	2 (14.9)
N/A	0

Table 3.7: Demographic Characteristics of Overdose Interviewees

Characteristic	n (%)
Age (in years)	
Mean (SD)	31.4 (6.91)
Median	31
Range	
20-24	5 (18.5)
25-29	6 (22.2)
30-34	10 (37.0)
35-40	4 (14.8)
over 40	2 (7.4)
County	
Armstrong	6 (22.2.)
Blair	4 (14.8)
Cambria	6 (22.2)

Characteristic	n (%)
Indiana	11 (40.7)
Gender	
Male	14 (51.9)
Female	13 (48.1)
Education	
Elementary	0
Middle	1 (3.7)
High School	
Incomplete	2 (7.4)
Complete	9 (33.3)
GED	3 (11.1)
College	
Incomplete	5 (18.5)
Complete	3 (11.1)
Trade School	
Incomplete	3 (11.1)
Complete	1 (3.7)
N/A	0 (0)
Marital Status	
Married	0
Divorced	2 (7.4)
Single	25 (92.6)
Widowed	0
Separated	0
Cohabitation Status	
W/ Family	7 (25.9)
W/ Peers	5 (18.5)
W/ Significant Other	7 (25.9)
W/ No One	5 (28.5)
Halfway House	0
N/A	0
Number of Children	
None	13 (48.1)
1	5 (28.5)
2	6 (22.2)
3	0
4	1 (3.7)

Characteristic	n (%)
More than 4	0
Expecting Child	2 (7.4)
Employment Period	
Not Employed	5 (28.5)
1-5 Months	5 (28.5)
6-11 Months	8 (29.6)
1 Year	4 (14.8)
2 Years	3 (11.1)
3 Years and Over	1 (3.7)
Disabled	1 (3.7)
N/A	0

Table 7.1: Users Self-Reported Consequences from Drug Use

Consequences	**Totals**
Hospitalization (liver problems, HepC, etc..)	12
Hospitalization (tremors, shakes, blackouts)	20
Injuries	25
Car accident	27
DUI	27
Tremors or Blackouts	30
Arrested	30
Absent (Work or School)	31
Violence	34
Memory Lapse	35
Aggressive Behavior	35
Shunned	36

Table 10.1: Demographic Characteristics for Overdose Interviews (n=17)

Characteristic	n (%)
Age (in years)	
Mean (SD)	30.3 (5.95)
Median	31
Range	22-41
20-24	4 (23.5)
25-29	4 (23.5)
30-34	4 (23.5)
35-40	4 (23.5)
over 40	1 (5.9)
County	
Armstrong	5 (29.4)
Blair	3 (17.6)
Cambria	3 (17.6)
Indiana	6 (35.3)
Gender	
Male	8 (47.1)
Female	9 (52.9)
Education	
Elementary	0
Middle	1 (5.9)
High School	
Incomplete	2 (11.8)
Complete	5 (29.4)
GED	1 (5.9)
College	
Incomplete	5 (29.4)
Complete	2 (11.8)
Trade School	
Incomplete	1 (5.9)
Complete	0 (0)
N/A	0 (0)
Marital Status	
Married	0
Divorced	1 (5.9)
Single	16 (94.1)
Widowed	0

Characteristic	n (%)
Separated	0
Cohabitation Status	
W/ Family	3 (17.6)
W/ Peers	4 (23.5)
W/ Significant Other	6 (35.3)
W/ No One	4 (23.5)
Halfway House	0
N/A	0
Number of Children	
None	8 (47.1)
1	3 (17.6)
2	4 (23.5)
3	0
4	1 (5.9)
More than 4	0
Expecting Child	1 (5.9)
Employment Period	
Not Employed	3 (17.6)
1-3 Months	1 (5.9)
4-6 Months	7 (41.2)
7-9 Months	2 (11.8)
1 Year	2 (11.8)
2 Years and Over	2 (11.8)
N/A	0 (0)
N/A	0

Table 10.2: Overdose Numbers, Counties, and Overdose Age

Table 10.2: Overdose Numbers, Counties, and Overdose Age*										
ID Code	# of ODs	County	1st OD	2nd OD	3rd OD	4th OD	5th OD	6th OD	7th OD	8th OD
OD 9	2	A	37	37						
OD 11	2	A	17	19						
OD 12	2	A	20	22						
OD 15	1	A	37							
OD 16	2	A	25	26						
OD 10	3	B	25	25	30					
OD 13	2	B	22	23						
OD 14	>14	B	34	34	34	34	34	34	34	34
OD 1	4	C	21	21	22	23				
OD 4	1	C	21							
OD 8	4	C	23	28	31	35				
OD 2	3	I	19	20	23					
OD 3	18	I	16	16	16	17	17	17	17	17
OD 5	3	I	28	28	30					
OD 7	15	I	24	34	34	34	34	34	34	34
OD 17	2	I	24	24						

*In all the tables in this section of the report, overdose cases are aggregated and listed by county. A=Armstrong County, B=Blair County, C=Cambria County, and I=Indiana County.

Table 10.3: Onset Age of Major Substance Use, I & II

Table 10.3: Onset Age of Substance Use, Part I								
ID Code	Cigarettes	Heroin	Opioid	Benzo	Alcohol	Cannabis	Cocaine	Methamphet
OD 9	14	30	18	18	13	13	18	
OD 11	14	16	15	15	12	12	15	21
OD 12	8	17	16	18	11	13		
OD 15	12	29	18	18	11	16	19	33
OD 16	19	24	18	24	8	19	19	
OD 10	14	18	21	27	14		15	
OD 13	14	23	16	30	14	14	19	33
OD 14	14	26	16	16	14	14	26	
OD 1	12	17	14		12	14	17	
OD 4	12	17	17	20	10	10	17	
OD 8	17	18	17		16	16	18	
OD 2	13	17	15	15	12	13	18	20
OD 3	18	16	16	16	12	12	16	16
OD 5	14	28	15	15	12	7	28	25
OD 7	13	18	18		13	13	16	
OD 17	10	17	15		15	15		

Table 10.3: Onset Age of Substance Use, Part II									
ID Code	LSD	Adderall	Bath Salts	Coricidin	Crack	Duster, Whippets	Ecstasy	Ephedra	Methadone
OD 9							18		
OD 11		15					16		
OD 12							16		
OD 15		23			26		20		37
OD 16							19	1	
OD 10							15	13	
OD 13			33				18		
OD 14				16	27	16	16		

OD 1							15		
OD 4							17		
OD 8		16							
OD 2		15							
OD 3		16							
OD 5									
OD 7									
OD 17	18						18		

Table 10.4: Year of Overdoses

Table 10.4: Year of Overdoses									
ID Code	# of ODs	Year of 1st Overdose	Year of 2nd Overdose	Year of 3rd Overdose	Year of 4th Overdose	Year of 5th Overdose	Year of 6th Overdose	Year of 7th Overdose	Year of 8th Overdose
OD 9	2	2018	2018						
OD 11	2	2013	2015						
OD 12	2	2005	2007						
OD 15	1	2014							
OD 16	2	2014	2015						
OD 10	3	2011	2011	2016					
OD 13	3	2006	2007	2016					
OD 14	>14	2017	2017	2017	2017	2017	2017	2017	2017
OD 1	4	2017	2017	2017	2017				
OD 4	1	2014							
OD 8	4	2005	2010	2013	2017				
OD 2	3	2012	2013	2016					
OD 3	18	2012	2012	2012	2013	2013	2013	2014	2014
OD 5	3	2015	2015	2017					
OD 7	15	2006	2016	2016	2016	2016	2016	2016	2016
OD 17	2	2016	2016						

Table 10.5: First Overdose

First overdose							
Id code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed Usage
OD 9	Home	Alone	Heroin, Fentanyl	Dosage	None	No	The same day
OD 11	Mother's home	Alone	Heroin, Benzos	Drug Combination	1 Narcan	Yes	4 months
OD 12	Abandoned building	With friend	Heroin	Dosage	CPR	Yes	A few hours
OD 15	Friend's house	With friends	Alcohol, Weed, Benzos, Methadone	Dosage	CPR, induce vomiting, cold water bath	No	Within one day
OD 16	Home	With friend	Heroin, Fentanyl	Dosage	Cold water, slapped face	No	3 months
OD 10	Car	With friend	Neurontin, Tramadol	Quantity	None	No	Next day
OD 13	Car	With friend	Heroin, Ativan	Dosage	2 Narcan	Yes	Next day
OD 14	Cousin's house	Alone	Heroin, Carfentanyl	Dosage	1 Narcan, face slapped, cold water splashed on	No	Four hours later
OD 1	In-laws' house	Alone	Fentanyl	Dosage	Slapped, shaken	No	Within hours
OD 4	Uncle's house	Alone	Fentanyl, Xanax	Relapsed	Slapped, 2 Narcan	Yes	< 2 days
OD 8	Friend's house	With friend	Heroin	Dosage	Narcan (unknown quantity)	No	By the evening
OD 2	Mother's house	Alone	Heroin	Unsure	Defibrillator, 1 Narcan	Yes	Within a week
OD 3	Grandparents' property	With friends	Heroin, Xanax	Drug Combination	1 Narcan	No	Same day
OD 5	Friend's house	With friend	Heroin	Dosage	2 Narcan	No	The next day
OD 7	Girlfriend's house	Alone	Heroin	Dosage	Slapped face, splashed water	No	One hour later
Od 17	Father's house	Alone	Heroin	Dosage	4 Narcan	Yes	Within one day

Table 10.6: Second Overdose

Second overdose							
Id code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 9	Friend's house	Friend	Heroin, Fentanyl	Dosage	2 Narcan	No	Within 12 hours
OD 11	Park restroom	Alone	Heroin, Fentanyl, Benzos	Quantity	None	No	Within one day
OD 12	At home	Alone	Heroin, Xanax	Suicide attempt	3 Narcan	Yes	Two days
OD 16	In car	With friends	Heroin, Fentanyl	Dosage	Cold water, slapped face	No	Within a day
OD 10	Friend's House	Alone	Heroin, Benzos	Dosage	None	No	8 months later
OD 13	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	Yes	Unsure
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 1	In-laws' house	Alone	Fentanyl	Dosage	Slapped, shaken	No	Within hours
OD 8	Detox facility	Friend	Heroin	Quantity	3 Narcan	Yes	4 years later
OD 2	Mother's house	Alone	Heroin	Unknown	1 Narcan	No	Within one day
OD 3	Grandparents' house	Alone	Heroin	Relapsed	1 Narcan	Yes	Within 12 hours
OD 5	Friend's house	Friend	Heroin	Dosage	Slapped, 2 Narcan	No	The next day
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown
OD 17	Mother's house	With mother & friends	Heroin	Dosage	2 Narcan, splashed water	No	Within 12 hours

Table 10.7: Third Overdose

Third overdose							
Id code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 10	Home	Alone	Heroin	Relapse	CPR	Yes	No
OD 13	Friend's house	With friend	Liquid Xanax, Methadone	Quantity	Narcan	Yes	Within one day
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 1	In car	With friend	Heroin	Quantity	Punched chest	No	Within 8 hours
OD 8	Girlfriend's house	Alone	Heroin, Fentanyl	Unaware of fentanyl	1 or 2 Narcan	Yes	Within one day
OD 2	Mother's house	Alone	Heroin	Relapsed	1 Narcan	No	No
OD 3	At home	Alone	Heroin	Don't know	None	No	Same day
OD 5	Passenger in car	With friend	Heroin, Xanax, U-47700	Unaware of U-47700	Defibrillator, 9 Narcan	Yes	The next day
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown

Table 10.8: Fourth Overdose

Fourth overdose							
Id code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 1	In-laws' house	Alone	Heroin	Dosage	CPR, 2 Narcan	Yes	No
OD 8	Car dealership restroom	Alone	Heroin, Fentanyl	Dosage	2 or 3 Narcan. Hooked up to machines	Yes	Two days later
OD 3	Friend's house	With friend	Heroin, Xanax	Don't know	2 Narcan	No	Same day
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown

Table 10.9: Fifth Overdose

Fifth overdose							
ID Code	Location	Alone or with others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 3	Grandparents' house	Alone	Heroin	Don't know	1 Narcan	Yes	Right away
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown

Table 10.10: Sixth Overdose

Sixth overdose							
ID Code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Treatment	Hospitalized Afterwards	Resumed usage
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 3	Passenger in car	With girlfriend, 2 others	Heroin	Don't know	1 Narcan	Yes	Within one day
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown

Table 10.11: Seventh Overdose

Seventh overdose							
ID Code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 3	In car	With friend	Heroin	Don't know	3 Narcan	Yes	6 months
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown

Table 10.12: Eight Overdose

Eighth overdose							
ID Code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 3	Juvenile detention center	With others	Heroin, K2	Quantity	None	Yes	2 weeks
OD 7	Unknown	Alone	Heroin	Intentional	None	No	Unknown

Table 10.13: Fifteenth

Fifteenth overdose							
ID Code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 14	Doesn't remember	Doesn't remember	Heroin, Benzos	Unknown	Unsure	No	Within one day
OD 7	In car	Alone	Heroin	Intentional	None	No	Within an hour

Table 10.14: Last Overdose

Last overdose *							
ID Code	Location	Alone or With Others	Overdose Substances	Overdose Cause	Overdose Preventive Measure	Hospitalized Afterwards	Resumed usage
OD 14	In car	Alone	Heroin, Fentanyl	Dosage	None	No	No
OD 3 (9^{th} OD)	Motel room	With girlfriend	Heroin, Crystal meth	Quantity	4 Narcan	No	Same day
OD 7	Parents' house	Alone	Heroin	Relapsed	3 Narcan	No	No

* These subjects have had many overdoses. Data was recorded for their first several overdoses, and their last overdose.

Table 10.15: Overdose Locations

Table 10.15: Overdose Locations	
Location	Total
Home	5
Relative's home	16
Friend's home	10
Motor vehicle	8
Public place	4
Rehab, Jail	2
Unknown	15

Table 10.16: Overdose Substances

Table 10.16: Overdose Substances										
ID Code	County	# ODs	Heroin	Fentanyl	Benzo diazepines	Alcohol	Cannabis	Methadone	U-47700	K2
OD 9	A	2	X	X						
OD 11	A	3	X	X	X					
OD 12	A	2	X		X					
OD 15	A	1			X	X	X	X		
OD 16	A	2	X	X						
OD 10	B	3	X							
OD 13	B	4	X		X			X		
OD 14	B	2	X	X	X					
OD 1	C	4	X	X						
OD 4	C	1		X						
OD 8	C	4	X							
OD 2	I	3	X							
OD 3	I	18	X							
OD 5	I	3	X		X				X	X
OD 7	I	15	X							
OD 17	I	2	X							

Table 10.17: Overdose Causes

Table 10.17: Overdose Causes	
Cause	Total
Dosage	20
Combination	2
Quantity	6
Intentional	9
Relapsed	5
Unaware of drug	2
Unsure/don't know	19

Table 10.18: Overdose Prevention Measures

Table 10.18: Overdose Prevention Measures	
Response	Total
Narcan	29
CPR	5
Defibrillator	2
Physically struck	9
Splashed cold water	6
Induced vomiting	1
None	14

Chart 10.19 Narcan Usage

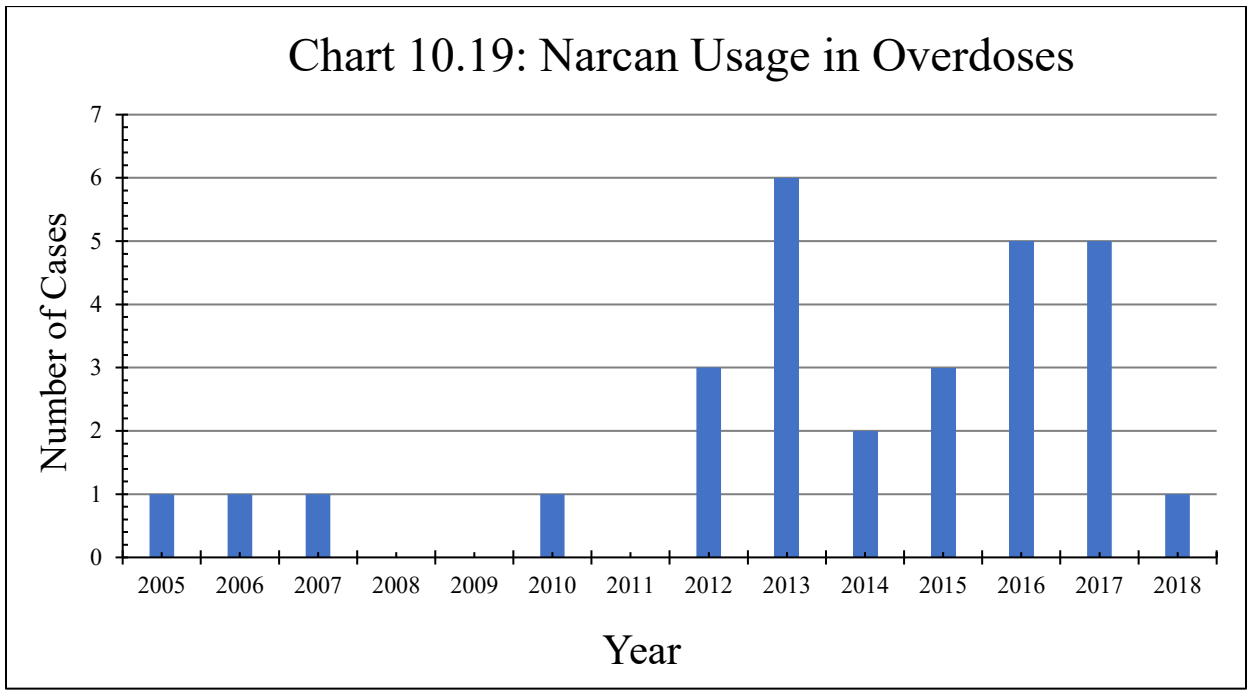

Table 10.19: Narcan Usage

2005	2006	2007	2008		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	1	1	0		0	1	0	3	6	2	3	5	5	1

Table 10.20: Overdose Hospitalizations

Table 10.20: Overdose Hospitalizations	
Hospitalization after Overdose	Total
Hospitalized	21
Not hospitalized	40
Unknown	8

Appendix C: Interview Guides

To view the interview guides, please contact the principal investigator, Dr. Erick Lauber at elauber@iup.edu