

MARION COUNTY OPIOID WHITE PAPER

BY WELLFLORIDA COUNCIL INC.

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CONTENTS

Foreward.....	3
Struction Of White Paper.....	3
Data Sources In This Paper.....	3
Introduction.....	4
Understanding Opioid Overdoses.....	5
Protecting Against Opioid Overdoses.....	5
Treatment For Opioid Misuse Disorder Or Opioid Addiction.....	7
Drug Data (including opioids and other drugs).....	8
Prescription Rates for Opioids.....	10
Opioid Overdoese Data.....	11
EMS Data.....	11
Florida Drug-Related Outcomes Survellance And Tracking System (FROST Data).....	14
Opioids In Florida And The United States.....	20
Florida Legislature To Combat Opioid Epidemic.....	23
Marion County Initiatives.....	24
Additional Considerations (related to the opioid crisis).....	27
Neonatal Abstinence Syndrome.....	27
Recommendations/Conclusions.....	28
Evidence-Based Recommendations (Carroll, Green, & Noonan, 2018).....	28
Expand Naloxone (Narcan) Distribution.....	28
Create Naloxone Distribution In Prisons And Education Programs In Prisons.....	28
Medication Assisted Treatment As The Standard Of Care In Criminal Justice Setting And Upon Release.....	28
Create Free Syringe Services Program.....	28
Screening For Fentanyl In Routine Clinical Toxicology Testing.....	29
Other Recommendations.....	29
Create Programs Education And Awareness Programs.....	29
Increase Medical Marijuana Prescription.....	29
Conclusion.....	30
References.....	31

STRUCTION OF WHITE PAPER

Although this white paper analyzes the opioid crisis occurring in Marion County, it is important that all drug data are used in addition to opioid data in order to get a better understanding of the opioid crisis. In addition, analysis will be done for the US and the state of Florida in order to get a more robust understanding of the opioid crisis.

The format of this white paper will begin an introduction of the US perspective of the opioid epidemic and will give important information about understanding opioid overdoses, protecting against opioid overdoses and treatment for opioid misuse disorder or addiction. Following will be the analysis of all drug data followed by analysis of prescription opioid dispensing rates, then analysis of opioid data. Afterwards, the white paper will apply legislative solutions taking place in Florida, and specific initiatives currently in Marion County aimed at the opioid crisis, subsequently key findings will be highlighted and recommendations will be provided to address the opioid crisis in Marion County.

DATA SOURCES IN THIS PAPER

Multiple government and publicly available data sources were used in this white paper. Below are the data sources used and a brief explanation of what they were used for.

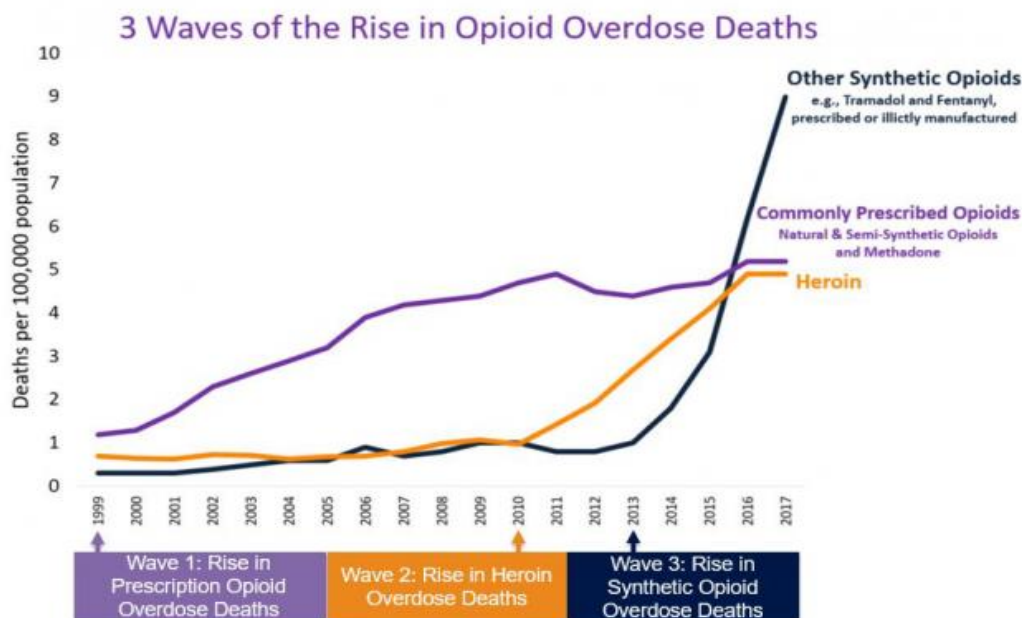
Table 1. Name of Data Sources in White Paper with Brief Explanation

Source Name	Brief Explanation of Use in Whitepaper
CDC Opioid Overdose Database	This was used primarily for general US statistics about opioid epidemic. It was also used to attain the death counts and age-adjusted death rates for Florida and the US along with the opioid prescribing rates for the US, Florida and Marion County.
Emergency Medical Services (EMS) Data Systems	This was used to identify the counts for suspected drug overdoses, fatal drug overdoses, suspected opioid overdoses, and fatal opioid overdoses for Marion County. Additionally, it provided data on age and gender for suspected drug and opioid overdoses in Marion County. All data was categorized based on enhanced State Opioid Overdose Surveillance (ESOOS) criteria defined by the state of Florida.
Florida Drug-Related Outcomes Surveillance and Tracking System (FROST)	This was used for opioid-caused and opioid-related overdose death counts and rate per 100,000 for Marion County and Florida. Additionally, it was used for opioid-caused overdose deaths by type of opioid (prescription, heroin, synthetic) for Marion County.
The Foundation for AIDS Research (amfAR) Opioid & Health Indicators Database	This was used for drug-related death counts and drug-related death rate per 100,000 for Marion County and Florida.
Henry J. Kaiser Family Foundation (KFF)	This was used for opioid overdose deaths by type of opioid (prescription, synthetic including methadone, heroin) and by age groups for Florida. Additionally, it was used for opioid overdose age-adjusted death rate per 100,000 for Florida and US.
Marion County Fire Rescue	This was used to identify the number of 911 calls that were dispatched as a poisoning or overdose to the Marion County Fire Rescue.

INTRODUCTION

Opioids are a class of drugs naturally found in the opium poppy plant. They are commonly used as medicines to treat moderate to severe pain as they contain chemicals that relax the body and can relieve pain (NIDA, 2018c). Opioids relieve pain but also make users feel relaxed and “high” – which is why they are used for non-medical reasons. Opioid addiction involves (1) tolerance for opioids meaning you need more to receive the same pain relief/euphoric feeling, (2) physical dependence meaning you have symptoms of withdrawal when the opioid is stopped, and (3) psychological dependence which are cravings for opioids and is the mark of opioid addiction (CDC, 2017a). Opioids are often classified as: prescription opioids, synthetic opioids, or heroin (CDC, 2017a). Prescription opioids are often prescribed from a physician following surgery, injury or for health conditions such as cancer (CDC, 2017a). Common prescription opioids include oxycodone, hydrocodone, morphine, and methadone. The term synthetic opioid is primarily used to describe fentanyl, which is a synthetic opioid which can be made pharmaceutically and prescribed to patients or made illegally and sold as a street drug. Pharmaceutical fentanyl which is typically prescribed to treat patients for severe pain or to manage pain after surgery is 50 to 100 times more potent than morphine (Algren et al., 2013). Illegally manufactured fentanyl is sold through illegal drug markets for its heroin-like effect, however it is often mixed with heroin and/or cocaine as a combination product – with or without the user’s knowledge – to increase its euphoric effects (CDC, 2017a). Heroin is an illegal, highly addictive opioid drug made from morphine and is typically injected but is also smoked or snorted. Heroin is usually used alongside other opioid drugs or alcohol (NIDA, 2018b).

The opioid epidemic continues to impact the United States as a whole. From 1999-2017, almost 400,000 people have died from an overdose involving any opioid, including prescription and illicit opioids (CDC, 2017b). The CDC reports that overdose deaths involving opioids are 6 times higher in 2017 than in 1999 (CDC, 2017b). The opioid epidemic occurred in three distinct waves. Wave 1: began when practitioners increased prescribing of opioids in the 1990s, as a result overdose deaths involving prescription opioids increase since at least 1999. Wave 2: began in 2010 when there were rapid increases in overdose deaths involving heroin. The increase in heroin overdoses occurred primarily since OxyContin, a common prescription painkiller, was reformulated to make it near impossible for users to snort or inject the drug which would turn into a gummy substance instead of a powder when crushed. Thus many OxyContin users switched over to heroin to fuel their opioid addiction easily and at a lower cost. Wave 3: began in 2013 with significant increases in overdose deaths involving synthetic opioids – particularly those involving illegally made fentanyl and tramadol – which can be found in combination with heroin, counterfeit pills, and cocaine.



SOURCE: National Vital Statistics System Mortality File.

UNDERSTANDING OPIOID OVERDOSES

Opioid overdose deaths usually occur due to respiratory depression – as there is a lack of oxygen available for use by the brain and other organ systems in the body. Bertha Madras, a professor of psychobiology at Harvard Medical School, says this happens for three reasons (Maron, 2018):

1. Opioids bind to the mu-opioid receptors which can have a sedative effect which suppresses brain activity that controls breathing
2. Opioids hamper signals to the diaphragm, which expands and contracts the lungs
3. Opioids depress the brains ability to monitor and respond to carbon dioxide when it builds up to dangerous levels in the blood

Someone can be at risk for an overdose if (drugfree, n.d.):

- They take opioids recreationally or medically
- They mix opioids with other drugs like alcohol, other opioids, and prescription stimulants (e.g., cocaine and Adderall)
- They have a lower tolerance due to recent detox/drug treatment, incarceration or illness
- Not knowing what drugs one is consuming (e.g. using heroin cut with fentanyl)

PROTECTING AGAINST OPIOID OVERDOSES

Naloxone (Narcan) is a medication called an “opioid antagonist” used to counter the effects of opioid overdoses. Naloxone works by binding to the opioid receptors in the brain at a stronger affinity than opioids, and therefore it blocks the interaction of deadly opioids in the brain (i.e. stopping overdosing). Naloxone specifically works by counteracting life-threatening depression of the central nervous system and respiratory system, which allows the overdose victim to breathe normally. Naloxone only works if a person has opioids in their system. Naloxone is available in three methods:

1. Evzio auto-injector: which is a small auto injector that releases naloxone in a single dose via a retractable needle. It is usually applied to a body part such as the thigh and held for 5 seconds to release the medication. This device also has a voice recording that provides step-by-step instructions on how to use it.



Image of Evzio auto-injector

2. Narcan Nasal Spray: a very easy to use nasal spray. Gently insert it into one nostril of an overdosing individual until your fingers touch the base of their nose. Then press the plunger to release the dose of Narcan into one nostril; there is no need to spray into both nostrils.



Image of Narcan nasal spray

3. Injection via Syringe: this method usually requires the user to be trained (physician, pharmacist, etc.). The syringe is filled with the medication and is administered to the overdosing individual, which can be administered through clothes.



Image of Syringe for Injection

TREATMENT FOR OPIOID MISUSE DISORDER OR OPIOID ADDICTION

Medication Assisted Treatment (MAT) is recommended by the CDC to help those with opioid addiction recover their lives. It consists of three equally important parts consisting of: the use of FDA-approved medications, in combination with counseling and behavioral therapies, to provide a “whole-patient” approach to the treatment of substance use disorders, in this case specifically opioid misuse disorder (SAMHSA, 2018).

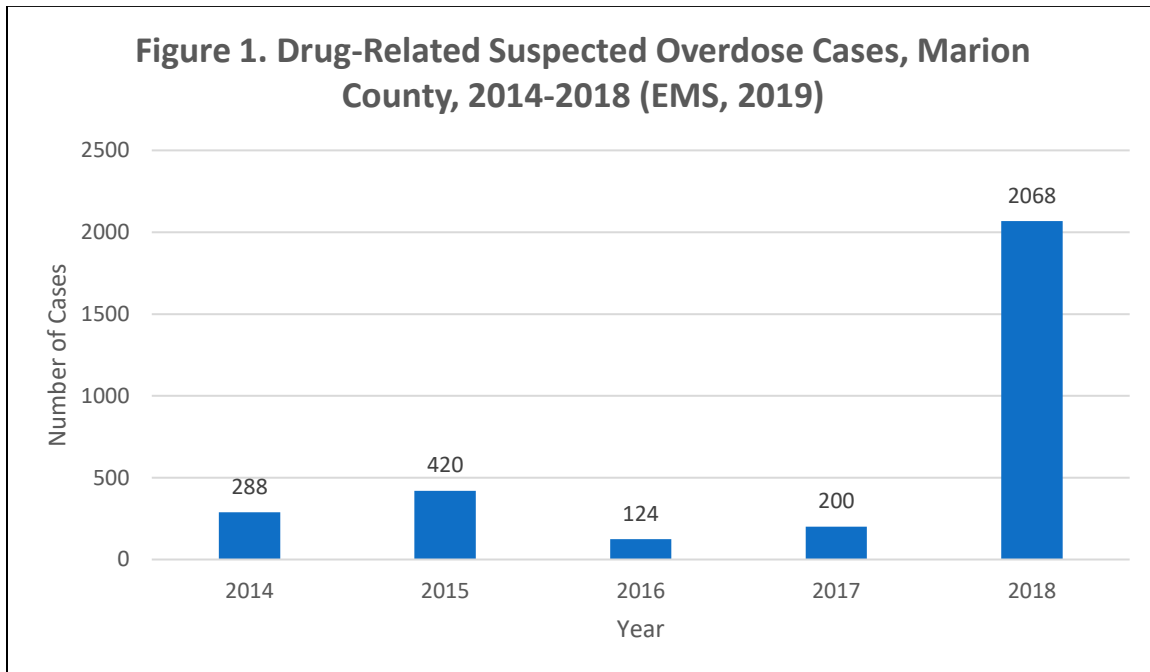
MAT uses specific medications adapted to fit the patient to relieve withdrawal symptoms and psychological cravings in individuals suffering from opioid use disorder (SAMHSA, 2018). The specific medications are available in five different drugs (tabled below).

Table 2. List of Drugs That Can Be Used in Medication Assisted Treatment (SAMHSA, 2018)

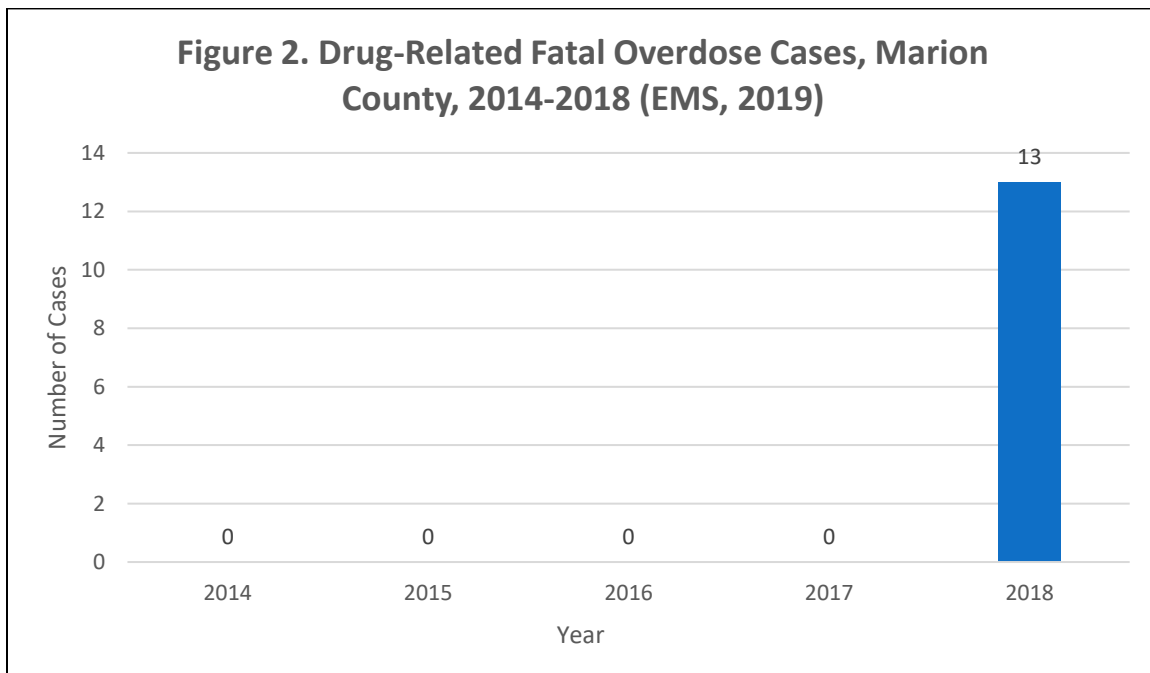
Drug Name	Available Formulation	FDA Approval	DEA Schedule	Treatment Setting
Methadone	Oral solution, liquid concentrate, tablet/diskette, and powder	Never formally approved by FDA	II	Opioid Treatment Program (OTP)
LAAM	Oral solution	1993	II	OTP
Buprenorphine	Sublingual tablet	2002	III	OTP, Physician’s office, or other health care setting
Buprenorphine/Naloxone	Sublingual tablet	2002	III	OTP, Physician’s office, or other health care setting
Naltrexone	Oral tablet	1984	Not scheduled	OTP, Physician’s office, or any substance abuse treatment program

DRUG DATA (INCLUDING OPIOIDS AND OTHER DRUGS)

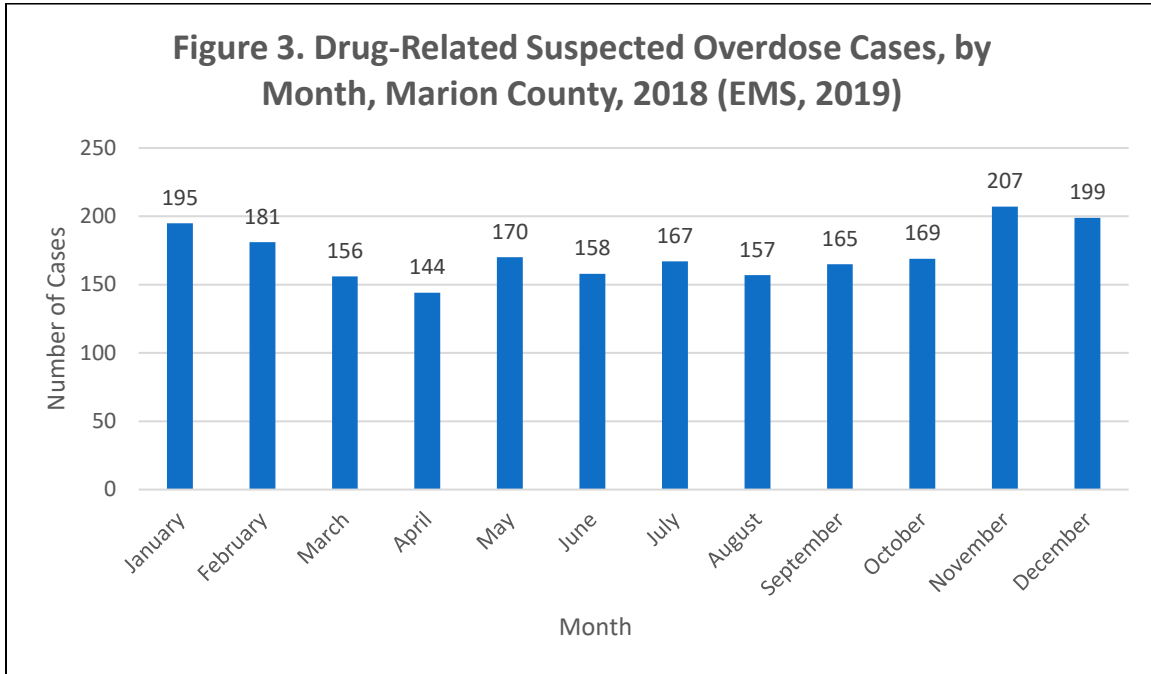
The Emergency Medical Services (EMS) Data Systems was used to identify suspected and fatal overdoses for both all drug overdoses. Drug overdose was defined in this data system based on the Enhanced State Opioid Overdose Surveillance (ESOOS) criteria defined by the state of Florida – this is used to detect incidence involving any drug overdose and involving opioid-related overdoses.



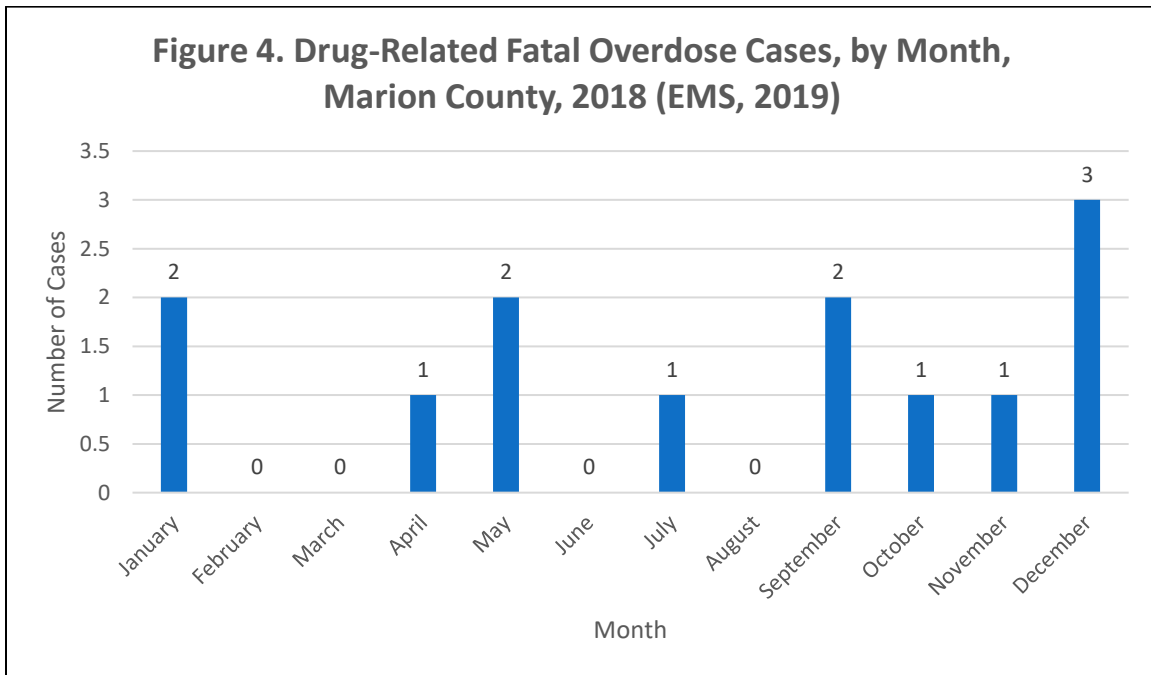
There was a significant increase in the number of suspected drug overdose cases in Marion County from 200 in 2017 to 2068 in 2018 – which represents a percent change of 934%. Though this increase is significant, the reason there was such a dramatic increase is most probably due to improved reporting and categorization on overdoses.



Additionally, in 2017 there were 0 fatal drug overdose cases while in 2018 they reported having 13 fatal drug overdose cases.

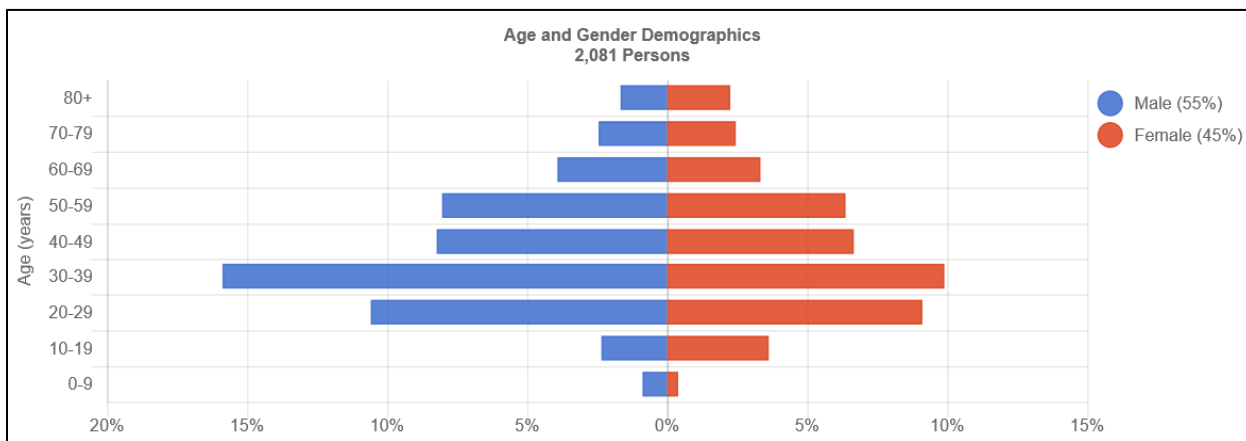


When looking at the 2018 calendar year, November had the most suspected drug overdoses during 2018 with 207 suspected drug overdoses. Month to month there were consistently over 140 suspected drug overdoses in Marion County.



Additionally, Marion County had 13 reported cases of fatal overdoses from any drug in 2018. Although November had the highest number of overdose cases throughout 2018, December had the highest number of fatal overdose cases with 3 fatal overdoses.

Figure 5. Drug-Related Suspected Overdose Cases, by Age and Gender, Marion County, 2018 (EMS, 2019)



Marion County had 2081-suspected overdoses in 2018 from any drug – this represents a rate of 61.68 per 10,000 population. Of all the suspected drug overdoses in 2018, 55% of these suspected drug overdoses were males. For both males and females, the age group of 30-39 years had the greatest number of suspected drug overdoses followed by 20-29-year-old age group. The age groups least affected were 0-9 age group followed by the 80+ age group – though the 0-9 age group had more suspected male overdoses, while the 80+ age group had more females overdosing than males.

Table 3. Total number of drug-related deaths and drug-related deaths per 100,000, including both illicit and prescription drugs, Marion County and Florida, 2010-2017 (amfAR, 2018)

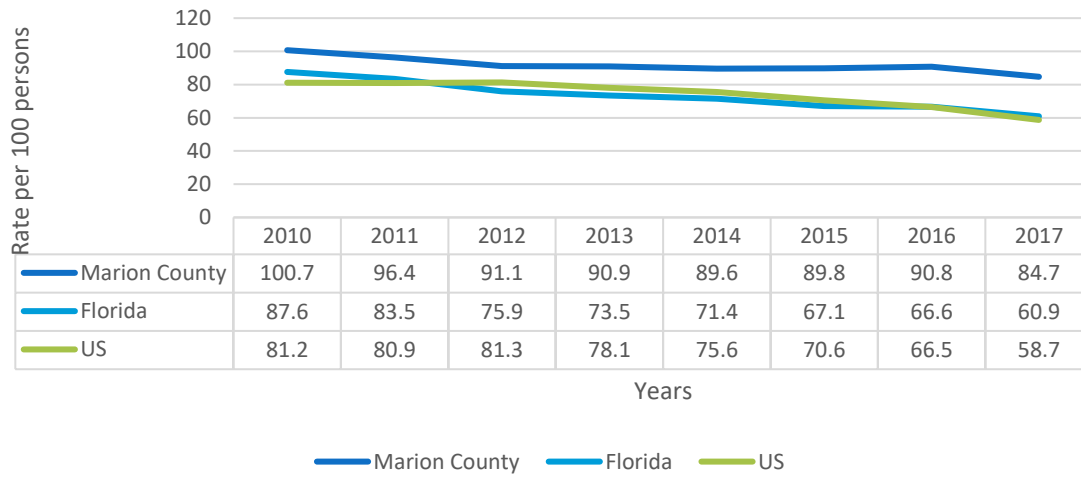
	Marion County		Florida
	Drug-Related Deaths	Drug-Related Deaths per 100,000	Drug-Related Deaths per 100,000
2010	59	17.8	16.3
2011	52	15.6	15.3
2012	51	15.2	13.4
2013	54	16.0	12.7
2014	57	16.8	13.2
2015	51	14.9	15.9
2016	148	42.4	22.9
2017	132	37.3	24.2
8 year Average		22.0	16.7

When analyzing data from the Foundation for AIDS Research (amfAR) Opioid and Health Indicator database, drug-related deaths and death rate were identified for Marion County and Florida. These counts and rates included both prescription and illicit drugs. In 2017, Marion County had 132 drug-related deaths – which represents a drug-related death rate of 37.3 per 100,000 compared to Florida’s rate of 24.2 per 100,000 (amfAR, 2018). Marion County had a higher 8-year average for drug-related deaths per 100,000 (22.0) when compared to Florida (16.7).

PRESCRIPTION RATES FOR OPIOIDS

Prescription rates for opioids are important to monitor because of the highly addictive and fatal consequences that can come about from opioid overdoses. The more opioid prescriptions in the population, creates a riskier and more probably case for opioid misuse disorders and overdoses.

Figure 6. Prescription Opioid Dispensing Rate per 100 Persons, Marion County and Florida, 2010-2017 (CDC, 2018)



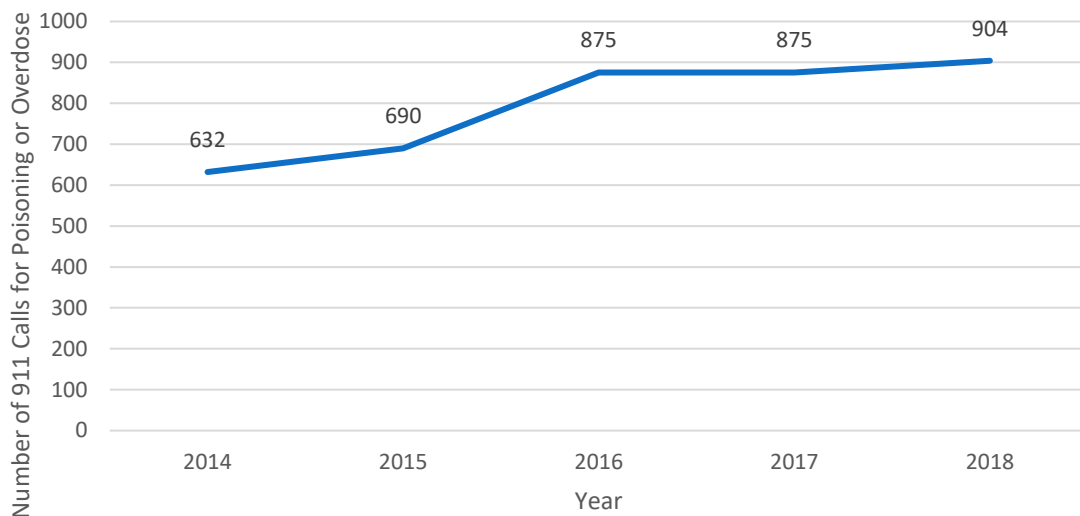
Since 2010, Marion County has a higher rate of prescription opioids per 100 persons than the state of Florida. Marion County had a reduction of 16 opioid prescriptions per 100 people from 2010 to 2017, however the average opioid prescription rate per 100 persons over this time period is significantly higher for Marion County (91.8) than for the state of Florida (73.3).

OPIOID OVERDOSE DATA

EMS DATA

The Marion County Fire Rescue data was used to understand the number of 911 calls that were made for poisoning or overdoses in Marion County.

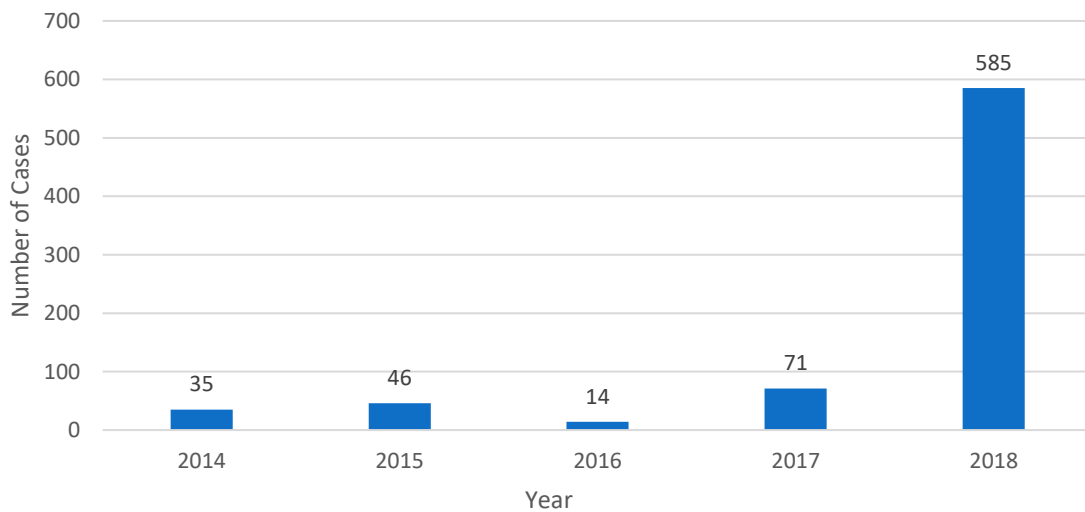
**Figure 7. Number of 911 Calls for Poisoning or Overdose
Marion County Fire Rescue, 2014-2018**



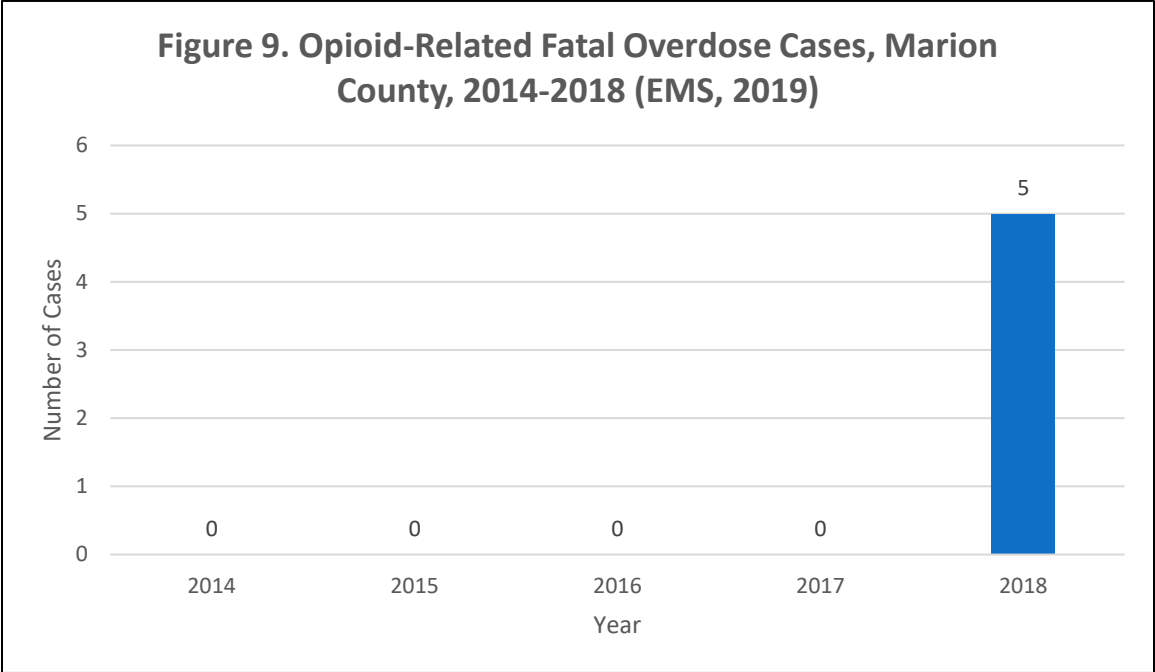
Marion County Fire Rescue had an increase in 911 calls for poisoning or overdose from 632 in 2014 to 904 in 2018, a percent change of 43%. In 2016 and 2017, the number of calls to 911 for poisoning or overdoses remained constant at 875. There was an increase in 991 calls for poisoning or overdose from 875 in 2017 to 904 in 2018, a percent change of 3.3%.

The Emergency Medical Services (EMS) Data Systems was used to identify suspected and fatal overdoses for opioid overdoses. Opioid overdose was defined in this data system based on the Enhanced State Opioid Overdose Surveillance (ESOOS) criteria defined by the state of Florida – this is used to detect incidence involving any drug overdose and involving opioid-related overdoses.

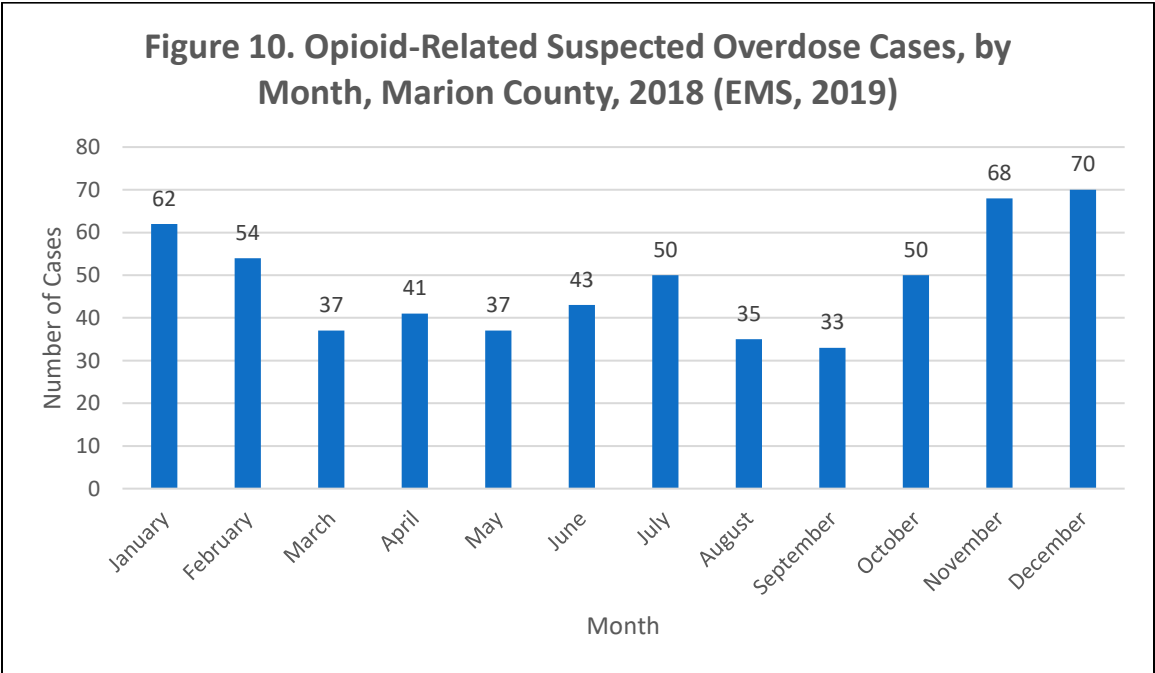
**Figure 8. Opioid-Related Suspected Overdose Cases,
Marion County, 2014-2018 (EMS, 2019)**



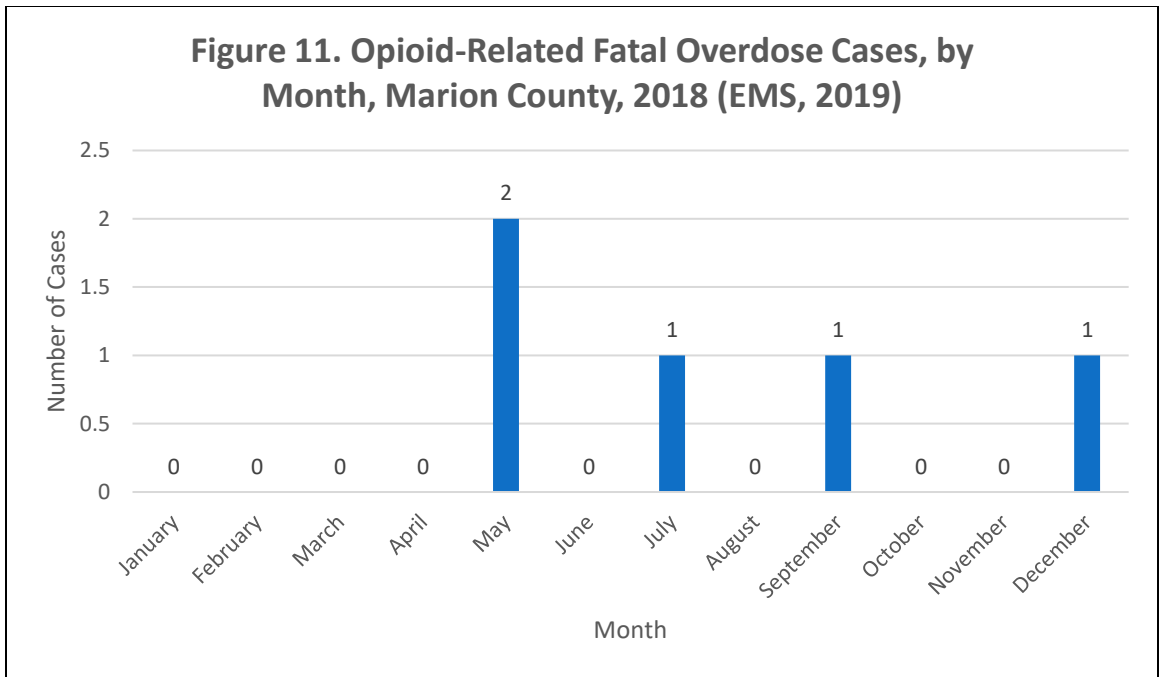
There was a significant increase in the number of suspected opioid overdose cases in Marion County from 71 in 2017 to 585 in 2018 – which represents a percent change of 724%. Though this increase is significant, the reason there was such a dramatic increase is most probably due to improved reporting and categorization on overdoses.



Additionally, in 2017 there were 0 fatal opioid overdose cases compared to 5 fatal opioid overdose cases in 2018.

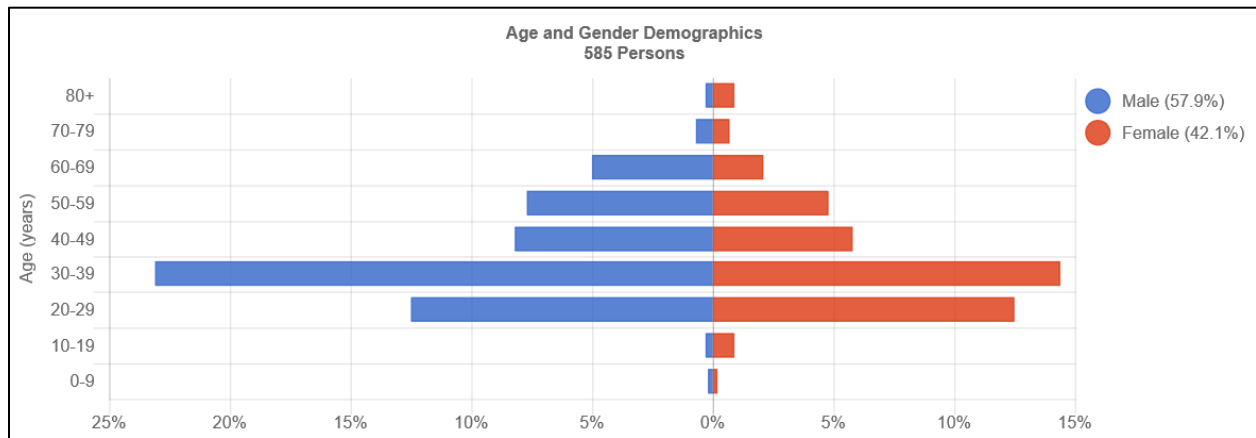


When looking at the 2018 calendar year, December had the most suspected opioid overdoses during 2018 with 70-suspected opioid overdoses. Month to month there were consistently over 30 suspected opioid overdoses in Marion County.



Marion County had 5 reported cases of fatal opioid overdoses in 2018. Although December had the highest number of overdose cases throughout 2018, May had the highest number of fatal opioid overdose cases with 2 fatal opioid overdoses.

Figure 12. Opioid-Related Suspected Overdose Cases, by Age and Gender, Marion County, 2018 (EMS, 2019)



In 2018, Marion County had 585-suspected opioid-related overdoses – this represents a rate of 17.34 per 10,000 population. Of all the suspected opioid-related overdoses in 2018, 57.9% of these suspected overdoses were males. For both males and females, the age group of 30-39 years had the greatest number of suspected opioid-related overdoses followed by 20-29-year-old age group. The age group least affected was 0-9 years old followed by 80+ years old – these two age groups saw more overdoses by females than males.

FLORIDA DRUG-RELATED OUTCOMES SURVEILLANCE AND TRACKING SYSTEM (FROST DATA)

Drugs identified via the Florida Drug-Related Outcomes Surveillance and Tracking System (FROST) to determine Marion County’s drug-caused and drug-related deaths for specified opioids. The definitions used for these drugs is from the “Drugs Identified in Deceased Persons by Florida Medical Examiners” report by the Florida Department of Law Enforcement. The Florida Medical Examiners assessed each death to determine whether the drug(s) identified was the cause of death (caused) or merely present at the time of death (related). It is important to note that each death is a single case, while each time a drug is detected

represents an occurrence; a majority of deaths had more than one drug occurrence. The opioids are categorized and defined as follows:

Prescription

- Buprenorphine: A semi-synthetic opioid known as Buprenex, Suboxone, and Subutex indicated for the treatment of opioid addiction and moderate to severe pain.
- Hydrocodone: a narcotic analgesic (pain killer). Vicodin and Lortab are two common drugs containing hydrocodone.
- Hydromorphone: A narcotic analgesic (pain killer) used to treat moderate to severe pain. Marketed under the trade name Dilaudid, it is two to eight times more potent than morphine. Commonly used by abusers as a substitute for heroin.
- Methadone: A synthetic narcotic analgesic (pain killer) commonly associated with heroin detoxification and maintenance programs and is also prescribed to treat severe pain. It has been increasingly prescribed in place of oxycodone for pain management. Dolophine is one form of methadone.
- Morphine: A narcotic analgesic (pain killer) used to treat moderate to severe pain. MS (Morphine Sulfate), Kadian, and MS-Contin are the tablet forms; Roxanol is the liquid form. Heroin is metabolized to morphine, and thus, occurrences of morphine may represent heroin ingestion rather than morphine ingestion.
- Oxycodone: A narcotic analgesic (pain killer). OxyContin is one form of this drug and goes by the street name "OC." Percocet, Percodan, Roxicet, Tylox, and Roxicodone also contain oxycodone.
- Oxymorphone: A narcotic analgesic (pain killer) that is often prescribed as Opana, Numorphan, and Numorphone.

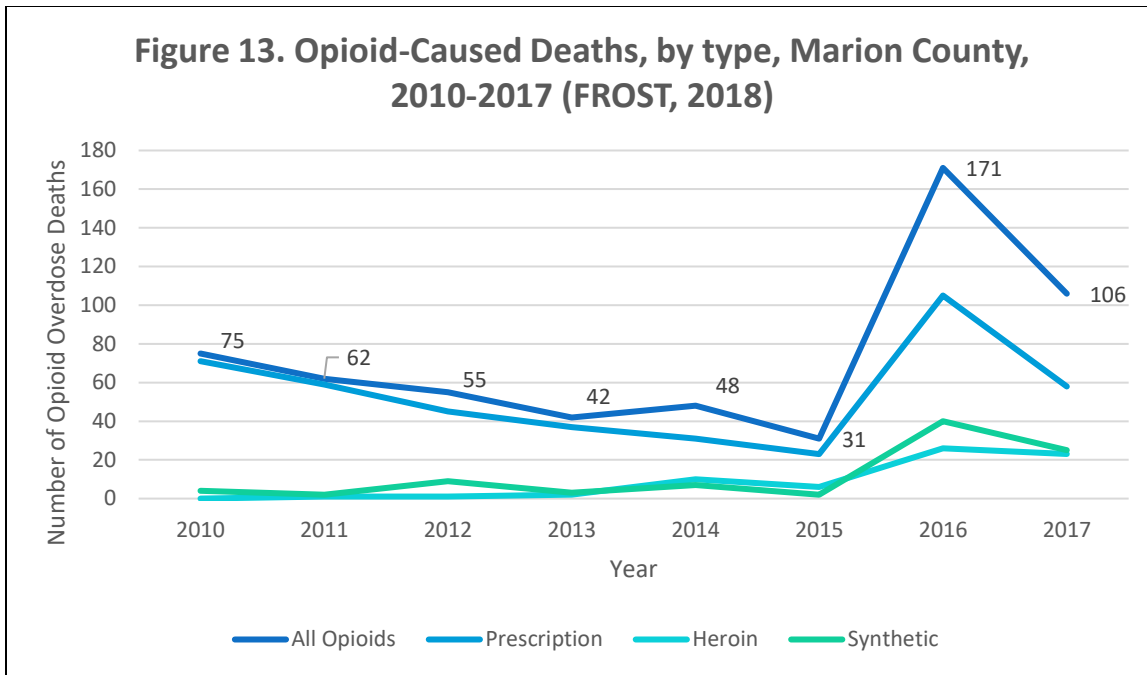
Heroin

- Heroin: An illicit narcotic derivative. It is a semi-synthetic product of opium. Heroin also has multiple street names including "H," "hombre," and "smack."

Synthetic

- Fentanyl: Synthetic opioid analgesic supplied in transdermal patches and also available for oral, nasal, intravenous, and spinal administration. Fentanyl is also produced illicitly and currently most fentanyl occurrences represent the ingestion of illicit fentanyl rather than pharmaceutically manufactured fentanyl.
- Meperidine: A synthetic narcotic analgesic (pain killer) sold under the trade name Demerol. It is used for pre-anesthesia and the relief of moderate to severe pain.
- Tramadol: A synthetic narcotic analgesic sold under the trade name Ultram and Ultracet. Indications include the treatment of moderate to severe pain. It is a chemical analogue to codeine. Not currently a scheduled drug.

Figure 13. Opioid-Caused Deaths, by type, Marion County, 2010-2017 (FROST, 2018)



In 2017, there were 106 opioid-caused deaths in Marion County— which represents a death rate of 29.9 per 100,000 (FROST, 2018). Compared to Florida’s age-adjusted opioid overdose death rate of 16.3 per 100,000.

Figure 12, shows that in 2016 the most overdose deaths from opioids in Marion County was caused by prescription opioids (105 deaths), followed by synthetic opioids (40 deaths), and heroin (26 deaths). Similarly, in 2017 prescription opioids caused the most deaths (58 deaths) followed by synthetic opioids (25 deaths) and heroin (23 deaths). In 2017, prescription opioid deaths accounted for 54.7% of all opioid-caused deaths in Marion County which is slightly lower than the 2016 percentage of 61.4% in opioid-caused deaths. It should also be noted that from 2015 to 2016 the greatest percent increases were seen for all three opioid categories. Prescription opioids saw a 356.5 percent change, heroin saw a 333.3 percent change, and synthetic opioids saw a 1,900% increase during this time period. The drastic increase in synthetic opioids-caused deaths is because they were only 2 synthetic opioid-caused deaths in 2015 and 40 in 2016. This can be attributable to the 3800 percent increase in fentanyl from 1 caused death in 2015 to 39 caused deaths in 2016. Additionally, all the three categories saw a decrease in opioid caused deaths between 2016 and 2017. Prescription opioids had a percent change of 44.8%, synthetic opioids had a percent change of 11.5%, and heroin had a percent change of 37.5% for the respective time period.

Table 4. Opioid-caused death rate per 100,000, by opiate category and drug name, Marion County and Florida, 2017 (FROST, 2018)

Opiate Category	Drug Name	2017 Rate	
		Marion County	Florida
Prescription	Buprenorphine	0.00*	NA**
	Hydrocodone	1.69*	1.077
	Hydromorphone	0.85*	0.834
	Methadone	1.98*	1.177
	Morphine	7.62	6.124
	Oxycodone	3.95*	2.907
	Oxymorphone	0.28*	NA**
Heroin	Heroin	6.49	4.499
Synthetic	Fentanyl	5.93	8.306
	Meperidine	0.00*	NA**
	Tramadol	1.13*	0.486

*Indicated that there are less than 20 incidents and therefore the rate may be unreliable

**NA indicates that there was no data present for the selected drug

In 2017, Marion County had a higher opioid-caused death rate than Florida for morphine, hydrocodone, hydromorphone, methadone, oxycodone, heroin and tramadol. Fentanyl was the only opioid that Marion County had a lower drug-caused death rate than Florida for only fentanyl.

Table 5. Opioid-caused death counts and rate per 100,000, by opiate category, Marion County 2010-2017 (FROST, 2018)

Opiate Category	Drug Name	Year							
		2010	2011	2012	2013	2014	2015	2016	2017
Prescription	Buprenorphine**	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.30)	1 (0.29)	7 (2.01)	0 (0.00)
	Hydrocodone	11 (3.32)	7 (2.11)	10 (2.99)	4 (1.19)	5 (1.48)	3 (0.88)	12 (3.45)	6 (1.69)
	Hydromorphone	1 (0.30)	2 (0.60)	1 (0.30)	5 (1.49)	0 (0.00)	3 (0.88)	5 (1.44)	3 (0.85)
	Methadone***	22 (6.64)	20 (6.02)	16 (4.79)	10 (2.98)	8 (2.36)	3 (0.88)	18 (5.17)	7 (1.98)
	Morphine	6 (1.81)	7 (2.11)	9 (2.69)	8 (2.39)	10 (2.96)	6 (1.75)	40 (11.49)	27 (7.62)
	Oxycodone	30 (9.05)	20 (6.02)	9 (2.69)	10 (2.98)	7 (2.07)	6 (1.75)	19 (5.46)	14 (3.95)
	Oxymorphone	1 (0.30)	3 (0.90)	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.29)	4 (1.15)	1 (0.28)
Heroin	Heroin	0 (0.00)	1 (0.30)	1 (0.30)	2 (0.60)	10 (2.96)	6 (1.75)	26 (7.47)	23 (6.49)
Synthetic	Fentanyl	1 (0.30)	2 (0.60)	3 (0.90)	1 (0.30)	6 (1.77)	1 (0.29)	39 (11.20)	21 (5.93)
	Meperidine	0 (0.00)	0 (0.00)	1 (0.30)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
	Tramadol	3 (0.91)	0 (0.00)	5 (1.50)	2 (0.60)	1 (0.30)	1 (0.30)	1 (0.29)	4 (1.13)
Year Total		75	62	55	42	48	31	171	106
(Average year rate)		2.78	2.37	2.06	1.46	1.77	0.91	5.27	3.29

NOTE: Though drugs may be prescription drugs, they may have been obtained illegally without a prescription. There is no way to determine if drugs that caused death were obtained through prescription or by illegal means. Additionally, low counts can create large changes in rates.

*Rates are unreliable when the death count is less than 20.

**Buprenorphine is a semi-synthetic opioid. It is used for MAT to help reduce or quit heroin or other opiates.

***Although methadone is synthetic, it is recognized as a prescription drug.

Table 5, shows that in Marion County the number of opioid-caused deaths sharply increased from 31 deaths in 2015 to 171 deaths in 2016, by a percent change of 451.6%. However, 2017 saw a decrease in opioid-caused deaths to 106, which represents a percent decrease of 38%. Morphine caused the most deaths among other opioid drugs in both 2016 and 2017 (40 and 27 opioid-caused deaths, respectively). Fentanyl caused the second most opioid caused deaths 2016 (39 opioid-caused deaths) and the third most opioid-caused deaths in 2017 (21 opioid-caused deaths). Additionally, Heroin caused the third most opioid-caused deaths in

2016 (26 opioid-caused deaths) and the second most opioid-caused deaths in 2017 (23 opioid-caused deaths). All opioids analyzed saw an increase in the amount of opioid-caused deaths from 2015 to 2016, except for Tramadol and Meperidine.

Table 6. Opioid-related death counts and (opioid-related death rate per 100,000), by opiate category, Marion County, 2010-2017 (FROST,2018)

Opiate Category	Drug Name	Year							
		2010	2011	2012	2013	2014	2015	2016	2017
Prescription	Buprenorphine	0 (0.00)	1 (0.30)	1 (0.30)	2 (0.60)	1 (0.30)	3 (0.88)	7 (2.01)	4 (1.13)
	Hydrocodone	27 (8.15)	12 (3.61)	18 (5.39)	17 (5.07)	9 (2.66)	8 (2.33)	20 (5.74)	19 (5.36)
	Hydromorphone	3 (0.91)	4 (1.20)	9 (2.69)	8 (2.39)	9 (2.66)	6 (1.75)	16 (4.60)	10 (2.82)
	Methadone	27 (8.15)	24 (7.22)	21 (6.29)	18 (5.37)	12 (3.55)	10 (2.92)	29 (8.33)	16 (4.52)
	Morphine	9 (2.72)	12 (3.61)	16 (4.79)	14 (4.18)	18 (5.32)	18 (5.25)	71 (20.39)	46 (12.98)
	Oxycodone	46 (13.88)	40 (12.04)	21 (6.29)	19 (5.67)	17 (5.02)	13 (3.79)	37 (10.63)	39 (11.01)
	Oxymorphone	3 (0.91)	6 (1.81)	3 (0.90)	1 (0.30)	2 (0.59)	3 (0.88)	13 (3.73)	12 (3.39)
Heroin	Heroin	0 (0.00)	1 (0.3)	1 (0.3)	2 (0.6)	11 (3.25)	6 (1.75)	27 (7.76)	24 (6.77)
Synthetic	Fentanyl	2 (0.6)	5 (1.5)	5 (1.5)	4 (1.19)	9 (2.66)	4 (1.17)	45 (12.93)	30 (8.47)
	Meperidine	0 (0.00)	0 (0.00)	1 (0.30)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
	Tramadol	10 (3.02)	5 (1.50)	10 (2.99)	9 (2.68)	8 (2.36)	5 (1.46)	15 (4.31)	9 (2.54)
Year Total		127	110	106	94	96	76	280	209

NOTE: Though drugs may be prescription drugs, they may have been obtained illegally without a prescription. There is no way to determine if drugs that caused death were obtained through prescription or by illegal means. Additionally, low counts can create large changes in rates

*Rates are unreliable when the death count is less than 20.

Similar to drug-caused deaths, morphine ranked first for drug-related deaths 2014 through 2017, with 46 drug-related deaths by morphine in 2017. There was an increase of drug-related deaths from 76 deaths in 2015 to 280 deaths in 2016, a percent increase of 268.4%. However, there was a decrease in drug-related deaths from 280 in 2016 to 209 in 2017, which represents a percent change of 25.4%.

In 2017, opioids killed more than 47,000 people in the United States which is more than any year on record (CDC, 2017c). The CDC reports that overdose deaths involving opioids are six times higher than they were in 1999 (CDC, 2017b). In the United States, there are on average 130 Americans who die every day from an opioid overdose. It is estimated that 65% of drug overdose deaths involved an opioid in 2017 and 40% of all opioid overdose deaths involve a prescription opioid. Opioids such as fentanyl, heroin, morphine, oxycodone, hydrocodone, and methadone were among the top 10 drugs that caused overdose deaths between 1999 to 2016 (NVSS, 2018 and CDC, 2017). Fentanyl has become the top drug found in overdose deaths in the US since 2016 replacing heroin which was the top drug found in overdose deaths from 2012 to 2015. As of 2016, Fentanyl accounted for 28.8% of deaths involved in drug overdoses in the US, followed by Heroin which was responsible for 25.1% (NVSS, 2018).

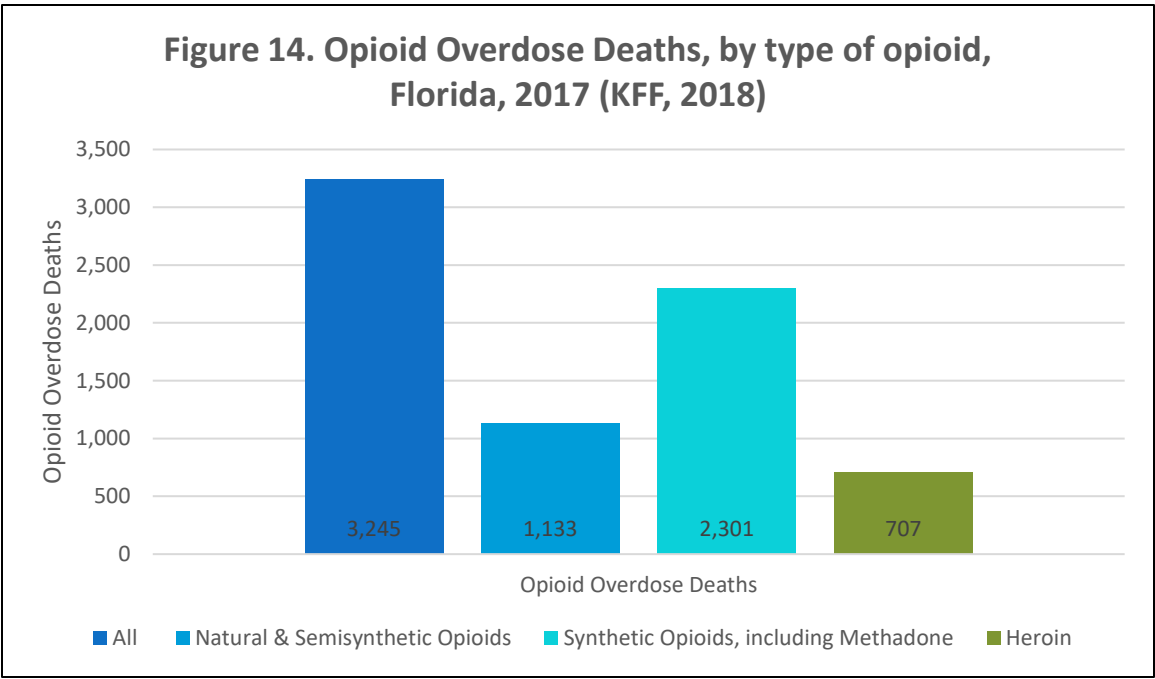
In 2017, Florida had the third highest number of individuals that died from a drug overdose death in the country behind Pennsylvania (5,388) and Ohio (5,111). In 2017, there were 3,245 opioid overdose deaths in Florida – an age-adjusted rate of 16.3 deaths per 100,000 population – compared to the national opioid age-adjusted death rate of 14.9 deaths per 100,000 population (KFF, 2018).

Henry J Kaiser Family Foundation (KFF) uses different categorization for type of opioid. These are:

- **Natural and Semisynthetic Opioids:** A category of prescription opioids that includes natural opioid analgesics (e.g. morphine and codeine) and semi-synthetic opioid analgesics (e.g. drugs such as oxycodone, hydrocodone, hydromorphone, and oxymorphone).
- **Synthetic Opioids, other than Methadone:** A category of opioids including drugs such as tramadol and fentanyl. Synthetic opioids are commonly available by prescription. Fentanyl is legally made as a pharmaceutical drug to treat pain, or illegally made as a non-prescription drug and is increasingly used to intensify the effects (or "high") of other drugs, such as heroin.
- **Methadone:** a synthetic opioid prescribed to treat moderate to severe pain or reduce withdrawal symptoms in people addicted to heroin or other narcotic drugs.
- **Heroin:** an illicit (illegally-made) opioid synthesized from morphine.

Although the Henry J. Kaiser Family Foundation (KFF) categorized opioids in four categories as mentioned above, in order to make Florida data comparable to data analyzed for Marion County and data provided by the Centers for Disease Control and Prevention (CDC), methadone was included in the synthetic opioid category. Additionally, it is worth noting that the category of 'natural and semisynthetic opioids' can be considered the same category as prescription opioids. This is because all the drugs that KFF identified as natural or semisynthetic are drugs that are prescribed to patients.

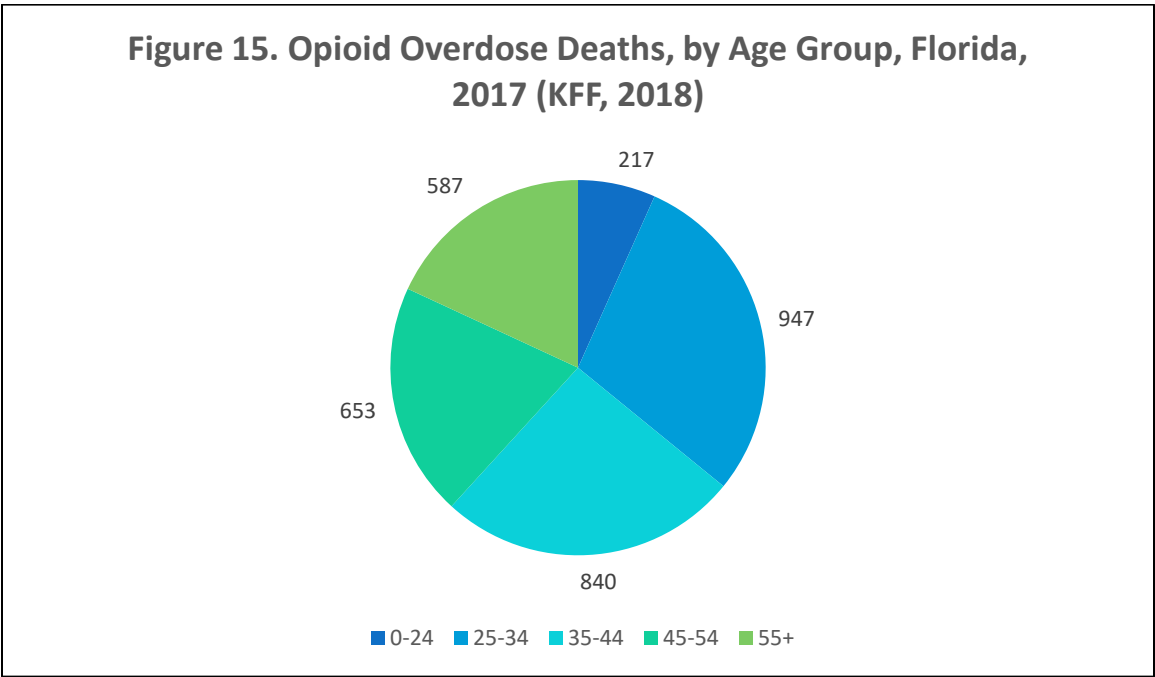
Figure 14. Opioid Overdose Deaths, by type of opioid, Florida, 2017 (KFF, 2018)



*deaths might involve more than one drug, and thus categories are not exclusive. Deaths due to multiple types of opioids are reported in every applicable category.

In 2017, there were 3245 opioid overdose deaths in Florida. The most overdose deaths involved synthetic opioids, including methadone which accounted for 2,301 deaths, followed by natural & synthetic opioids accounting for 1,133 deaths, and then heroin (707 deaths). In Florida, 64% of all drug overdose deaths were caused by opioid overdoses (KFF, 2018).

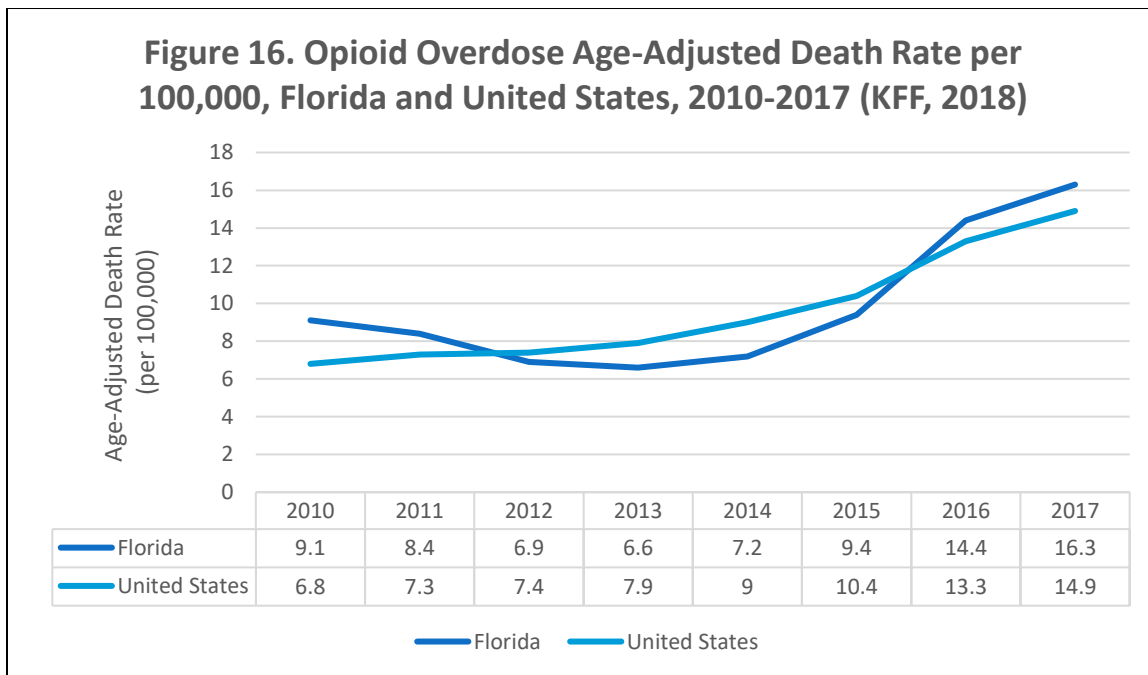
Figure 15. Opioid Overdose Deaths, by Age Group, Florida, 2017 (KFF, 2018)



In 2017, the majority of opioid overdose deaths in Florida was in the 25-34-year age group which accounted for 29.2% of deaths. Individuals aged 35-44 years old accounted for 25.9% of opioid overdose deaths, while individuals 45-54 years old accounted for 20.1% and individuals aged 55 or older accounted for 18.0%. Individuals 0-24 had the lowest percentage of opioid overdose deaths in Florida (6.7%). In Florida, opioid overdose deaths occurred most in the age group of 25-34 years which accounted for 29% of all opioid overdose deaths in Florida (946 opioid overdose deaths). Each consecutive age group above 25-34 years resulted in less opioid overdose deaths in Florida, however the 0-24 years age group resulted in the least number of opioid overdose deaths when compared to all other age group categories.

Table 7. Opioid Overdose Age-Adjusted Death Rate per 100,000, Florida and US, 2010-2017 (KFF, 2018)

Year	Florida	United States
2010	9.1	6.8
2011	8.4	7.3
2012	6.9	7.4
2013	6.6	7.9
2014	7.2	9.0
2015	9.4	10.4
2016	14.4	13.3
2017	16.3	14.9



Florida has had a higher opioid overdose age-adjusted death rate than the United States since 2016. Florida’s opioid overdose age-adjusted death rate has been increasing from 2013 to 2017, this increase represents a 147% increase in opioid overdose deaths during this period of time. There was a 53% increase in the opioid overdose death rate from 2015 to 2016 and a 13% increase from 2016 to 2017 in Florida (KFF, 2018).

Florida legislature have also started to take a significant role in reducing the spread of this epidemic by passing the Controlled Substances Bill (House Bill 21) which became active in July 1st 2018 and Florida Statutes 401.253 (Reporting of controlled substance overdoses). The state of Florida has also filed lawsuits against opioid manufacturers and distributors for misinformation about their drugs, downplaying the addictive nature of their drugs, and by enticing practitioners to prescribe more opioids (Ochoa, 2018; Sullivan, 2018). House Bill 21 which had a unanimous passing in both the Florida Senate and the Florida House of Representatives took effect July 1st 2018 (House Bill 21, 2018).

House Bill 21 is robust and amends sections of law to increase the regulation, training, and reporting required when controlled substances are prescribed and dispensed. A few of the main provisions of the law are:

- Limit acute pain opioid prescription to three-day supply, and when deemed medically necessary a seven-day supply
- Prescribing practitioners have to complete a 2-hour training course before licensure renewal – which came into effect the January 31st 2019
- Update the Florida Prescription Drug Monitoring Program (PDMP) so practitioners have to check before prescribing or dispensing drugs – this ensures that individuals are not able to get prescriptions from multiple practitioners for the same medical issue in essence reducing the amount of unnecessary and dangerous prescriptions and individual can attain
- Requiring a prescriber to co-prescribe an opioid antagonist when prescribing controlled substances for serious traumatic injury
- Increases the penalty to a 2nd degree felony for patient or health care practitioner who knowingly obtains or provides controlled substances that are not medically necessary
- Provides approximately 50 million dollars for funding and federal grants

Florida Statutes 401.253 was a law put into place in order to collect more accurate data on substance overdoses in the state of Florida (Florida Statutes, n.d.). Accuracy of opioid data collection is important to inform public health professionals, emergency responders, medical professionals and other stakeholders of the intensity of the opioid problem within. It accomplishes this by:

- Creating a system where all overdose incidents must be reported using the Emergency Medical Service Tracking and Reporting System or other appropriate secure methods
- Requiring overdose incidence data to be reported Florida Department of Health (FDOH) within 120 hours after the incident
- Requiring that data collected by the FDOH shall be made available within 120 hours to law enforcement, public health, fire rescue, and emergency medical service agencies in each county
- Ensuring that important information on the overdose incident should be recorded such as date and time, approximate address of overdose, gender, age, whether an opioid antagonist (Narcan or Envizio) was used or not, etc.
- Requiring that the FDOH shall produce quarterly reports to the Statewide Drug Policy Advisory Council, the Department of Children and Families, and the Florida FUSION Center summarizing the raw data received pursuant to this section, and these reports must be made available to the county-level agencies mentioned above

Marion County is taking proactive initiatives in order to reduce opioid use and opioid-related overdoses.

In May 2017, Marion County launched *The Heroin/Opioid Task Force* as their means to curb the opioid crisis. This task force stems from The Community Council Against Substance Abuse (CCASA) which is sponsored by the Marion County Children's Alliance. The task force's meetings are held quarterly while subcommittee meetings are held monthly. Some activities of this task force have been to:

- Create four subcommittees that bring together stakeholders in the community required for success and to strengthen stakeholder commitment to fighting this epidemic. (Education/Prevention, Law Enforcement, Healthcare, & Treatment). The four subcommittees and their objectives are:
 - Education/Prevention: to bring community awareness to the signs and symptoms of opioid use, opioid overdose signs and symptoms, current data on overdose deaths, and prevention resources.
 - Law Enforcement: to reduce the illicit supply of opioids, divert from the criminal justice system, and supported medicated assisted treatment (MAT) in the Marion County Jail.
 - Healthcare: to work with local hospitals and medical society on opioid prescribing protocols
 - Treatment: to increase availability of medication-assisted treatment (MAT) options and detox beds,
- Start a Heroin/Opioid Amnesty Program by the Ocala Police Department (OPD) at the beginning of 2018 aimed at increasing treatment, decreasing criminalization and increasing the availability of opioid reversing drugs to these individuals. This program allows any citizen to either call the OPD, approach an officer or agency member, or walk into the OPD lobby and ask for assistance in receiving treatment for the addiction. The OPD says they will take custody of their drugs and paraphernalia without filing any criminal charges, and this guarantees them treatment with established partners in the region (The Centers and Perspectives). An OPD officer will even transport them immediately to begin the treatment process. Although this amnesty program does not work for citizens who come into contact with OPD officers without first asking for help. As of February 2019, there have been 58 individuals who have used the Amnesty program according to the OPD. The OPD has also obtained the first ever indictment in Ocala of a heroin and fentanyl dealer in April 2018, who has been charged with murder in the 1st degree in connection with an overdose death of one of his customers. Chief of the OPD, Greg Graham, stated that the OPD is obtaining evidence to connect dealers with victims and that it is the OPD's imperative to also create a drug case against the dealer in the case that the murder charges fail.
- To increase the availability of medication-assisted treatment (MAT) and opioid reversing drugs in Marion County. MAT is currently available at 5 facilities in Marion County. MAT which is the recommended treatment for opioid misuse disorder and addiction uses specific medications to relieve withdrawal symptoms and psychological cravings in persons suffering from opioid misuse disorder (SAMHSA, 2018). Additionally, The Centers in Marion County is providing Naloxone (Narcan) free to families, churches, businesses and anyone that may come into contact with opioid overdose victims.
- To introduce a Navigator position that is funded by the Marion County Hospital District in order to assist willing individuals with opioid misuse find treatment programs. The Navigator's purpose is to serve individuals suffering from opioid misuse – individuals who have been released from hospital emergency rooms after overdosing, individuals leaving or changing treatment facilities, individuals that are being released from prison with a history of opioid misuse or are connected to the Marion County Drug Court, and individuals who are referred to by the community at large - by promoting addiction recovery. This position is important as the days and weeks immediately after an overdose, being released from an institution (prison, hospital, treatment program) or if individuals are stopping or transferring MAT programs constitutes a zone of heightened risk for re-initiation of risky drug use and death. As of February 2019, the Navigator has served approximately 350 individuals since inception of the position in February 2018.

Marion County has hosted the Ocala Recovery Fest since 2017. The 3rd annual Ocala Recovery Fest will occur on Saturday 14th of September, 2019. This festival was created to celebrate recovery and increase awareness for those struggling with mental or substance use disorders. The 2018 recovery festival had over 600 participants, and they hope to see this number increase for the 2019 festival.

They are also other initiatives taking place in Marion County via the Community Council Against Substance Abuse (CCASA) that are promoting the message of not needing drugs to have fun, education on drugs, drug laws, driving drugged and mental health campaigns (as seen below). The CCASA's goal is working to reduce the impact of alcohol, marijuana, and other drugs on our youth using the following interventions:

- **Natural High** – Natural high promotes the message that most teens do not need to get artificially high to have a good time. In addition, it helps youth discover, amplify, and pursue their own natural highs i.e. sports, music, poetry so that they have a reason to say no to an artificial high
- **Friday Night Done Right. No Alcohol. No Dope** – This campaign promotes the message that teens do not need to drink and use drugs in order to have a good time on a Friday Night
- **Students Against Destructive Decisions (SADD)** – SADD Clubs are peer leadership organizations in middle and high schools dedicated to preventing destructive decisions, particularly underage drinking, other drug use, impaired driving, teen violence and suicide
- **Red Ribbon Week** – A national effort where schools and organizations raise awareness in the community about drug abuse; October 23rd-31st
- **Know the Law** – An educational program on alcohol and other drug laws, i.e. breaking the law, rules, regulations, etc.
- **No One's House** – A parent-to-parent campaign that works to reduce the number of parents in a community who are providing teens with alcohol and/or allowing teens to drink in their homes
- **Parents Who Host, Lose the Most** – A public awareness program educating communities and parents about the risks of serving alcohol at teen parties
- **Drive for Life** – A student-led program at North Marion High School focusing on educating students about the 3 D's of driving (distracted, drugged and drunk)
- **You're Not Alone** – A campaign aimed at reducing the number of teens who are untreated for mental health issues, reducing the stigma attached to mental health, and providing skill building tools for teens to help them manage stress and build confidence
- **Adult and Youth Mental Health First Aid Classes** – Just as CPR helps you assist an individual having a heart attack, Mental Health First Aid helps you assist someone experiencing a mental health or substance use-related crisis. For more information, visit www.mebtalhealthfirstaid.org
- The Ocala Police Department also continues to offer **Drug Abuse Resistance Awareness (DARE)** training aimed at youth. This program however has been shown to be ineffective in reducing drug use.

There are several detox facilities and halfway houses available for treatment or reintegration into society.

The Centers which is a full-service treatment center providing mental health and addiction services for all ages, at every level of care in Marion County has been at the forefront of helping to address the opioid problem. In early 2019, they were able to expand the number of detox beds in their facility from six (6) to fifteen (15). The medical detox unit is staffed with nurses, counselors, a physician and behavioral health technicians for a holistic approach to detox. The Centers also host "Nar-Anon" which is a family support group aimed at providing education and support to family members dealing with addiction. The Centers also aims to open a male-only sober living home in April 2019 that will accommodate 10-12 sober living beds.

Halo's Houses of Hope formally known as Grace Place is a non-profit organization women's clean and sober living facility. They offer sober living for up to twenty (20) women at a time. They pride themselves in being a clean and safe sober living environment for women coming out of institutions wanting to return to productive lives.

Table 8. Table of Detox Centers and Halfway Houses in Marion County

Name	Website	Address
Detox Centers		
The Centers	www.thecenters.us	5664 SW 60 th Avenue Ocala, FL 34474
The Vines Hospital	www.thevineshospital.com	3130 SW 227 th Avenue Ocala, FL 34471
Drug & Rehabilitation Facility	www.drugrehablesburg	10601 US 441 Leesburg, FL 34788
Guest House Ocala, Inc.,	www.theguesthouseocala.com	3230 NE 55 th Avenue Silver Springs, FL 34489
Life Stream Behavioral Center	www.lsbc.net	2020 Tally Road Leesburg, FL 34748
Meridian Behavioral Healthcare, Inc.	www.mbhci.org	4300 SW 13 th Street Gainesville, FL 32608
Metro Treatment of Florida	www.methadonecenters.com/methadone-centers/quad-county-treatment-center-2/	216 NE First Avenue Ocala, FL 34470
Perspectives II	www.perspectives2.com	818 E Silver Springs Blvd. Ocala, FL 34470
Regional General Hospital	www.regionalgeneral.com	125 SW 7 th Street Williston, FL 32696
SID Martin Bridge House	www.mbhci.org/treatment-and-service/rehabilitation-services/sid-martin-bridgehouse/	4300 SW 13 th Street Gainesville, FL 32608
UF Health Florida Recovery Center	www.ufhealth.org	4001 SW 13 th Street Gainesville, FL 32608
Halfway Houses		
Halo’s Houses of Hope (Females only)		605 NE 20 th Street Ocala, FL 34470
Perspectives Sober Living in Ocala and Gainesville	www.perspectives2.com	818 E Silver Springs Blvd. Ocala, FL 34470
Recovery House	www.recoveryhouseinc.org	243 NW 4 th Terrace Ocala, FL 34475
Unity Place	www.unityocala.org	5225 NE Sanchez Avenue Ocala, FL 34470

ADDITIONAL CONSIDERATIONS (RELATED TO THE OPIOID CRISIS)

Opioids have far reaching consequences beyond the amount of deaths from overdoses. In 2017, the estimated cost burden for the opioid crisis in the US reached an estimated \$115 billion – this includes individual and private sector cost as well as local, state and federal government costs (Rhyan, 2018). The opioid crisis bears cost in the form of lost wages to the individuals and families as well as cost associated with treatment for opioid substance use disorder, lost in productivity in the private sector, increased health care costs, additional spending on social services, education, criminal justice and lost tax revenue at the local, state, and federal levels.

Opioids affect not only the families of those who die from overdoses, but also impact the economy and community that these individuals live in. To have the most impactful change to this crisis, it must be an imperative of the community at large to be part of a comprehensive solution.

Alan Krueger, Director of Princeton University Survey Research Center, said that the increase in prescription opioids from 1999-2015 could account for about a 20% decline in the men workforce during this time period (Krueger, 2017). The CDC reported that the economic burden of prescription opioid abuse in the United States at around \$80 billion a year. These costs come from the sum of healthcare, treatment, lost productivity and incarceration costs that are linked to opioid misuse and addiction (Krueger, 2017).

NEONATAL ABSTINENCE SYNDROME

The opioid crisis has led to a 383% increased incidence in neonatal abstinence syndrome (NAS) in 28 states including Florida during 2000-2012 which is a postnatal drug withdrawal syndrome in newborn babies that is primarily caused by in utero exposure to opioids through the mother (Ko, 2016). In Florida, the incidence of NAS has increased from 0.4 per 1,000 births in 1999 to 6.3 per 1,000 in 2013 – a greater than fifteen-fold increase (Ko, 2016). According to the Marion County Heroin-Opioid Task Force, there were 64 NAS substance born newborns in 2018.

NAS has many consequences to newborn babies including central nervous system irritability (seizures, tremors, high pitched crying), gastrointestinal dysfunction (feeding difficulties), and temperature instability. According to the Department of Health and Human Services (HHS), opioids have also been linked to an increase in the number of children and babies entering the foster care system. Florida was among the top 5 states with the largest increase in children entering the foster care system from 2013-2015. There have been 273,539 children entering into foster care in 2016 in the US with 92,107 (34%) of those cases associated with drug/substance abuse by the parent (AFCARS, 2017).

RECOMMENDATIONS/CONCLUSIONS

Marion County and Florida have taken initiative in order to decrease the impact the opioid epidemic within the county and state through various means as mentioned above. There is still much that can be done in order to foster a more robust response to this epidemic. Some recommendations are:

EVIDENCE-BASED RECOMMENDATIONS (CARROLL, GREEN, & NOONAN, 2018)

EXPAND NALOXONE (NARCAN) DISTRIBUTION

Naloxone (Narcan) distribution is one of the methods that Marion County has already initiated. It is recommended that the number of individuals in Marion County receiving naloxone be increased by increasing the number of distribution points throughout the county. This will ensure that more high-risk individuals are able to access naloxone that can either be used by someone on themselves or be used on another individual experiencing an overdose. In a nationwide study of the US, it was shown that more than 80% of overdose reversals with naloxone were carried out by individuals who also use drugs. Strategic areas need to be selected to have training and distribution of naloxone for the populations that need it the most

CREATE NALOXONE DISTRIBUTION IN PRISONS AND EDUCATION PROGRAMS IN PRISONS

Individuals who are incarcerated are at an increased risk of overdose especially when initially released from a criminal justice institution. This is because the individual's opioid tolerance is low on re-initiating into society and individuals are twenty-five times more likely to overdose in their first weeks after incarceration. This provides criminal justice institutions a unique opportunity to equip this high-risk population with the education and training on opioid misuse disorder, spotting the signs of overdose, how to administer naloxone to an overdosing individual. This strategy will be most beneficial if training is provided in a manner that avoids negative judgement about drug use and focuses on the importance of every person's safety and well-being. This program should also be universal in that all individuals incarcerated are taught these skills before release and are provided naloxone kits upon release. The effectiveness of this program can be increased if family members and friends of incarcerated individuals are also offered a means to get educated and trained about opioid overdose and misuse.

MEDICATION ASSISTED TREATMENT AS THE STANDARD OF CARE IN CRIMINAL JUSTICE SETTING AND UPON RELEASE

Incarcerated individuals with a history of opioid use disorder should have medication assisted treatment (MAT) available to them while incarceration. This would ensure that individuals who were receiving treatment before being incarcerated can have uninterrupted care and MAT can be initiated while incarcerated to individuals that need it. MAT has been shown to lower rates of illicit drug use, lower risk of overdose, and increase engaging with essential healthcare services. By providing MAT in jails and prisons, it enables healthcare in correctional facilities and strengthens the chances that an incarcerated individual will engage in care in the future while also reducing the likelihood of relapse and risky opioid use after release. It will also be imperative that incarcerated individuals on MAT should be linked to care upon release from incarceration – If not, then recently released individuals will be at an increased risk for enduring opioid withdrawal and a more likely to find sources of opioids to cope with these withdrawal symptoms.

CREATE FREE SYRINGE SERVICES PROGRAM

Syringe Services programs are an essential component for overdose prevention strategies. This is because they provide tools for the prevention and reversal of opioid overdoses. Some of these tools are naloxone distribution, fentanyl testing strips, education about overdose and safer injection practices, as well as referral and access to drug treatment programs including MAT.

Drug using individuals are more likely to participate in syringe services programs as they provide a non-judgmental environment in which they are able to build supportive and trusting relationships while also re-enforcing feelings of self-worth, empowerment, and control. Individuals who participate in syringe services programs are more likely to seek treatment for substance

use disorder. Additionally, staff are able to help participants connect and link services for medical care, mental health, substance abuse treatment, naloxone/narcan access and education, social services and other services deemed necessary. It should be noted that syringe service programs are more effective at maximizing service coverage and preventing disease when distribution limits are high; this also allows for participants to share new needles with persons who have not attended the program themselves which also increases the effectiveness of the program.

House Bill 171, The Infectious Disease Elimination Act (IDEA) was filed January 4, 2019. This bill allows for the hospitals, medical schools, substance abuse treatment centers and nonprofits to operate needle exchange programs. This bill aims to expand the number of needle exchange programs in Florida after much success from the Miami-Dade County program which is currently the only needle exchange program in Florida. Counties will have to opt in to start their own programs which are funded by local dollars and no state money. This would be an ideal step for Marion County to take as many of the drug users here lack clean needles which creates an unsafe and unhealthy environment where disease is spread more rapidly and emergency departments are used for dirty-needle related causes. Creating this program in Marion County will allow for more individuals to get the education and services they need since an issue in Marion County is that the highest risk group for overdoses don't know the signs and symptoms of opioid overdoses and don't have any opioid reversal drugs such as narcan.

SCREENING FOR FENTANYL IN ROUTINE CLINICAL TOXICOLOGY TESTING

When a routine screening for fentanyl is done whether in a hospital, clinic or treatment center, it is important that fentanyl be routinely tested since it is often difficult to near-impossible to be identified prior to consumption. By having more individuals be screened for fentanyl, it allows healthcare and public health professionals to be aware of fentanyl-exposed individuals and fentanyl-contaminated drug supplies.

The knowledge of fentanyl presence in a community allows for healthcare and public health professionals to be aware of fentanyl exposure in a population and are able to increase efforts aimed at harm reduction, risk reduction, and opioid overdose prevention – which increases the protection and safety of community members and drug-users. In order for this to be maximally effective, there must be a means to share and disseminate the fentanyl screen information in order to illicit the most effective response. Including fentanyl in routine testing is important since frequently individuals are unaware that they have been exposed to fentanyl which poses a high-risk because it is factors stronger than morphine. Additionally, by having this information it will provide healthcare professionals, public health professionals as well as first responders with information to intervene amongst individuals who are consuming fentanyl – intentionally and unintentionally - and reduce the risk of overdose to those individuals.

OTHER RECOMMENDATIONS

CREATE PROGRAMS EDUCATION AND AWARENESS PROGRAMS

Programs specific to opioids should be introduced into schools, areas of work related to opioids and available to the public for free. By teaching individuals how to recognize overdoses, how to help individuals during overdoses, and how to support individuals who are seeking treatment, this allows for an inclusive approach where most of Marion County residents will have the knowledge on how they can make an impactful change or even save someone's life. It should also be noted that patients who are getting prescribed opioids should be given extensive information about the risk of opioid use, misuse, and addiction as part of their continuum of care with their health care professional.

INCREASE MEDICAL MARIJUANA PRESCRIPTION

Medical marijuana has shown much promise in use for acute pain, chronic pain, and has been shown to reduce population-wide opioid overdose deaths (Deshpande, Mailis-Gagnon, Zoheiry, & Lakha, 2015; Jensen, Chen, Furnish, & Wallace, 2015; Pacula, 2018). As new governor of Florida, Ron DeSantis, has pushed to allow patients to smoke their medical marijuana after a voters passed a bill to approve medical marijuana in Florida. In a study, broader access to medical marijuana has been shown to be an effective substitute for powerful and addictive opioids. (Powell, Pacula, & Jacobson, 2018)

CONCLUSION

In Concluding, the opioid epidemic continues to devastate not only Marion County but the state of Florida. In order to combat this opioid crisis, it is necessary that citizens, medical professionals, legislators, first responders, law enforcement, and communities take an initiative to learn what they can do to make an impactful change to their community.

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