



CALHOUN COUNTY DRUG AND OPIOID SURVEILLANCE REPORT

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**CALHOUN
COUNTY**

2019 - 2021



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Forward

The Calhoun County Public Health Department (CCPHD) began partnering with community members in early 2017 in describing and addressing the opioid overdose epidemic from a public health perspective. In partnership with local hospitals and the Calhoun County Medical Examiner, and in concert with local partners, CCPHD developed one of the first opioid overdose surveillance systems in Michigan. CCPHD released its first opioid overdose surveillance report in May 2018 and a comprehensive drug and overdose surveillance report in November 2019. These reports have facilitated grant writing and population health improvement efforts in Calhoun County. Since that time, several surveillance systems have been developed in Michigan that standardize and make accessible up-to-date information across counties. This 2023 drug and opioid surveillance report will be the last perennial report using our original methodology. Going forward, CCPHD will be using the Michigan Department of Health and Human Services' Rapid Drug Poisoning Surveillance System, known as MiCelerity, the University of Michigan's System for Opioid Overdose Surveillance, the Calhoun County Medical Examiner, and WMed's Swift Toxicology for Opioid Related Mortalities system to monitor and describe the drug and opioid overdose epidemic in Calhoun County. Publicly available data can be found here: <https://www.michigan.gov/opioids/category-data>; this resource also includes a Substance Use Vulnerability Index for Michigan counties based on substance use burden, substance use resources and social vulnerability factors. In 2020, Calhoun County ranked as the 14th most vulnerable county out of 83 Michigan counties with respect to substance use and third overall in substance use burden.

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Key Points

Emergency Department Opioid-related Overdoses

The majority of opioid overdose emergency department visits occurred in the 25-34 years and 35-44 years age groups. In 2021, males presented to an emergency department nearly two times more often than females for an opioid overdose.

Drug and Opioid-Related Deaths

The total drug and opioid-related deaths in Calhoun County residents have increased each year from 2019 to 2021. The 35-45 years old group had the highest death rate for drug and opioid related deaths. Black individuals died from a drug or opioid overdose almost two times more often than white individuals. There was an emergence of deaths involving xylazine, from a count of 1 death in 2020 to 7 deaths in 2021. An additional 3,919 years of life would have been lived if Calhoun County residents who died of a drug or opioid-related death from 2019 to 2021 had not died prematurely. Fentanyl remains the driver of opioid-related deaths in Calhoun County.

Psychostimulant Usage

From 2019 to 2021, psychostimulants contributed to at least half of drug-related deaths in Calhoun County and methamphetamine related deaths increased every year. The number deaths that involved methamphetamine increased by 2.7 times from a count of seven deaths in 2019 to 19 deaths in 2021.

Future Steps

A multi-sector, collaborative approach across communities is required to confront the drug and opioid epidemic. Key strategic priorities include prevention and education, supply and control of opioids, treatment access across a continuum of care, and the reduction of fatal overdoses and the spread of infectious disease through harm reduction efforts. The Calhoun County Opioid Coalition aims to address the opioid epidemic through the coordination and integration of these four strategic priorities.

Opioid Strategic Framework for Calhoun County

A strategic framework for how Calhoun County can address the opioid epidemic is shown in the figure below. The four strategic priorities include: prevention and education, supply and control of opioids, treatment, and harm reduction. The Calhoun County Opioid Coalition aims to coordinate and integrate existing and new efforts within these strategic priorities across Calhoun County.

Prevention and education efforts include community and professional education on addiction as a long-term, relapsing disease of the brain, increased knowledge about opioids, and increased risk perception. Prevention efforts may also focus on the upstream risk factors that influence the development of opioid addiction, also known as opioid use disorder, in community members.

Supply and control efforts involve law enforcement and improving opioid prescribing practices. New partnerships to reduce the supply of illicit drugs or the unlawful distribution of legal drugs are emerging in some communities. Improving prescribing practices of opioids requires both professional education and systems-level changes within healthcare institutions.

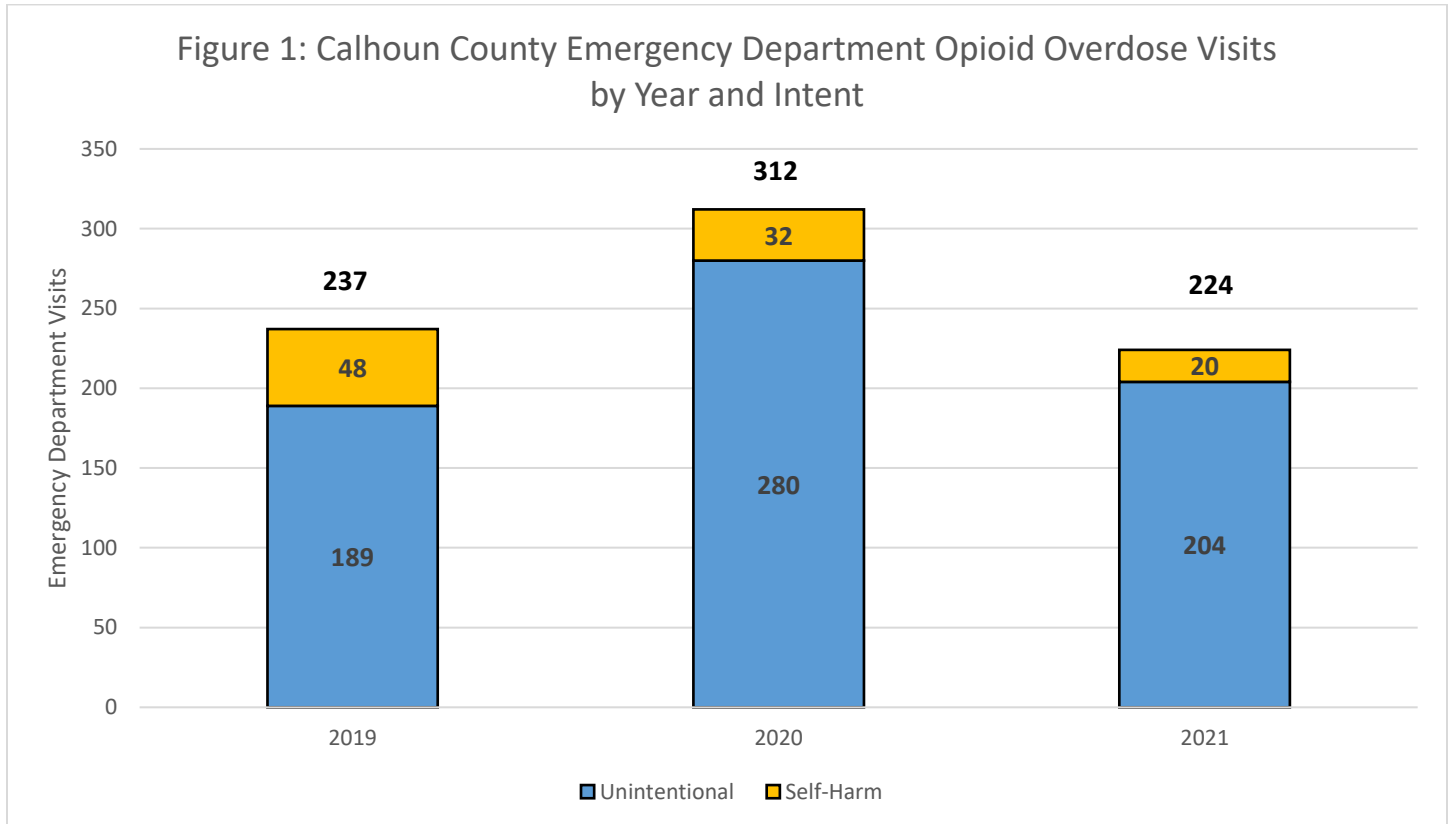
Prioritization of treatment is essential given the nature of addiction and the progression of the fentanyl epidemic. Treatment focuses on access and improvement of referrals across a continuum of care for opioid use disorder. Access to medication-assisted treatment (MAT) such as buprenorphine, methadone, and naltrexone, as well as improved coordination between behavioral and mental health services and recovery services are best practices. Professional education on chronic pain management, as well as screening, diagnosis, and early intervention for those at risk for opioid use disorder is needed to complement efforts focused on treatment and recovery.

Finally, harm reduction involves preventing overdose deaths and the spread of infectious disease associated with drug use. Syringe service programs (SSPs) are a vital harm reduction tool used to reduce communicable diseases and overdoses through naloxone distribution, linkage to substance use disorder treatment, access to and disposal of sterile syringes and injection equipment, vaccination as well as testing, and linkage to care and treatment for infectious diseases. Calhoun County Public Health Department (CCPHD) launched an SSP called Project Access in November 2021 and already serves 103 participants as of October 2022. Project Access facilitates access to medication assisted treatment and other recovery programs. Project Access has referral sources for multiple recovery and MAT programs in Calhoun County. Participants are also referred to CCPHD's clinic for testing and treatment for communicable diseases, such as sexually transmitted infections (STI) and hepatitis C.



Emergency Department Opioid Overdoses

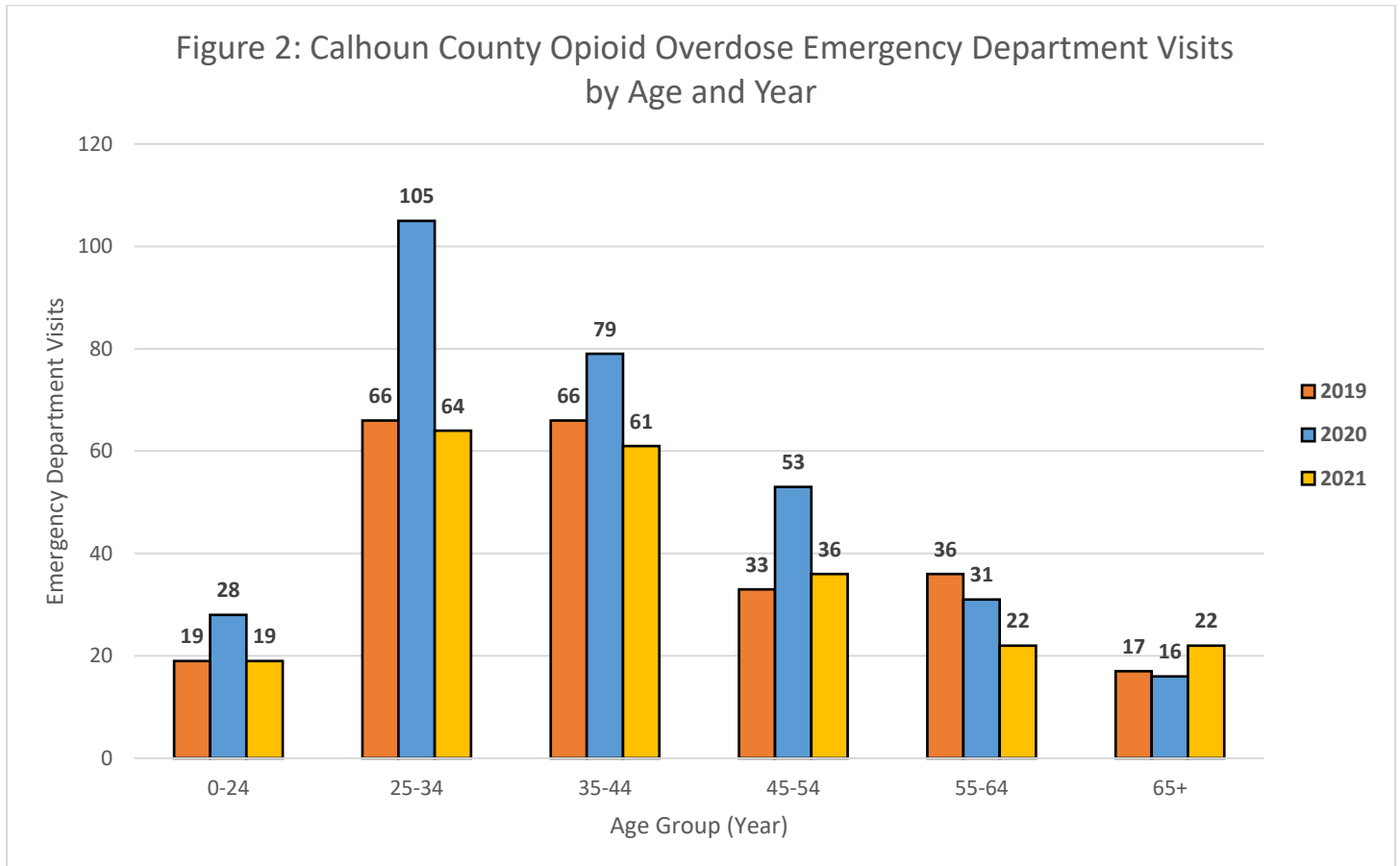
Figure 1 displays the number of opioid overdoses that presented to an emergency department located within Calhoun County from 2019-2021. The total number of opioid overdoses increased from 2019 to 2020, and then decreased from 2020 to 2021. Throughout 2019-2021, the number of overdoses coded as “self-harm” decreased from the previous year.



Data Limitations/Definitions: Not all opioid overdoses present to the emergency department. To be counted, a case must arrive at an emergency department in Calhoun County and be coded by a physician, provider, or biller as an opioid-related overdose. This data encompasses ICD-10 codes selected by the CCPHD to best capture an opioid overdose. ICD-10 coding specifies the designations of overdose as unintentional, undetermined, or self-harm. The self-harm category includes opioid poisoning codes with intent of suicide or self-harm. Since visit coding is based on history and physical exam and not toxicology, overdoses coded as heroin-related in the emergency department likely include fentanyl-related overdoses. The same individual can have multiple visits.

Emergency Department Opioid Overdoses

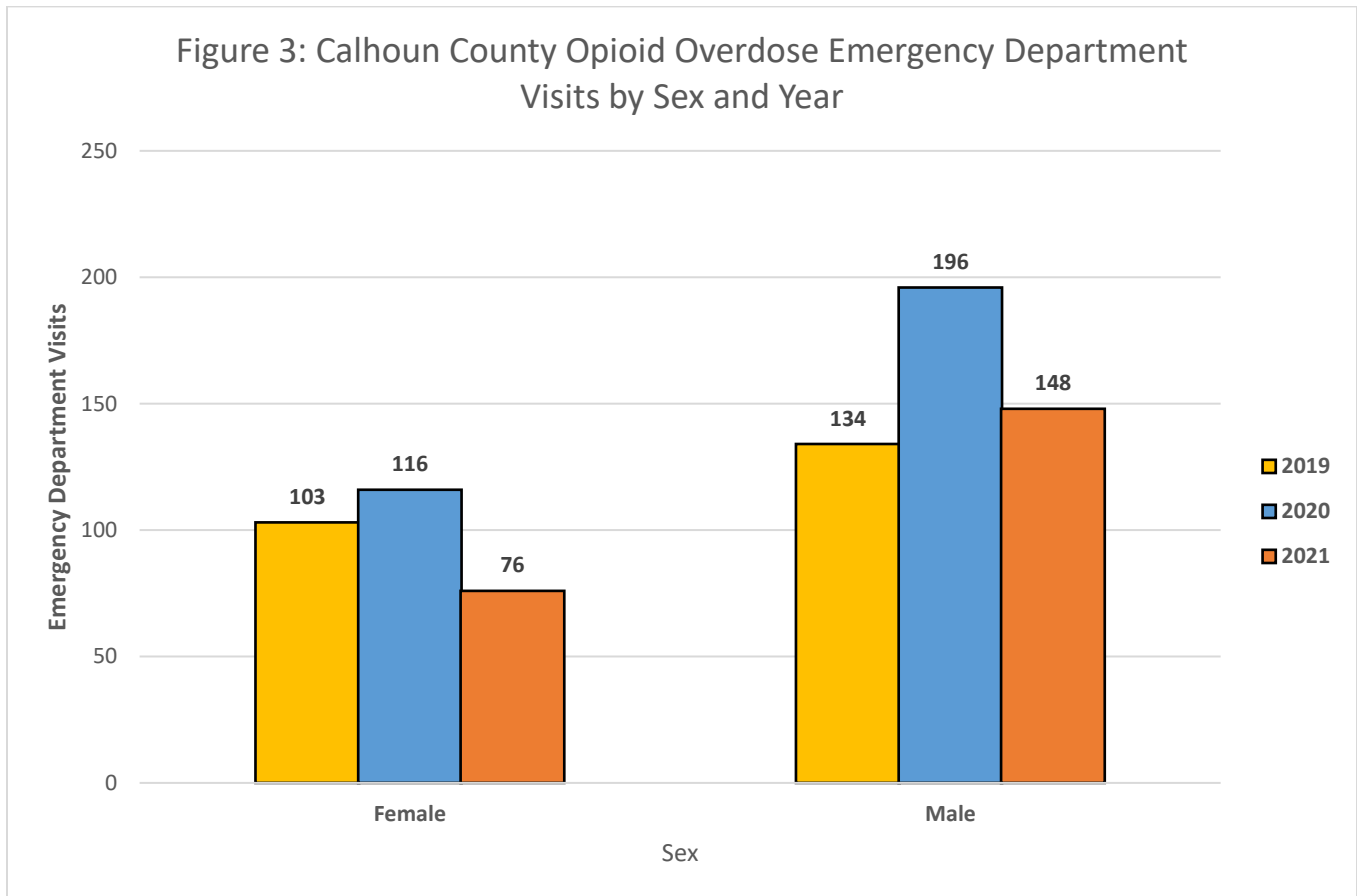
Emergency department visits for opioid overdoses were the highest in 2020 compared to 2019 and 2021. The age group of 25–34 year-olds experienced the highest number of opioid overdoses in 2019 to 2021.



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Emergency Department Opioid Overdoses

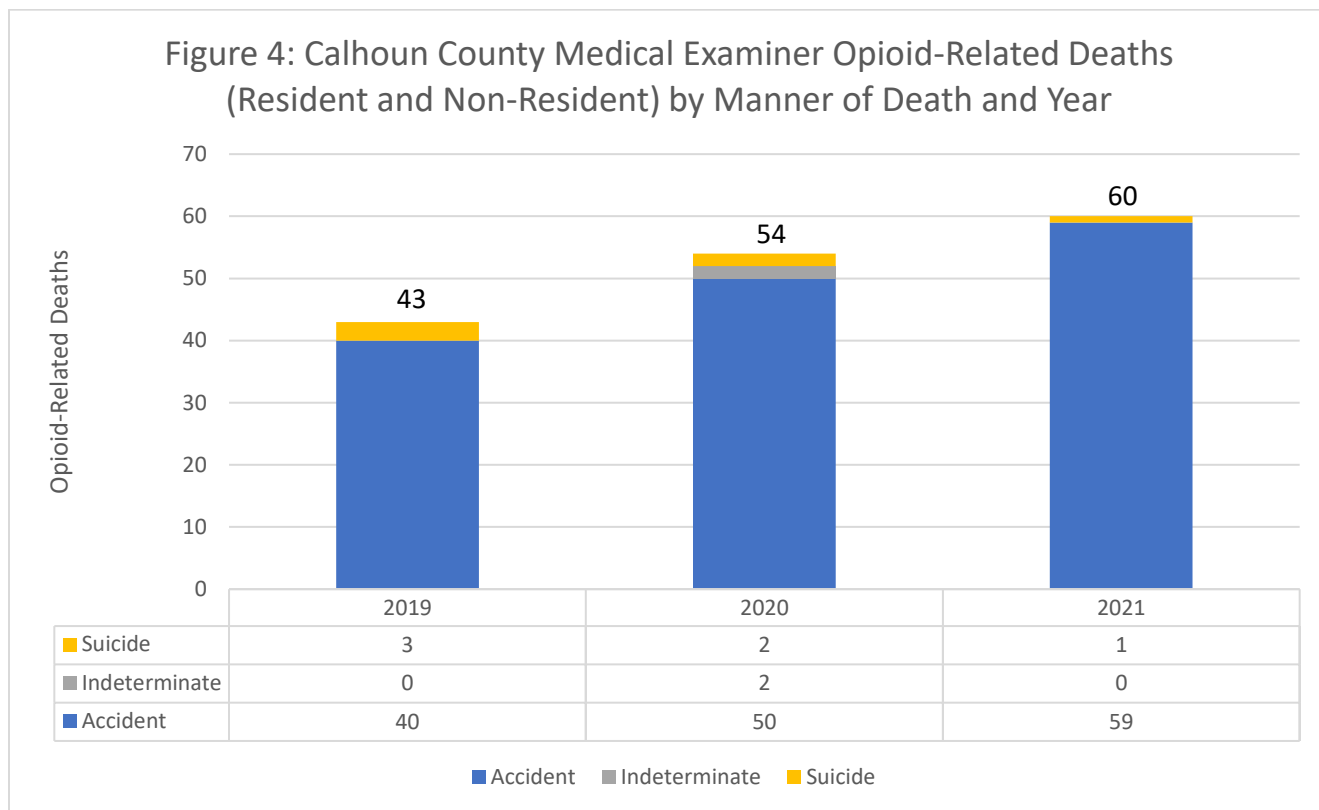
Throughout the years more males than females present to the emergency department for an opioid overdose. The gap between males and females has grown every year. In 2021 males presented to the emergency department nearly two times more than females.



Data Limitations/Definitions: Not all opioid overdoses present to the emergency department. To be counted, a case must arrive at an emergency department in Calhoun County and be coded by a physician, provider, or biller as an opioid-related overdose. This data encompasses ICD-10 codes selected by the CCPHD to best capture an opioid overdose. Since visit coding is based on history and physical exam and not toxicology, overdoses coded as heroin-related in the emergency department likely include fentanyl-related overdoses.

Medical Examiner Drug and Opioid-Related Deaths

The Western Michigan University Homer Stryker M.D. School of Medicine (WMed) Office of the Medical Examiner, through death scene investigation and evaluation by board-certified forensic pathologists, has determined both the cause and manner of death of those who die from apparent alcohol, drug, or poison intoxication in Calhoun County since 2014. CCPHD counted an opioid-related death as a death with an opioid listed on the Michigan Department of Health and Human Services (MDHHS) death certificate as an immediate cause. Accidental and indeterminate deaths describe what is commonly referred to as an “overdose.” Figure 4 shows that accidental and indetermined drug and opioid-related deaths consistently increased from 2019 to 2021, while deaths due to suicide have decreased during this time.

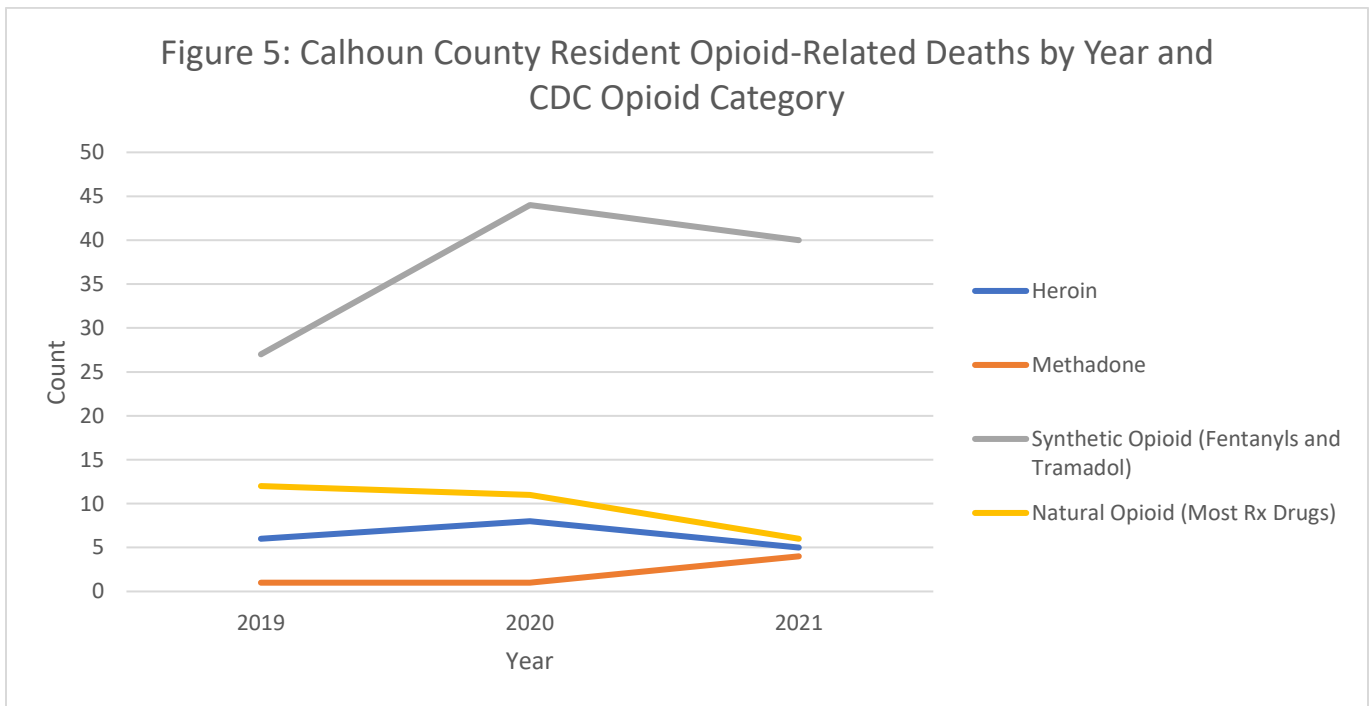


Data limitations/Definitions: Board-certified forensic pathologists, in accordance with recommendations by the National Association of Medical Examiners, determined the cause and manner of these deaths. MDHHS death certificates include a list of the immediate cause of death and underlying cause of death (Part I) and other significant conditions contributing to death (Part II). Immediate cause of death includes the final disease or conditions that resulted in death. Underlying cause of death includes the disease or injury that initiated the events leading to death. An immediate cause can be the same as the underlying cause if only one cause is listed. Other significant conditions include conditions that contribute to death but do not result in the underlying cause of death. Manners of death include accidental, indeterminate, and suicide. Counts are by date of death rather than pronounced date of death. Medical examiner data are determined by location of death (within Calhoun County), not by decedent county of residence.

Non-Exclusive Opioid-Related Deaths by Category Combinations

The Centers for Disease Control and Prevention (CDC) categorizes opioids into four groups: natural or semi-synthetic opioids, synthetic opioids, methadone, and heroin. Natural or semi-synthetic opioids include most prescription opioid drugs such as morphine, codeine, oxycodone (e.g., Oxycontin®), hydrocodone (e.g., Vicodin®), hydromorphone (e.g., Dilaudid®), oxymorphone (e.g., Opana®) and buprenorphine (Subtex® or Suboxone®). Synthetic opioids include fentanyl, fentanyl analogs, and tramadol (Ultram®). Methadone is a separate synthetic opioid that can be prescribed for both pain and treatment of opioid dependence or addiction. Heroin is an illicit opioid that can be injected, snorted, or smoked.

The number of deaths due to natural or semi-synthetic opioids decreased from 2019 to 2021. Synthetic opioid-related deaths were almost doubled from 2019 to 2020. Fentanyl remains the driver of opioid-related deaths in Calhoun County.



Data Limitations/Definitions: Most drug-related deaths involve more than one drug or opioid. Therefore, the listed opioid categories are not mutually exclusive and do not sum to the total opioid-related deaths.

Exclusive Opioid-Related Deaths by Category Combinations

Table 1 lists all the opioid category combinations found in Calhoun County residents who died of an accidental or indeterminate opioid-related death from 2019 to 2021 within Calhoun County. Unlike Figure 5 of the opioid category analysis, Table 1 data is mutually exclusive. If more than one opioid from the same category was present in the same decedent, only one count for the category was included. Table 1 does not include residents who may have died outside of Calhoun County or non-residents who died within Calhoun County. Synthetic opioid-related deaths increased every year, which reflects that fentanyl is in the primary driver of opioid-related deaths in Calhoun County.

| Category | 2019 | 2020 | 2021 |
|---|------|------|------|
| Heroin | 0 | 1 | 0 |
| Methadone | 0 | 0 | 1 |
| Methadone, Synthetic Opioid | 0 | 1 | 1 |
| Methadone, Synthetic Opioid, Heroin | 0 | 0 | 1 |
| Natural Opioid Analgesics | 3 | 0 | 0 |
| Natural Opioid Analgesics, Methadone | 1 | 0 | 1 |
| Natural Opioid Analgesics, Synthetic Opioid | 7 | 10 | 5 |
| Natural Opioid Analgesics, Synthetic Opioid, Heroin | 1 | 1 | 0 |
| Synthetic Opioid | 14 | 26 | 29 |
| Synthetic Opioid, Heroin | 5 | 6 | 4 |

Psychostimulant and Cocaine Use in Calhoun County

Psychostimulants, also called stimulants, are substances that increase activity of the central nervous system. Psychostimulants include methamphetamine, ecstasy, and prescription drugs such as methylphenidate (Ritalin™) and dextroamphetamine/amphetamine (Adderall™). Cocaine is categorized as stimulant, however, estimates of cocaine use and the number of deaths involving cocaine are usually calculated separately from other psychostimulants. For the purpose of this report, cocaine-related deaths will be categorized as a psychostimulant.

In Calhoun County, methamphetamine and cocaine are the psychostimulant/stimulant drugs contributing to drug-related deaths. Methamphetamine is a highly addictive central nervous system stimulant. Long-term use of methamphetamine leads to a range of negative health outcomes, including damage to the heart and brain, anxiety, confusion, insomnia, mood disturbances, and violent behavior. Methamphetamine is commonly referred to as meth, ice, speed, and crystal. It is a man-made drug that can be smoked, snorted, injected, or orally ingested. Cocaine is a highly addictive stimulant that effects the central nervous system. Cocaine can be snorted, smoked, or dissolved and injected into a vein. From 2018-2019 in the United States, there was a 28.0% increase in psychostimulants involved deaths, and a 9.0% increase in cocaine involved deaths. ¹

From 2019-2021, psychostimulants contributed to at least 50% drug-related deaths in Calhoun County and methamphetamine involved deaths increased every year. The number deaths that involved methamphetamine increased by 2.7 times from a count of seven deaths in 2019 to 19 deaths in 2021. Cases where methamphetamine was the only drug that contributed to death increased by 600% between 2019-2021.

| Table 2: <u>Resident</u> Psychostimulant and Cocaine Related Deaths | | | | | | |
|---|--------|-------------|--------|-------------|--------|-------------|
| | 2019 | | 2020 | | 2021 | |
| | Number | Percent (%) | Number | Percent (%) | Number | Percent (%) |
| Psychostimulant | | | | | | |
| Psychostimulant Total | 18 | 48.6 | 29 | 55.8 | 26 | 50.0 |
| Methamphetamine | | | | | | |
| Any Methamphetamine Present | 7 | 18.9 | 15 | 28.8 | 19 | 36.5 |
| Methamphetamine Used Alone | 1 | 2.7 | 1 | 1.9 | 6 | 11.5 |
| Cocaine | | | | | | |
| Any Cocaine Present | 9 | 24.3 | 13 | 25.0 | 7 | 13.5 |
| Cocaine Used Alone | 1 | 2.7 | 3 | 5.8 | 2 | 3.8 |

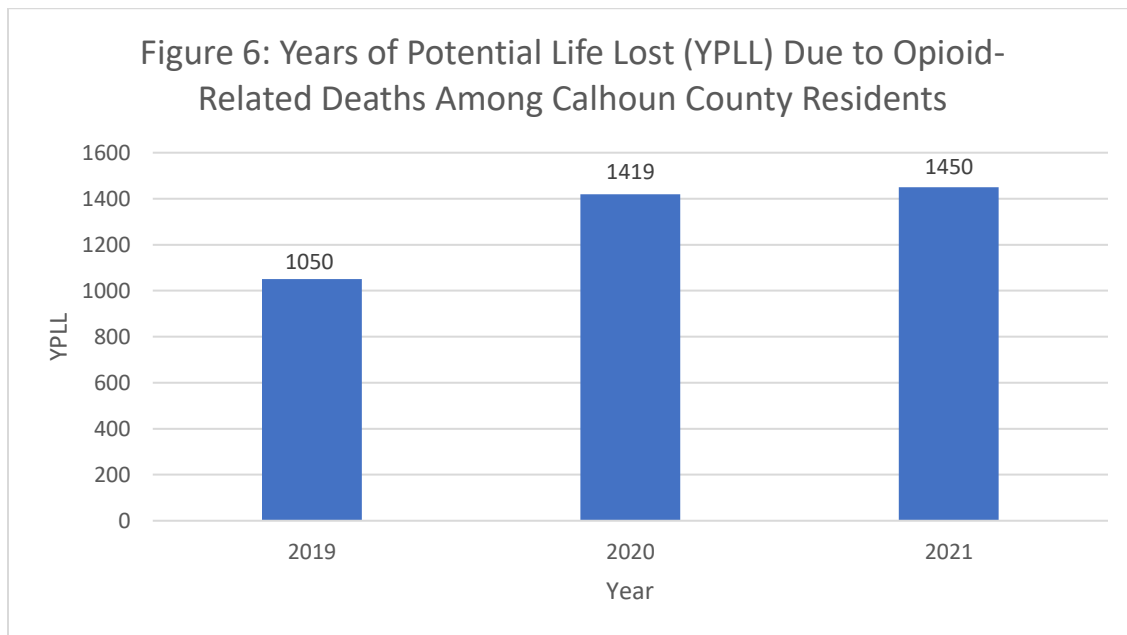
Data Limitations/Definitions: The psychostimulant total includes methamphetamine, amphetamine, ecstasy, and cocaine. The percentages in Table 2 represents the proportions of total Calhoun County resident deaths that involved a psychostimulant or cocaine. Psychostimulant categories are not mutually exclusive and do not sum to total figures. Table 2 does not include Calhoun residents who may have died outside of Calhoun County or nonresidents who died in Calhoun County.

Medical Examiner Drug and Opioid-Related Death Demographics

The drug and opioid demographics tables on pages 14-15 include those who died from apparent alcohol, drug, or poison intoxication within Calhoun County. Drug-related deaths were determined by CCPHD using the same method as opioid-related deaths outline on page 10. An opioid-related death is a subset of drug-related deaths. This report does not include deaths due to long-term, (i.e., chronic) substance use such as alcoholic liver disease, infection, or deaths due to an injury involving a substance such as a motor vehicle accident.

Table 3 summarizes drug and opioid related deaths by county of residency, manner of death, and substance contributing to death, broken down into which specific substance was used. The majority of drug and opioid-related deaths in Calhoun County residents were accidental. Most drug and opioid-related deaths involve more than one substance (polysubstance). Polysubstance related deaths decreased from 87% in 2019 and 2020 to 73% in 2021. Opioids, specifically fentanyl, contribute to the majority of drug-related deaths in Calhoun County.

Xylazine is a non-opioid veterinary tranquilizer that is not approved for human use and has been linked to an increasing number of overdoses deaths nationwide.² From 2019 to 2021 Calhoun County saw an emergence of deaths involving xylazine, from a count of 1 death in 2020 to 7 deaths in 2021. For Calhoun County residents, the 3-year average sex-specific rate for drug or opioid overdose was 2.5 times higher in males compared to females. Although the number of white individuals who died from a drug or opioid overdose from 2019 to 2021 was 4 times higher than black individuals, the race-specific rate shows Black individuals died from an overdose at almost double the rate that white individuals died from an overdose. The 35–44-year age group had the highest age-specific rate for drug and opioid-related deaths.



Years of Potential Life Lost (YPLL) is a measure that attempts to capture the burden of premature death that occurs prior to an average lifespan of 75 years. The number of YPLL is calculated by taking the difference between the ages of a person at death and 75 years among those who die before their 75th year. In 2021, 1,450 years of potential life were lost among Calhoun County Resident who died of an opioid-related death.

Medical Examiner Drug and Opioid-Related Death Demographics

| Table 3: Calhoun County Drug and Opioid-Related Deaths, 2019-2021 | | | | | | |
|---|-----------|-------------|-----------|-------------|-----------|-------------|
| Category | 2019 | | 2020 | | 2021 | |
| Residency | Number | Percent (%) | Number | Percent (%) | Number | Percent (%) |
| Calhoun Resident | 37 | 86 | 52 | 96.3 | 52 | 86.7 |
| Non-Calhoun Resident | 6 | 14 | 2 | 3.7 | 8 | 13.3 |
| Total | 43 | 100 | 54 | 100 | 60 | 100 |
| <u>Resident</u> Drug and Opioid Related Deaths | | | | | | |
| Manner of Death | | | | | | |
| Accident | 34 | 91.9 | 48 | 92.3 | 51 | 98.1 |
| Indeterminate | 0 | 0 | 2 | 3.8 | 0 | 0 |
| Suicide | 3 | 8.1 | 2 | 3.8 | 1 | 1.9 |
| Percent of <u>Resident</u> Drug and Opioid-Related Deaths | | | | | | |
| Substance | | | | | | |
| Any Alcohol | 9 | 24.3 | 9 | 17.3 | 9 | 17.3 |
| Any Benzodiazepine | 8 | 21.6 | 7 | 13.5 | 6 | 11.5 |
| Any Cocaine | 9 | 24.3 | 13 | 25.0 | 7 | 13.5 |
| Any Fentanyl | 26 | 70.3 | 42 | 80.8 | 39 | 75.0 |
| Any Heroin | 6 | 16.2 | 9 | 17.3 | 5 | 9.6 |
| Any Methadone | 1 | 2.7 | 1 | 1.9 | 3 | 5.9 |
| Any Methamphetamine | 7 | 18.9 | 15 | 28.8 | 19 | 36.5 |
| Any Opioid | 31 | 83.8 | 45 | 86.5 | 42 | 80.8 |
| Any Psychostimulant | 18 | 48.6 | 29 | 55.8 | 26 | 50.0 |
| Any Tramadol | 1 | 2.7 | 4 | 7.7 | 6 | 11.5 |
| Any Xylazine | 1 | 2.7 | 1 | 1.9 | 7 | 13.5 |
| Polysubstance | 32 | 86.5 | 46 | 88.5 | 38 | 73.1 |

Data Limitations/Definitions: Substances and opioid categories are not mutually exclusive and do not sum to total figures. The manner of death and substance category data in Table 3 does not include Calhoun residents who may have died outside of Calhoun County or nonresidents who died in Calhoun County.

Medical Examiner Drug and Opioid-Related Death Demographics

| Table 4: Calhoun County Resident Drug and Opioid-Related Death Demographics, 2019-2021 | | | |
|--|-----|---------------------|----------------|
| Variable | N | 3-Year Average Rate | 95% CI |
| Sex | | | |
| Female | 41 | 20.1 | 18.23 – 38.33 |
| Male | 100 | 50.3 | 48.90 - 51.70 |
| Race | | | |
| Black | 28 | 69.4 | 67.81 - 70.99 |
| White | 111 | 34.6 | 33.24 - 35.96 |
| Unknown | 2 | -- | -- |
| Age Group | | | |
| 15-24 | 3 | 5.8 | -0.76 - 12.26 |
| 25-34 | 25 | 50.7 | 45.76 - 55.70 |
| 35-44 | 47 | 97.8 | 92.37 - 103.28 |
| 45-54 | 27 | 53.7 | 45.55 - 61.77 |
| 55-64 | 30 | 53.7 | 50.36 - 57.01 |
| 65+ | 9 | 12.7 | 9.92 - 15.44 |

Data Limitations/Definitions: Sex, race, and age-specific rates were calculated as a 3-year average given the small numbers in some groups. Rates are per 100,000 people and use 2017-2021 American Census Survey 5-Year Estimates for Calhoun County as denominators. These tables do not include Calhoun County residents who many have died outside of Calhoun County, or nonresidents who died within Calhoun County.

References

1. Centers for Disease Control and Prevention (CDC). *Other Drugs*. Updated November 18, 2021. Accessed March 3, 2023. Retrieved from <https://www.cdc.gov/drugoverdose/deaths/other-drugs.html>.
2. National Institute on Drug Abuse (2022). *Xylazine*. Accessed March 3, 2023. Retrieved from <https://nida.nih.gov/research-topics/xylazine>.