



# **Drug-related deaths in Mesa County 2010-2017**

## **Mesa County Coroner's Office/ The Pathology Group, P.C.**

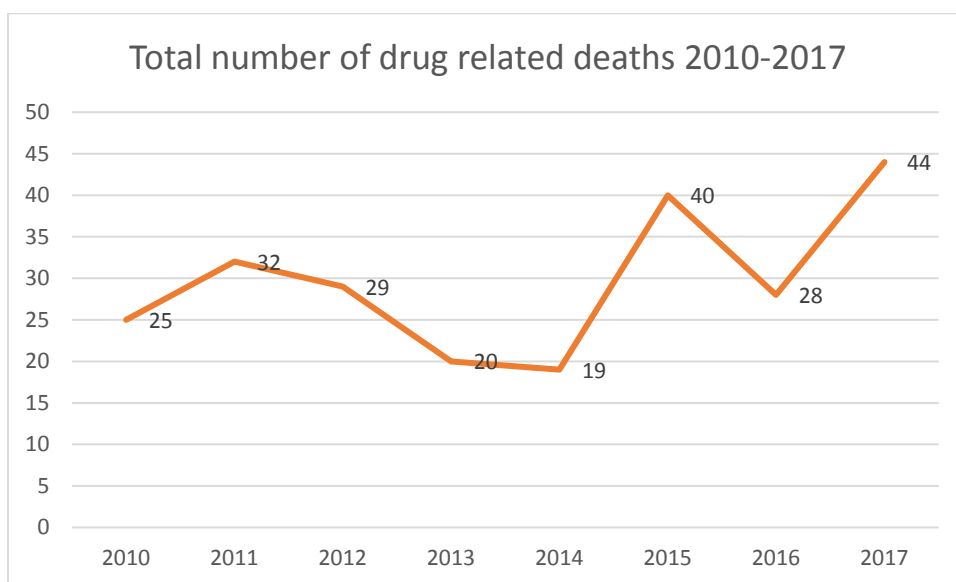
Dean Havlik, MD  
Mesa County Coroner/The Pathology Group, P.C.  
2351 G Road  
Grand Junction, CO 81505  
Phone: (970) 644-3282  
E-mail: coroner@mesacounty.us

Data compilation assistance by:  
Elizabeth Havlik, research student  
Colorado State University  
Fort Collins, CO

Date of report: 2/18/2018

Drug-related deaths have reportedly skyrocketed over the past few years across the United States. Much of this increase is thought to be due to the opioid class of drugs and some have used the term “opioid crisis” or “opioid epidemic” to refer to this current US situation. This special report by the Mesa County Coroner’s Office and The Pathology Group, P.C. details the drug-related deaths over the past eight years (2010 through 2017) in Mesa County, Colorado.

Mesa County’s total number of drug-related deaths is depicted in the graph below. There have been some increases and decreases over this time period. There was a low of 19 drug-related deaths in 2014. However, 2017 saw the highest number of drug-related deaths during these past 8 years with a total of 44 deaths.



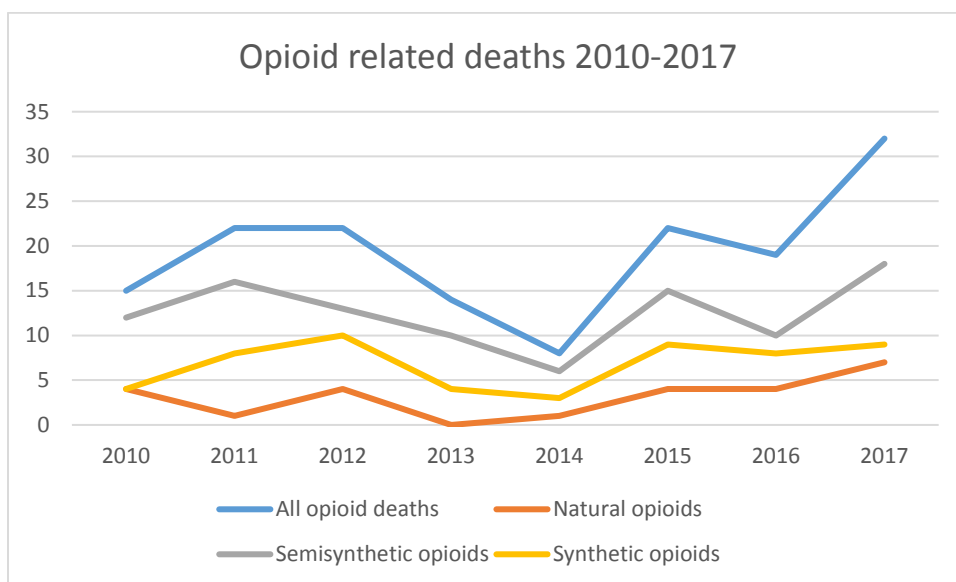
Drug-related deaths in Mesa County are due to a variety of drugs including opioids, methamphetamine, cocaine, benzodiazepines, tricyclic antidepressants, antipsychotics and other prescription-type drugs. The deaths in this report also include those related to acute alcohol intoxication but it does not include deaths due to complications of chronic alcoholism such as from cirrhosis, electrolyte abnormalities, alcohol withdrawal or gastrointestinal hemorrhage. Alcohol as the sole drug resulting in death was seen in 0 to 4 deaths per year in the past 8 years.

The drug-related deaths included in this report are those deaths in which drugs solely resulted in the death or contributed to the death. It does not include the deaths in which a drug is identified but did not contribute to the death in any way.

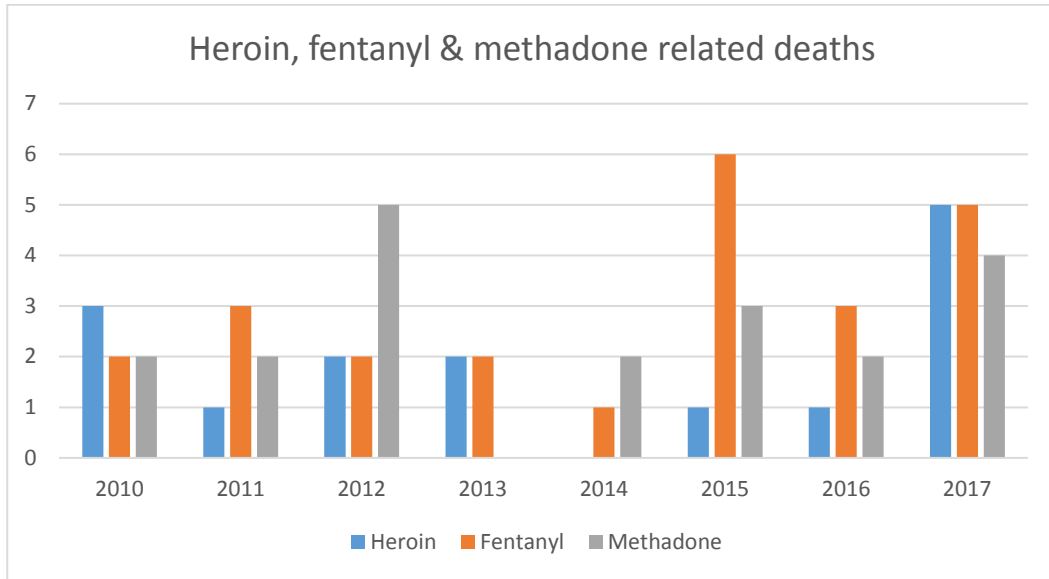
The male to female ratio of drug-related deaths have been approximately 1.2 to 1 and that ratio has not significantly changed over the years. Each year, 80-90% of the drug-related deaths are in non-Hispanic whites. Colorado has five choices for the manner of death which are natural, accident, suicide, homicide and undetermined. There have been no cases determined to be a homicide in the drug-related

deaths over the past 8 years. The largest numbers of cases were determined to be accidental drug intoxications which comprised approximately 60-80% of the deaths and suicides comprised the majority of the remaining deaths. The average age of deaths during the past 8 years has remained similar over the years with an average age of 43 years old.

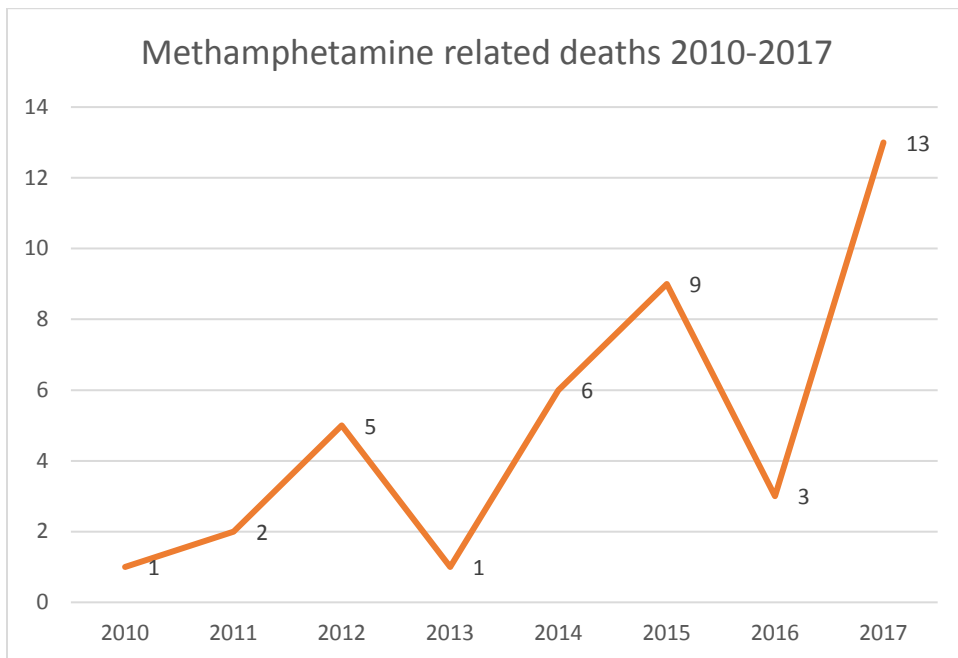
Opioids are the most common drug class in the Mesa County drug-related deaths. Opioids can be separated into three types. Natural opioids are derived from a natural source (opium poppy plant) and include the drugs morphine and codeine. Semisynthetic opioids are made by processing the natural product with synthetic materials and include the drugs oxycodone, hydrocodone, oxymorphone, hydromorphone and buprenorphine. Synthetic opioids are completely manufactured and include such drugs as fentanyl, fentanyl analogs, methadone and tramadol. Heroin is an opioid and most consider it in the semisynthetic class since heroin is a mixture of morphine and other substances. As with the total number of drug-related deaths, the opioid-related deaths had some increases and decreases through the years but 2017 experienced the highest number of opioid-related deaths with 32 deaths related to this drug class. It is important to note that many drug-related deaths are considered “mixed drug intoxications” and are the result of not only one drug but a combination of drugs including a combination of multiple opioid-type drugs.



There are typically 0-3 deaths due to heroin intoxication in Mesa County each year. However, in 2017 there were 5 heroin-related deaths. Fentanyl and methadone are seen in 1-6 deaths and 0-5 deaths each year, respectively, with 5 fentanyl related deaths in 2017 and 4 methadone related deaths in 2017.



Although opioids are the most common drug class identified in drug-related deaths in Mesa County, methamphetamine is also common. There have been from 1-9 methamphetamine-related deaths from 2010-2016. However, there were 13 methamphetamine-related deaths in 2017.

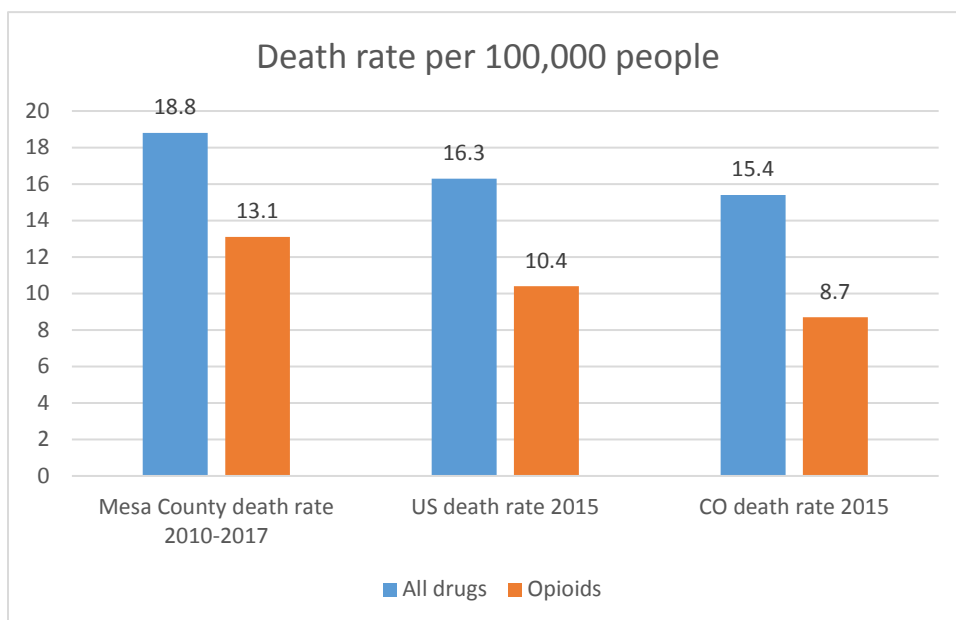


Cocaine has been a relatively uncommon drug identified in deaths in Mesa County. In most years, there are 0 or 1 death related to cocaine intoxication but there were 4 deaths in 2012 and in 2017 there were 3 deaths related to cocaine intoxication.

Benzodiazepines are a commonly used prescription drug. Some common benzodiazepines include diazepam, alprazolam and clonazepam. Benzodiazepines have contributed to the death in 1-4 people each year in Mesa County and that number has not changed significantly over the years.

Marijuana has not been shown to directly cause death but it is a relatively common drug that is intermixed with the other drugs seen in the drug-related deaths in Mesa County. On average, 25% of the drug-related deaths over these past 8 years have marijuana intermixed with the other drugs that resulted in the death.

There has been some published data on the total drug-related deaths and opioid-related deaths in the United States and there is some state by state data. This data can be somewhat difficult to interpret due to a number of factors. It is unknown if some of this published data includes acute alcohol intoxication-related deaths. Also, the studies have primarily used death certificate data, which can be inaccurate and difficult to interpret. Direct analysis of medical examiner/coroner data would be the most accurate data analysis, as was done in this report. In addition, as mentioned previously, because many deaths are due to a mixture of drugs, it may be difficult to analyze these types of deaths.



As can be seen by the chart above, Mesa County's death rate for total drug-related deaths and opioid-related deaths is slightly higher than the reported US death rate and the reported Colorado death rate. However, the drug-related death rate in Mesa County doesn't come close to states with a large number of drug-related deaths such as West Virginia, which had the highest reported drug-related death rate in 2015 with total drug-related and opioid-related death rates of 41.5 and 36.0, respectively.

Another commonly cited state that has a high drug-related death rate is Ohio which in 2015 had total drug-related and opioid-related death rates of 29.9 and 24.7, respectively. The lowest death rate reported in 2015 was in the state of Nebraska which had a total drug-related death rate of 6.9 and an opioid-related death rate of 3.1.

As mentioned previously, the US is currently considered in an “opioid crisis” or “opioid epidemic” with several states showing a dramatic increase in deaths from opioids. The US death rate from total opioid-related deaths increased by 16% in 2015 from the preceding year. In Ohio, the opioid-related death rate increased by 29% in 2015 from the previous year.

In conclusion, there was an increase in total drug-related deaths and opioid-related deaths in Mesa County in 2017. This is similar to what has been reported in several other regions in the US. The Mesa County death rate for drug-related deaths is also slightly higher than that reported for US and Colorado (based on 2015 statistics). Our office will continue to follow these drug-related deaths closely.

## References

Centers for Disease Control and Prevention; <https://www.cdc.gov/drugoverdose/data/analysis.html>

The Henry J. Kaiser Family Foundation (KFF); <https://www.kff.org>

The New York Times; <https://www.nytimes.com/2017/10/07/us/drug-overdose-medical-examiner.html>  
<https://soundcloud.com/pathologists/how-the-us-opioid-epidemic-is-straining-forensic-pathologists>

The Denver Post; <http://www.denverpost.com/2017/01/03/colorado-opioid-heroin-deaths-outnumbered-homicides/>