



**LICKING COUNTY
OVERDOSE FATALITY REVIEW (OFR)
ANNUAL REPORT:
2022**



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Background:

The Licking County OFR began in 2017 and meets on a quarterly basis during the Drug Overdose Prevention (DOP) grant year, which runs September 1st to August 31st the following year. During 2022, each OFR meeting was held in-person at the Licking County Health Department as well as virtually for those who could not make it in-person.

OFR Purpose:

The OFR meetings are utilized to address complex public health issues. The Licking County OFR's purpose is to identify system gaps and develop preventative strategies. The OFR facilitates a deeper understanding of the missed opportunities for prevention that may have otherwise prevented an overdose fatality from occurring.

Current OFR Committee:

OFR Committee Members are dedicated professionals and area experts who believe overdoses are preventable. These members actively participate in OFR Committee meetings and assist in the development and implementation of preventative strategies. The Licking County OFR is made up of a multi-disciplinary team that includes the following agencies and organizations:

- Licking County Health Department (LCHD)
- Licking County Coroner's Office (LCCO)
- Licking Memorial Hospital Systems (LMHS)
- Licking Memorial Hospital Systems – Shepherd Hill (LMHSSH)
- Mental Health & Recovery for Licking and Knox Counties (MHRLK)
- Central Ohio Drug Enforcement Taskforce (CODE)
- Newark Police Department (NPD)
- Emergency Management Agency (EMA)
- West Licking Fire District (WLFD)
- U.S Department of Veteran Affairs – Columbus, OH (VA)



OFR Process:

The LCCO completes and files overdose fatality decedent cases. These cases are organized by the date of death (DOD). LCHD reviews all overdose fatality cases at the LCCO and creates a summary for each decedent. Decedent summaries include:

- Date of death (DOD)
- Age
- Sex
- Race/Ethnicity
- Marital status
- Highest level of education completed
- Veteran status
- Address(es)
 - Home
 - Incident
 - Death
- Medical condition(s)
 - Pre-existing
 - Found during autopsy
- Toxicology report
- Cause of death
- How the injury occurred
- History of mental illness
- Homelessness status
- Medication(s) taken and/or prescribed
- Naloxone
 - Yes/No/Unknown
 - If administered to decedent – by whom?
- Transported to hospital
 - Yes/No/Unknown
- Time incident occurred
- Motor vehicle involved
 - Yes/No/Unknown
- Drug scheduling toxicology falls in
- A summary of the decedent’s life which may include the following information –
 - Medical and law enforcement records
 - Conversations between LCCO and decedent family and/or friends
 - Autopsy findings



Terms:

The following definitions are commonly used terms you will see multiple times throughout this document:

- **Drug**: any substance with the intended use in the diagnosis, cure, mitigation, treatment, or prevention of a disease (U.S. Food & Drug Administration [FDA], 2017).
- **Illicit Drugs**: the non-medical use of a variety of drugs that are prohibited by law. Some examples include but are not limited to amphetamine-type stimulants, marijuana/cannabis, cocaine, heroin, other opioids, and synthetic drugs, such as illicitly manufactured fentanyl and ecstasy (Centers for Disease Control and Prevention [CDC], 2022).
- **Prescription Drug**: a drug purchased at a pharmacy that is prescribed by a practicing medical provider with the intended use by the individual it is prescribed to. Prescription drugs are regulated by the FDA through the New Drug Application process (FDA, 2017).
- **Opioid**: a natural, synthetic, *or* semi-synthetic chemical that interacts with opioid receptors on nerve cells within the body and brain to reduce the intensity of pain signals/feelings of pain. Examples include but are not limited to heroin (illicit drug), synthetic opioids (fentanyl), and pain medications available via legal prescription (oxycodone, hydrocodone, codeine, morphine, etc.) (CDC, 2021).
- **Prescription Opioid** – medications that are used to treat moderate-to-severe pain (CDC, 2021). Prescription opioids can be broken down into four categories:
 - *Natural opioid analgesics* – morphine, codeine (CDC, 2021).
 - *Semi-synthetic opioid analgesics* – oxycodone, hydrocodone (CDC, 2021).
 - *Methadone* – synthetic opioid prescribed for pain reduction **OR** for medication opioid use disorder (CDC, 2021).
 - *Synthetic opioid analgesics* – tramadol, fentanyl (CDC, 2021).
- **Fentanyl**: There are distinct types of fentanyl – pharmaceutical fentanyl and illicitly manufactured fentanyl which is 50 to 100 times stronger than morphine (CDC, 2021).
 - *Pharmaceutical fentanyl*: Synthetic opioid approved to treat severe pain (i.e., advanced cancer pain) (CDC, 2021).
 - *Illicitly manufactured fentanyl*: Sold through illicit drug markets for its heroin-like effects. Often mixed with other common street drugs to make them more addictive to substance users (CDC, 2021).
- **Overdose**: Injury to the body (poisoning) that occurs when a drug is taken in excessive amounts and can be either non-fatal or fatal depending on the drug and amount used (CDC, 2021).
- **Substance Use Disorder (SUD)** – a complex condition where there is an uncontrolled use of a substance despite harmful consequences (American Psychiatric Association, 2020).



2022 Ohio Overdose Fatality Data

The following data is from the Ohio Public Health Information Warehouse: Mortality Dataset (OPHIW:MD). Data from the OPHIW:MD differ from the Licking County OFR data. OPHIW:MD data include overdose fatalities that occurred within Licking County **AND** overdose fatalities that occurred within Licking County but were transported and died outside of county lines (Ohio Department of Health [ODH], 2023). OPHIW:MD reports 56 overdose fatalities for Licking County in 2022 (ODH, 2023), which aligns with the number of overdose fatalities the Licking County OFR reports for 2022. The Licking County OFR does not currently review overdose fatalities that occur out of the county, but our goal is to review those cases soon.

For the 2022 year, the OPHIW:MD does not report the overdose fatality data from all counties. According to ODH (2023), the 2022 report on the *Unintentional Drug Overdose Deaths of Ohio and Average Crude and Age-Adjusted Death Rates per 100,000 Population by County* is incomplete and therefore only considered a partial report. The 2022 report is considered partial and incomplete due to the data of several counties (53 counties) being extracted from the report to protect confidentiality (ODH, 2023). Due to the incompleteness of the 2022 report, the 53 counties with extracted data will not be included in **Figure 1** and **Figure 2**.

Death Count

Licking County’s 2022 unintentional drug overdose death count reported by OPHIW:MD was 56 (ODH, 2023). **Figure 1** breaks down the overdose death count of Ohio counties by multiples of 50.

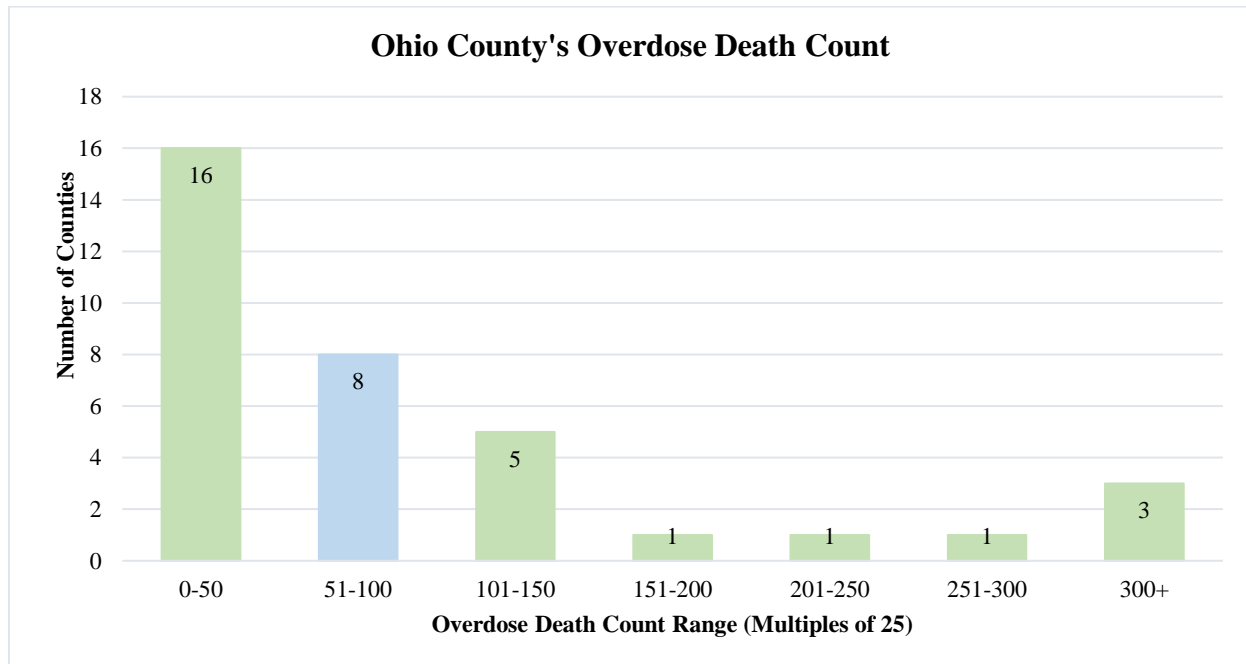


Figure 1. Unintentional drug overdose death count of Ohio counties shown by multiples of 50. This graph shows the 2022 data. The blue bar indicates the range Licking County falls into.



Death Rate

Licking County's 2022 unintentional drug overdose death rate reported by OPHIW:MD was 31.4 deaths per 100,000 population demonstrating a 4.0 value decrease from the 2021 death rate for Licking County, which was 35.4 per 100,000 population (ODH, 2023). **Figure 2** breaks down the unintentional drug overdose death rate of Ohio counties by multiples of 10. As stated before, with the 2022 report being incomplete and partial, **Figure 2** does not contain data for all Ohio counties.

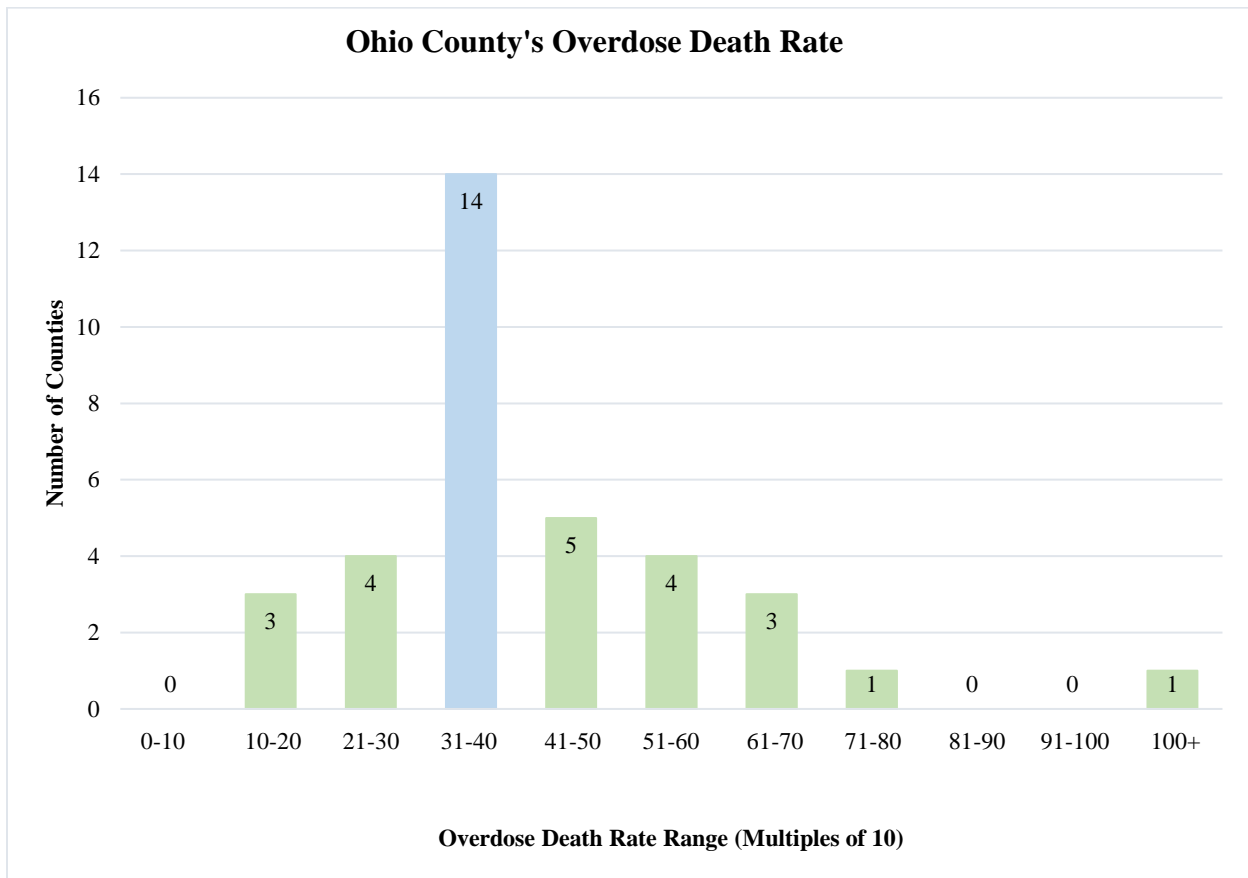


Figure 2. Unintentional drug overdose death rate of Ohio counties shown by multiples of 10. This graph shows the 2022 data. The blue bar indicates the range Licking County falls into.



Licking County 2022 OFR Data and Findings

Licking County OFR Data was collected and analyzed at the Licking County Coroner’s Office and during OFR committee meetings. Coroner’s actual figures may vary

Fatality Frequency

In 2022, there were 58 overdose fatalities in Licking County, Ohio. Of the 58 fatalities, 58 were accidental and zero were suicidal. In 2021, Licking County saw a total of 47 overdose fatalities (Licking County Health Department [LCHD], 2021), indicating an increase in drug overdose fatalities in the county. **Figure 3** illustrates the frequency of overdose fatalities in Licking County over the past 21 years.

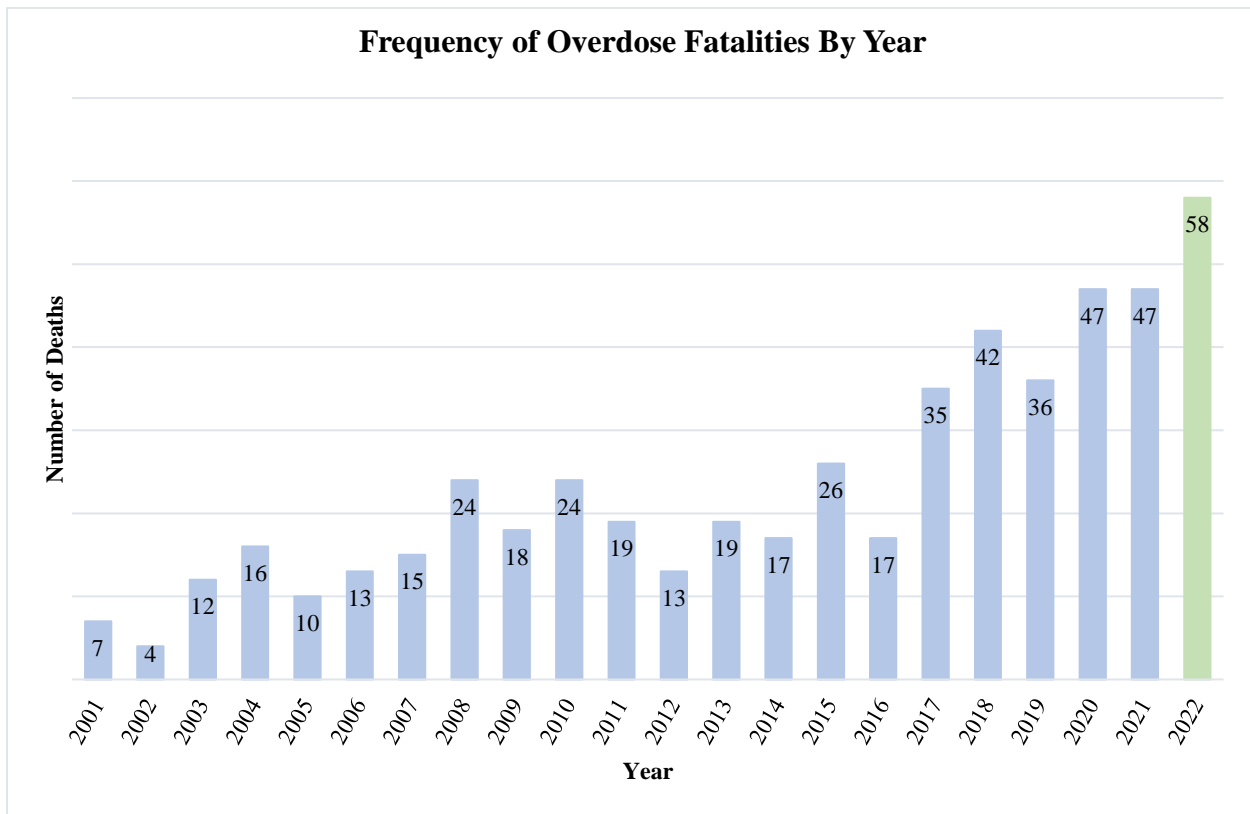


Figure 3. Comparison of the frequency of overdose fatalities by year in Licking County, Ohio. The years extend from 2001 to 2022, which is the most current year with full data and has been highlighted green.



Fentanyl-Related Fatalities

In 2022, there were 40 fentanyl-related drug overdose fatalities in Licking County. From 2021 to 2022, there was a 21.2% increase in fentanyl-related drug overdose fatalities. **Figure 4** shows the comparison of the number of fatal cases that showed fentanyl in the toxicology report by year.

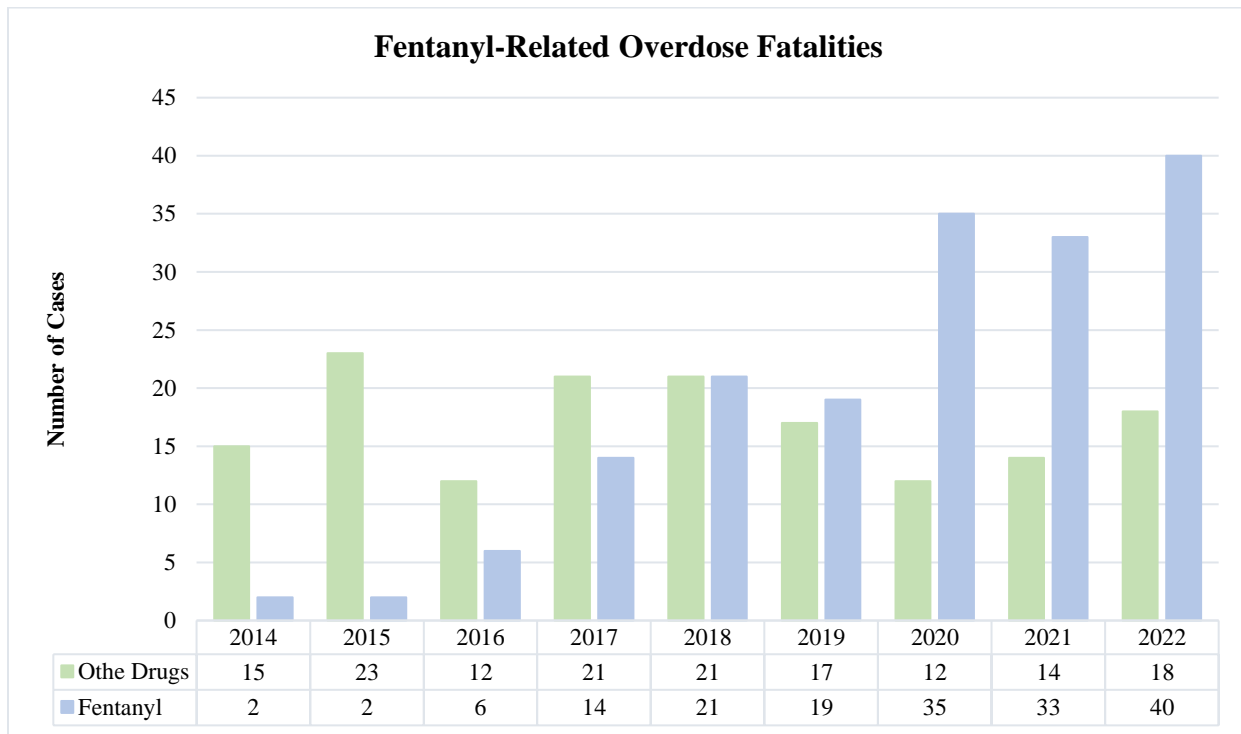


Figure 4. Drug overdose fatalities involving fentanyl versus other drugs by year (2014-2022) in Licking County.



Common Substances

The top 10 common substances present in decedents' toxicology reports in 2022 are illustrated in **Figure 5**. The most frequent substance was fentanyl, which was present in approximately 67% of cases. There are more than ten substances depicted in **Figure 5** due to three substance (11-carboxy-Tetrahydrocannabinol, cocaine, and ecgonine methyl ester) being present in the same number of reports.

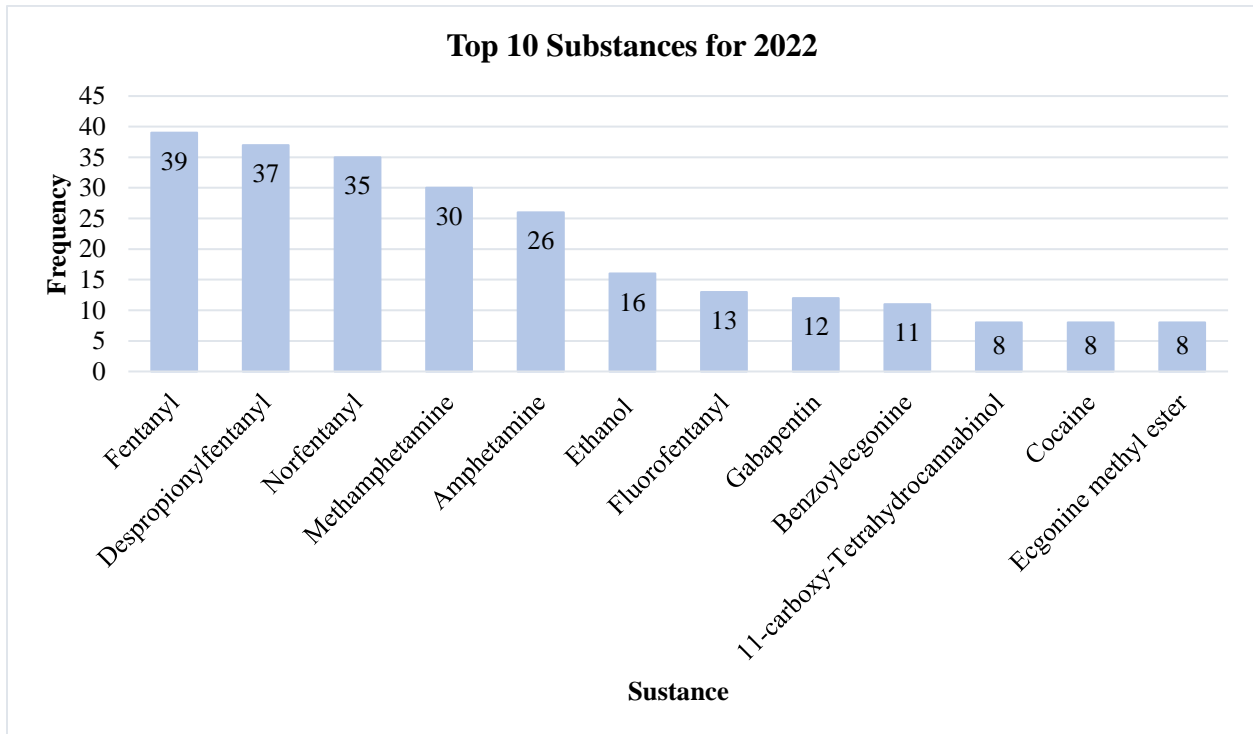


Figure 5. Top 10 common substances found in toxicology reports in Licking County for the 2022 year. The asterisk (*) in front of a substance name indicates it is an analogue or metabolite of a specific substance.



Substances Present in Cases

Of the 2022 unintentional drug overdose fatalities in Licking County, 77.6% (45 of 58 cases) contained opioids. As shown in **Table 1**, 39 cases contained fentanyl. Therefore, approximately 86.7% (39 of 45 cases) of opioid fatalities were due to fentanyl. **Table 1** breaks down the substances and their percentages in cases detected in the toxicology reports. In **Table 1**, the asterisk (*) in front of a substance name indicates it is an analogue or metabolite of a specific substance. **Table 1** continues onto the next page (page 12).

Table 1.

The substances and their frequencies and percentages detected in the toxicology reports.

Substance	Frequency in Cases	Percentage (%)
Fentanyl	39	69.6
Despropionylfentanyl*	37	66.1
Norfentanyl*	35	62.5
Methamphetamine	30	53.6
Amphetamine	26	46.4
Ethanol	16	28.6
Fluorofentanyl*	13	23.2
Gabapentin	12	21.4
Benzoylcegonine	11	19.6
11-carboxy-Tetrahydrocannabinol*	8	14.3
Cocaine	8	14.3
Ecgonine methyl ester	8	14.3
Despropionylfentanyl fluorofentanyl*	6	10.7
Buprenorphine	5	8.9
Norbuprenorphine*	5	8.9
11-carboxy-delta-9-THC, free delta-9 (Tetrahydrocannabinol)	4	7.1
11-hydroxy-Tetrahydrocannabinol	3	5.4
Acetylfentanyl* delta-8 THC (Tetrahydrocannabinol)	3	5.4
Oxycodone	3	5.4
Oxymorphone	3	5.4
Tetrahydrocannabinol	3	5.4
11-carboxy-delta-8-THC, free	3	5.4
Diphenhydramine	3	5.4
Trazodone	3	5.4
7-aminoclonazepam	2	3.6



Acetone	2	3.6
Alprazolam (Xanax)	2	3.6
Amitriptyline	2	3.6
Cannabidiol	2	3.6
Carbon Monoxide	2	3.6
Cyclobenzaprine	2	3.6
Desvenlafaxine	2	3.6
Diazepam (Valium)	2	3.6
Lidocaine	2	3.6
Norchlorcyclizine	2	3.6
Nortriptyline	2	3.6
Quetiapine	2	3.6
Tramadol	2	3.6
Venlafaxine	2	3.6
11-hydroxy-THC, free	2	3.6
Citalopram	2	3.6
Dextro/Levo Methorphan	2	3.6
Fluoxetine	2	3.6
11-carboxy-THC	1	1.8
6-monoacetylmorphine, free	1	1.8
Cetirizine/hydroxyzne/chlorcyclizine	1	1.8
Chlorpheniramine	1	1.8
Citalopram Metabolite(s)*	1	1.8
Doxylamine	1	1.8
Ibuprofen	1	1.8
Lamotrigine	1	1.8
Methadone	1	1.8
Morphine	1	1.8
Nordiazepam	1	1.8
Orphenadrine	1	1.8
Pregabalin	1	1.8
Quetiapine metabolites*	1	1.8
Topiramate	1	1.8



Demographics

Assigned Biological Sex

Among the 2022 unintentional drug overdose fatality cases (58 total cases), 34 decedents were identified as male and 24 as female. **Figure 6** depicts the percentages of the sex demographic for 2022 overdose fatalities.

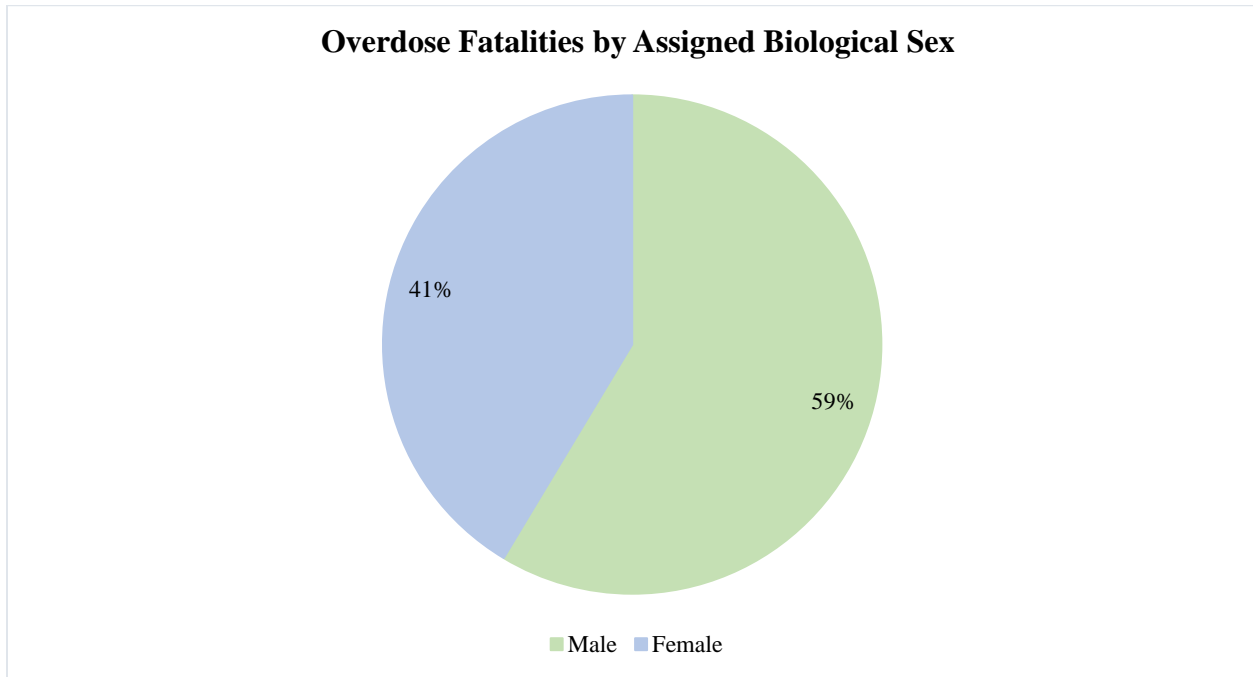


Figure 6. Percentages of 2022 unintentional drug overdose fatalities by assigned biological sex in Licking County, Ohio.



Age Group

In 2022, the age of decedents resulting from an unintentional drug overdose fatality ranged from 19- to 67-years old with the average age being 43.6-years old. In 2022, the most common age group among the unintentional drug overdose fatalities was 55- to 64-years of age, accounting for 29.3% of all unintentional drug overdose fatalities. The next most common age group was 25- to 34- and 35- to 44- years of age as demonstrated in **Figure 7**.

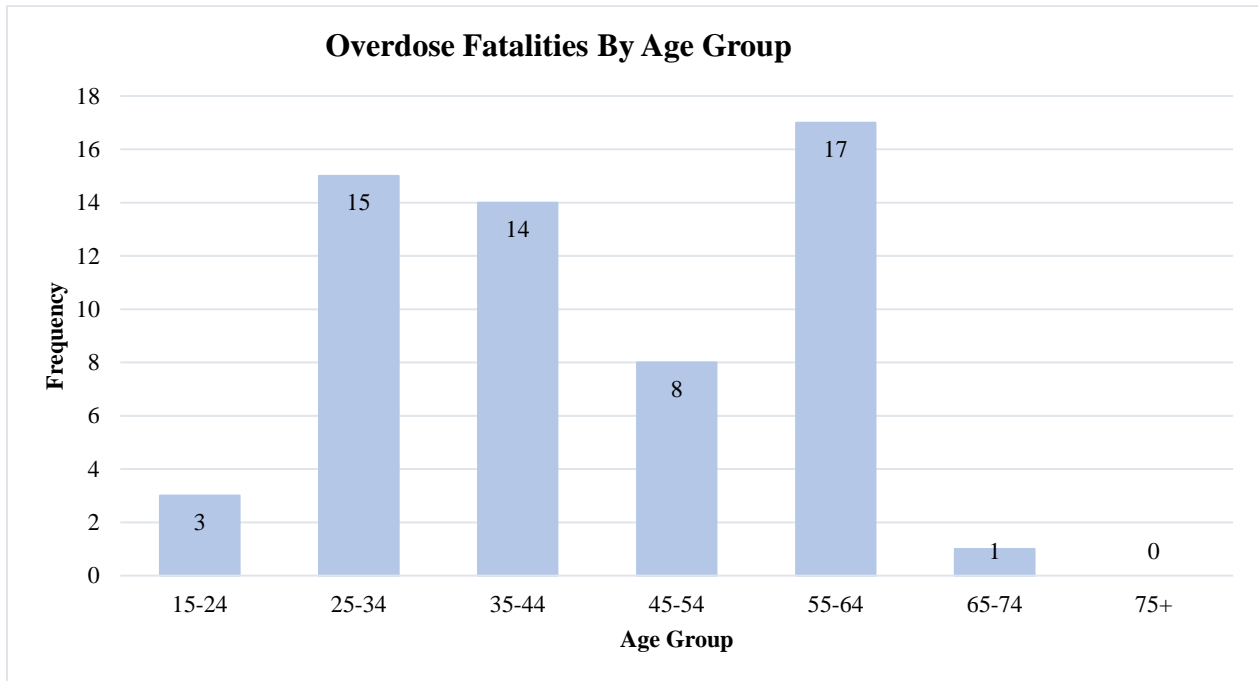


Figure 7. 2022 unintentional drug overdose fatalities by age group in Licking County, Ohio.



Marital Status

Among the 58 cases of unintentional drug overdose fatalities in 2022, 24 decedents were “never married”, which is illustrated as a percentage in **Figure 8**. The category of “divorced and not remarried” was the second highest with 17 decedents being described as this category and “married” had 12 decedents described as this category.

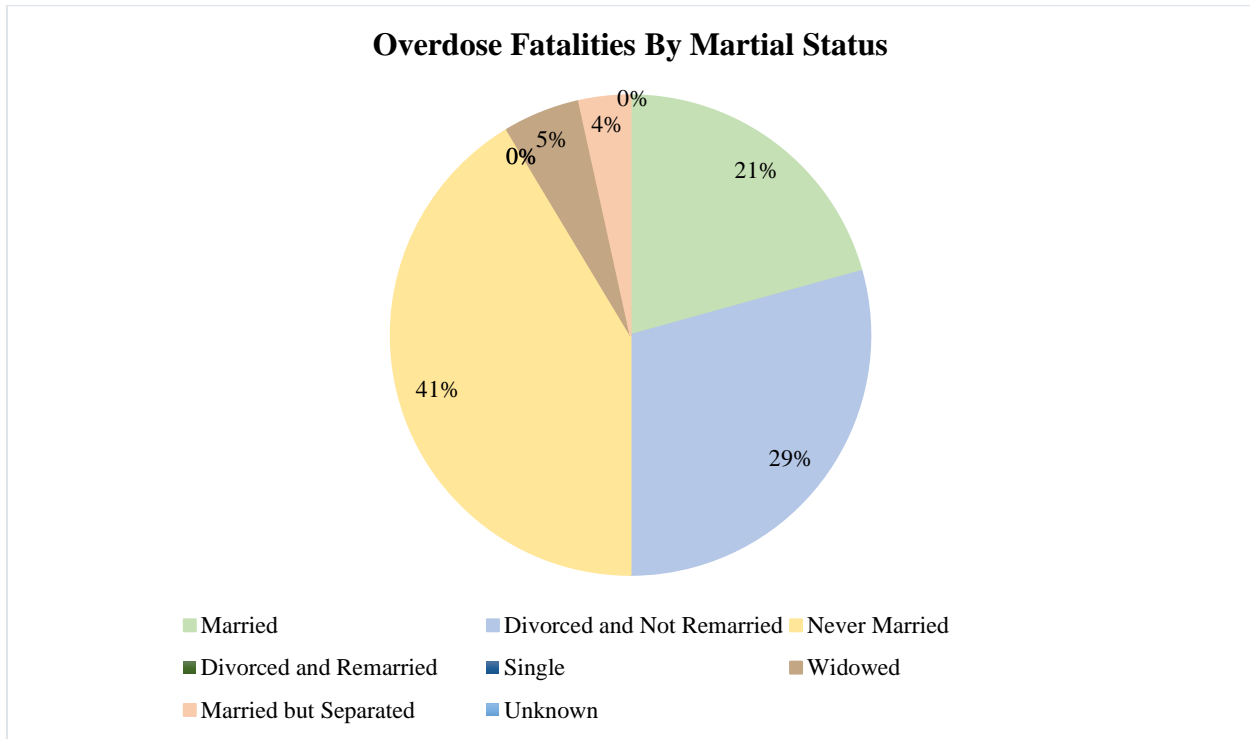


Figure 8. 2022 unintentional drug overdose fatalities by marital status in Licking County, Ohio.



Education Level

In 2022, 65.5% (38 of 58 cases) of unintentional drug overdose fatality decedents only had a high school education or GED, as illustrated in **Figure 9**. Approximately 81% of decedents had a high school education, GED, or a lesser equivalent of education as illustrated in **Figure 9**.

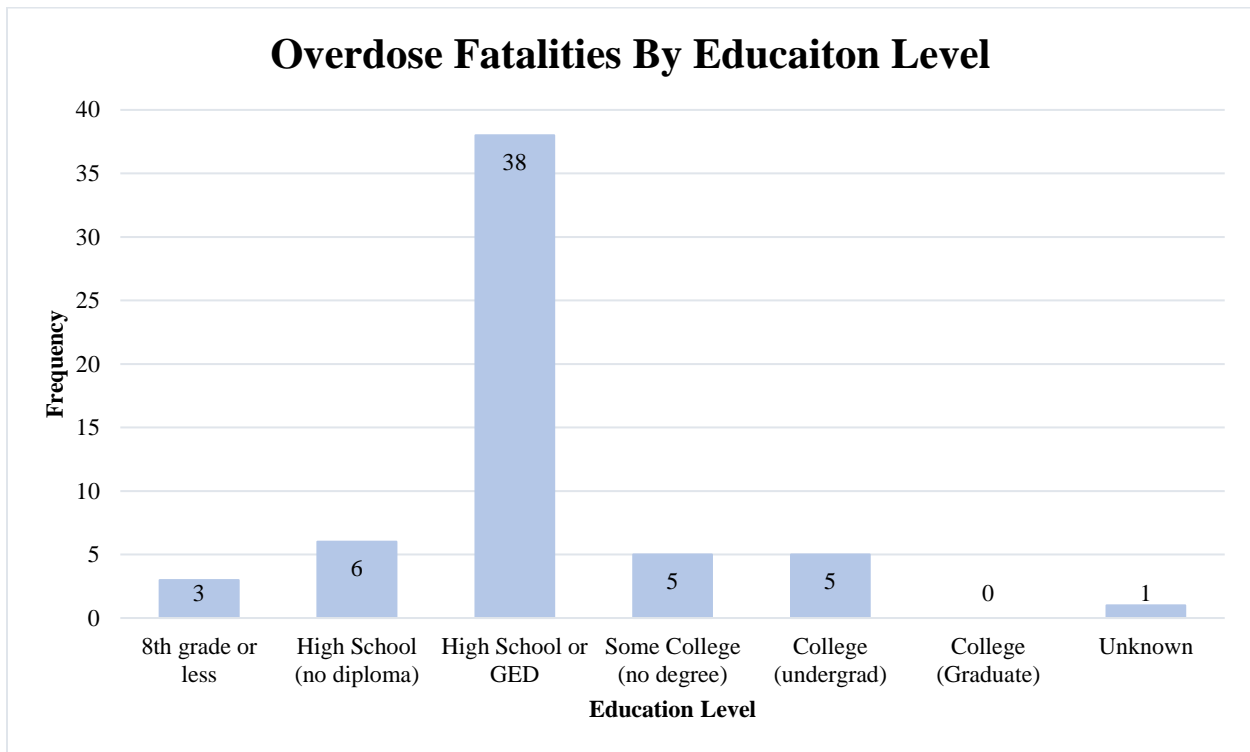


Figure 9. 2022 unintentional drug overdose fatalities by education level in Licking County, Ohio.



Race

As shown in **Figure 10**, all decedents in the 2022 unintentional drug overdose fatalities were identified as Caucasian or White.

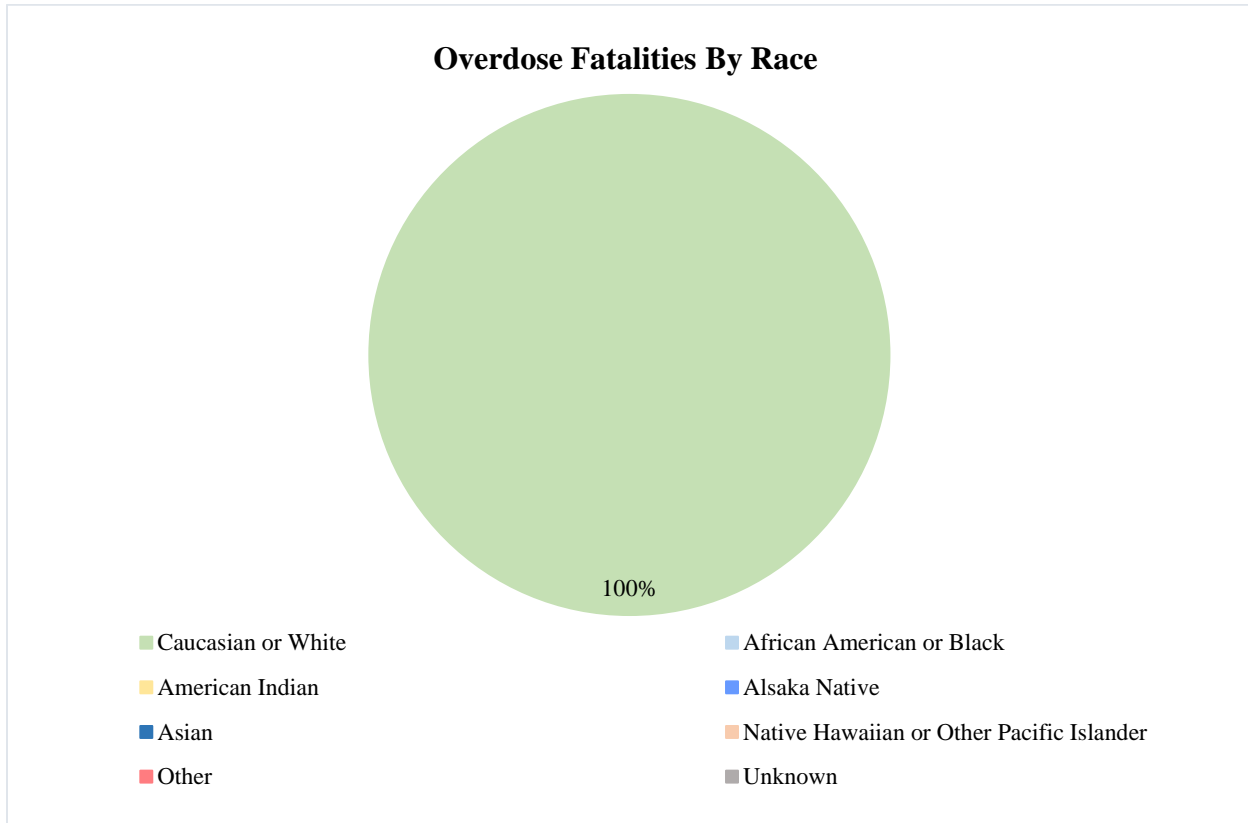


Figure 10. 2022 percentage of unintentional drug overdose fatalities by race in Licking County, Ohio.



History of Mental Health Illness

In 2022, 20 of 58 decedents had a known mental health illness history while 36 of 58 decedents had an unknown mental health illness history, as shown in **Figure 11** as percentages.

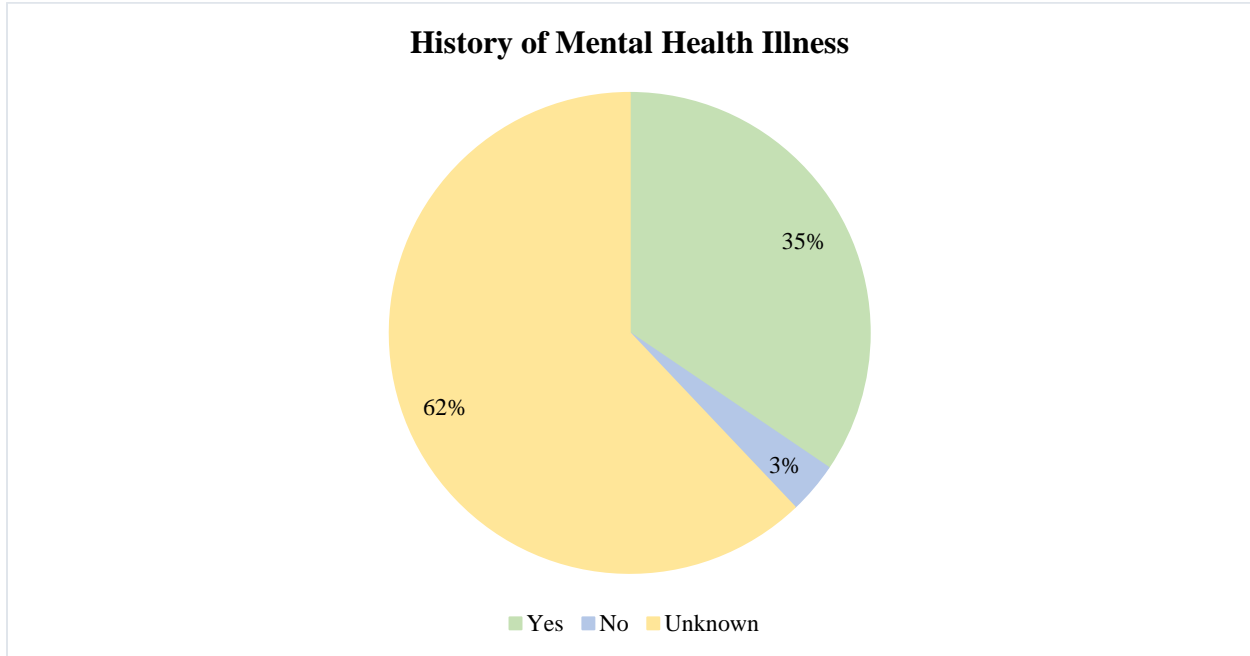


Figure 11. Presence of mental health illness among unintentional drug overdose fatality decedents in Licking County, Ohio in 2022.



Medical Conditions

In 2022, 96.6% of decedents had at least one medical condition either reported or discovered during autopsy. **Figure 12** shows the top 10 medical conditions of the decedents in 2022. **Figure 12** also shows whether the medical condition was a pre-existing condition or was discovered during the autopsy. As seen in **Figure 12**, mental health conditions, such as SUD, depression, and anxiety were the main conditions present prior to death.

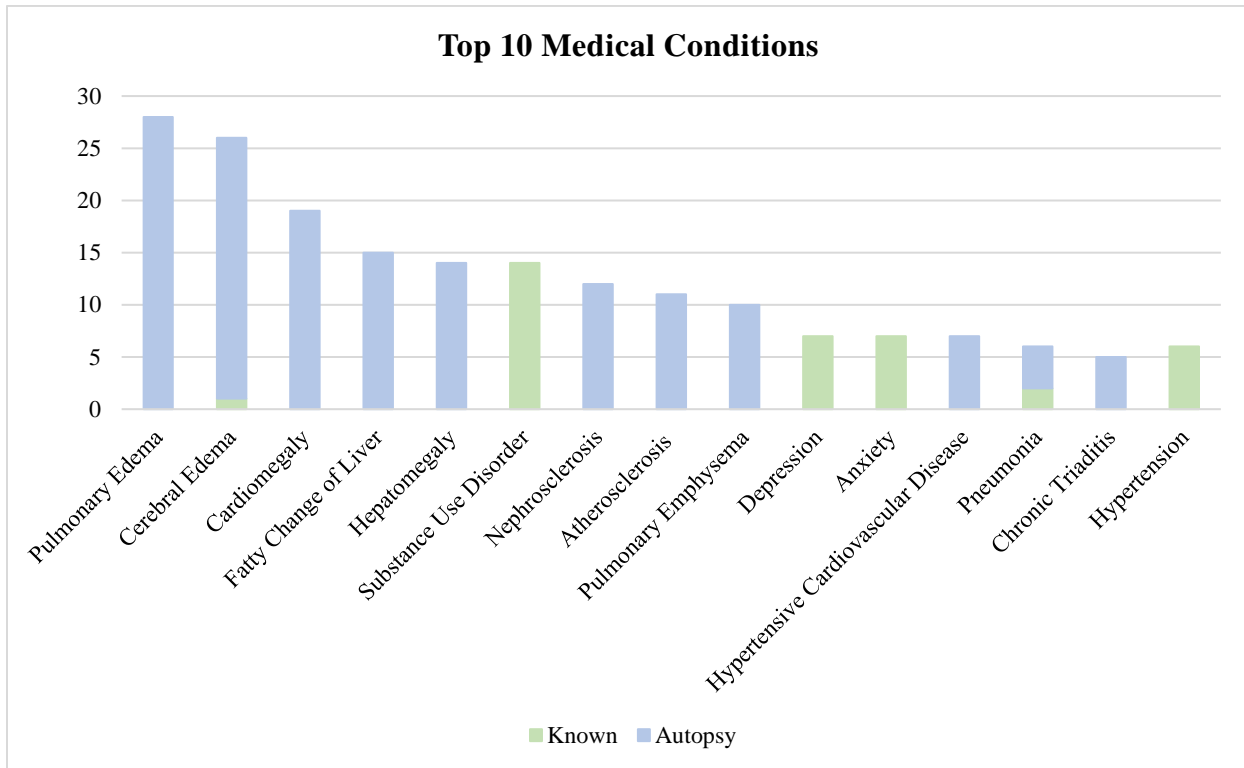


Figure 12. 2022 top 10 medical conditions found before *or* after autopsy in Licking County, Ohio. Green indicates the condition was known prior to death while blue indicates the condition was discovered during the autopsy.



Trends

At each quarterly meeting, the OFR Committee discusses trends seen in the current year. Discussing trends between overdose fatalities allows the OFR Committee to identify systematic gaps, areas of improvement, and missed opportunities for prevention.

Trends that the OFR Committee identified for 2022 in Licking County include:

- Decedents were primarily white males who have either never been married or are divorced and not remarried
- The age group with the most fatalities was the 55- to 64- year olds
- The majority of decedents only obtained a high school education or GED
- The majority of decedents did not have a primary care provider (PCP) established
- Over half of the decedents did not have a known mental health history documented or reported
- Most medical conditions were found during the autopsy
- Fentanyl-related deaths increased from 33 in 2021 (LCHD, 2021) to 39 in 2022
- Of the fatality cases which were caused by stimulants (37 cases), approximately 65% of stimulant cases (24 cases) contained fentanyl and/or its analogs or metabolites
- The top three most common substances discovered during the toxicology report were fentanyl and its analogs or metabolites

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Recommendations

The following recommendations were discussed and developed by the Licking County OFR Committee. These recommendations were made with expectations to decrease overdose incidents **AND** fatalities, increase community access to overdose prevention materials, and SUD educational/informational materials.

- Overdose Prevention
 - Promote NARCAN® pop-up in hotspots in Licking County
 - Continue to distribute “Free Naloxone Kits” green cards to agencies and individuals around Licking County
 - Promote distribution of fentanyl education and fentanyl testing strips
 - Promote Generation Rx in more schools across the county
 - Naloxboxes within the county
 - Promote Lower Lights for PCP care
- Education
 - Target the population suffering from SUD or a friend/loved one of someone effected from SUD.
 - Billboard, radio ad, and social media posts regarding pertinent information on the DEA’s One Pill Can Kill and the CDC’s Fentanyl/Polysubstance Use campaigns. The Licking County Health Department (LCHD) warns individuals about the dangers of using a drug you are unsure of **AND/OR** mixing drugs. Resources are provided through LCHD’s website including the option to order a free Naloxone (NARCAN®) kit.
- Community Outreach
 - Onboard additional Project DAWN service entities and distributors beyond the city of Newark to reach hotspots identified on ODMAP.
 - Provide resources to community partners and county agencies to engage the community in prevention efforts.
 - Host events to serve target populations that provides resources and education on drug overdose prevention.
- Surveillance and Dissemination
 - Continue to review overdose data through Newark Police Department Response Reports, ODMAP, Ohio Public Health Warehouse: Mortality Data, Epicenter, and the Licking County Coroner’s Office.
 - Identify hotspots via ODMAP to better target marketing strategies and resource allocation
 - Disseminate pertinent overdose information and/or data to the Drug Overdose Prevention (DOP) Coalition, Board of Health, Project DAWN and ODMAP partners, and the general public when necessary.



Next Steps

LCHD OFR documents and processes will be reviewed and enhanced when necessary. Documents will be developed and/or updated to better align with federal and state OFR recommendations and guidelines. As the LCHD OFR Committee moves forward, recommendations and strategies will be put into action in the current year to help prevent and educate regarding overdose incidents as well as increase community outreach and surveillance/dissemination efforts.

Contributors

The Licking County Coroner's Office

- Dr. C. Jeff Lee D.O., Chief Forensic Pathologist/Deputy Coroner

The Licking County Health Department

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- Ashley See, MCHES[®], CPST – Health Promotion Director
- Chad Brown, MPH, REHS – Health Commissioner

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Licking County Health Department. (2022). *Licking County Overdose Fatality Review Annual Report: 2022*.