



OVERDOSE FATALITY REVIEW ANNUAL REPORT LICKING COUNTY 2021



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Background:

The Licking County Overdose Fatality Review (OFR) began in 2017 and meets quarterly (every 3 months) during the Drug Overdose Prevention (DOP) grant year, which runs September 1st to August 31st the following year. During 2021, 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 Overdose Fatality Review (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:** Substance intended for use in the diagnosis, cure, mitigations, treatment, and/or prevention of disease.
- **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 (i.e., illicitly manufactured fentanyl and ecstasy).
- **Prescription Drug:** A medication purchased at a pharmacy that is prescribed by a practicing medical professional and intended to be used by the individual it is prescribed to. Prescription drugs are regulated by the U.S. Food and Drug Administration (FDA) through the New Drug Application (NDA) process.
- **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.).
- **Prescription Opioid** – Also known as opioid analgesics: Medications that are used to treat moderate-to-severe pain in patients. Prescription opioids can be broken down into four categories:
 - *Natural opioid analgesics* – morphine, codeine
 - *Semi-synthetic opioid analgesics* – oxycodone, hydrocodone
 - *Methadone* – synthetic opioid prescribed for pain reduction **OR** for medication opioid use disorder
 - *Synthetic opioid analgesics* – tramadol, fentanyl
- **Fentanyl:** There are distinct types of fentanyl – pharmaceutical fentanyl and illicitly manufactured fentanyl which is 50 to 100 times stronger than morphine.
 - *Pharmaceutical fentanyl:* Synthetic opioid approved to treat severe pain (i.e., advanced cancer pain).
 - *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.
- **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.
- **Substance Use Disorder (SUD)** – Also known as “addiction”: A medical disorder where an individual focuses on a certain substance (i.e., alcohol, tobacco, illicit drugs, etc.) to the point their daily life becomes impaired in all aspects and centered around the substance.



2021 Ohio Overdose Data

The following data is from the Ohio Public Health Information Warehouse: Mortality Dataset (OPHIW:MD). Figures from the OPHIW:MD differ from Licking County 2021 OFR data figures. OPHIW:MD figures include overdoses that occurred within Licking County but were transported and died out of county lines **AND** fatalities that occurred within Licking County. OPHIW:MD reports 63 overdose fatalities for Licking County in 2021. However, the Licking County OFR reports 47 overdose fatalities for 2021. 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.

Licking County’s 2021 overdose death count reported by OPHIW:MD was 63 which ranks Licking County 19th out of the 88 counties. **Figure 1** breaks down the overdose death count of Ohio counties by multiples of 50 to better illustrate the range Licking County falls in and is colored coded *green*.

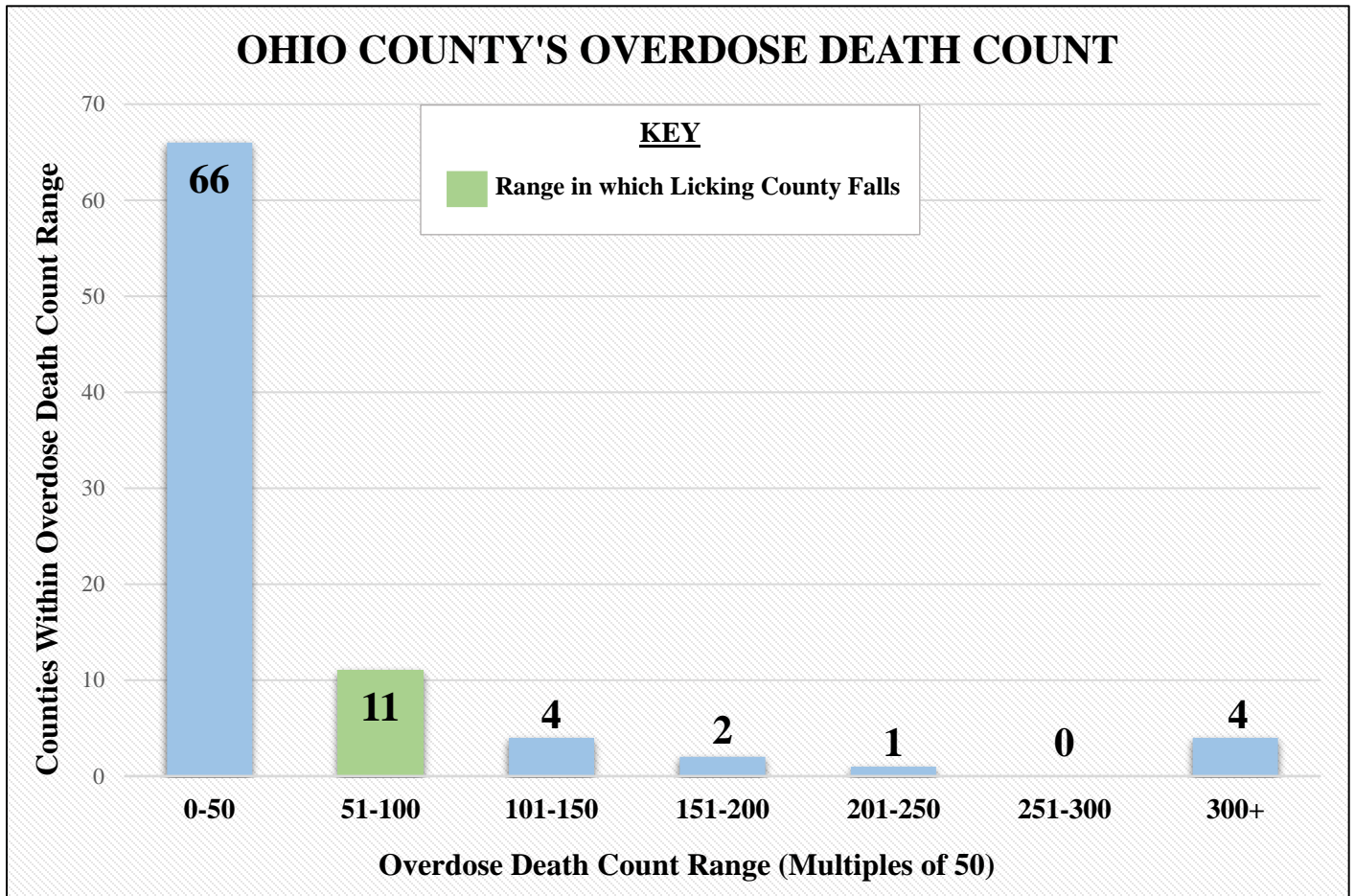


Figure 1: Overdose death count of Ohio Counties by multiples of 50, 2021



Licking County's 2021 overdose death rate reported by OPHIW:MD was 35.4 deaths per 100,000 population. This ranked Licking County 41st out of the 88 counties. **Figure 2** breaks down the overdose death rate of Ohio counties by multiples of 10 to better illustrate what range Licking County falls in and is color coded *green*.

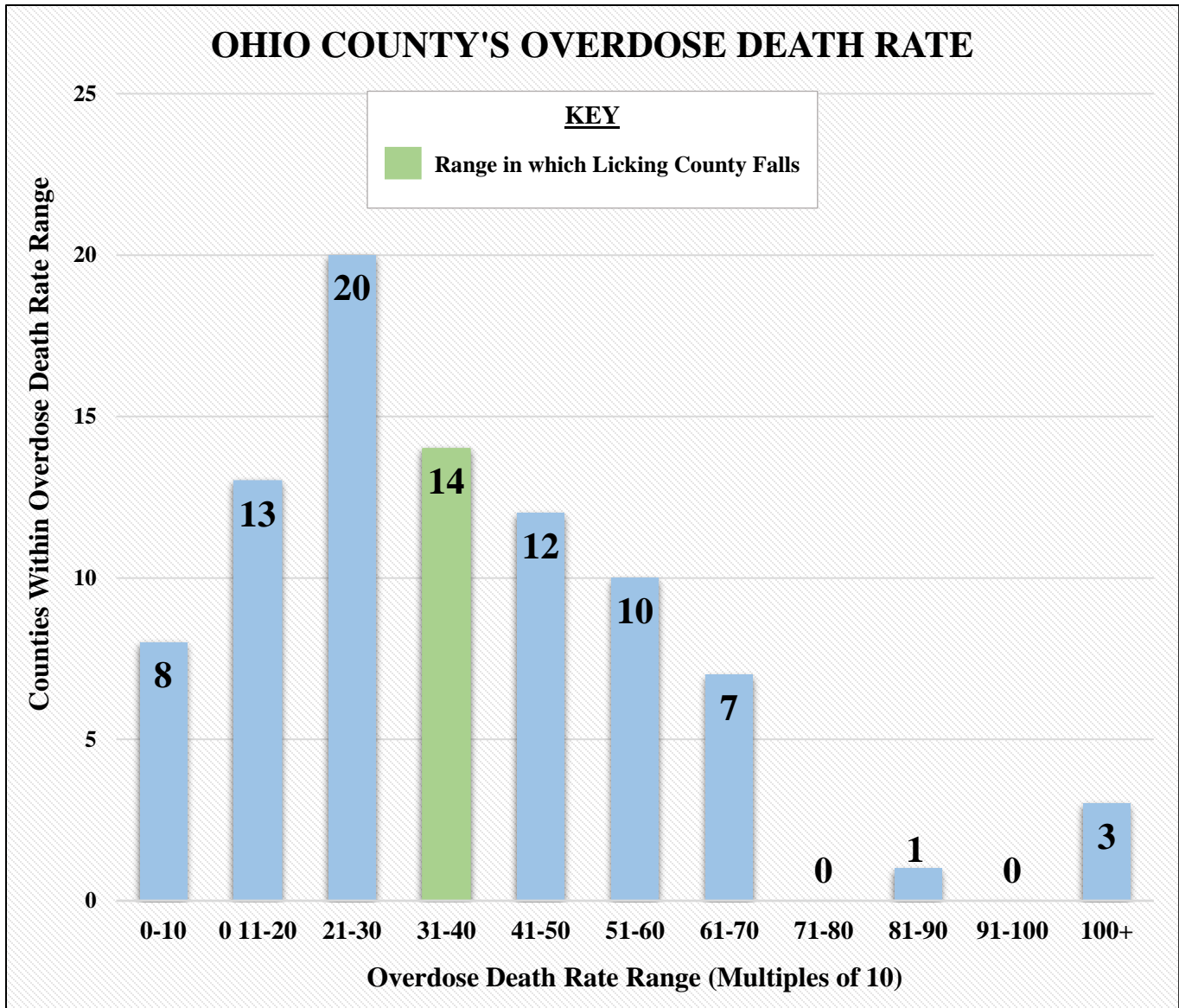


Figure 2: Overdose death rate of Ohio Counties by multiples of 10, 2021



Licking County 2021 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

In 2021, there were 47 overdose fatalities in Licking County, Ohio. Of the 47 fatalities, 47 were accidental and zero were suicidal. In 2020, Licking County saw a total of 47 overdose fatalities, which was the highest recorded overdose fatality year. **Figure 3** illustrates the death count in Licking County over the past 20 years with 2021 being the most recent year and is color-coded *green*.

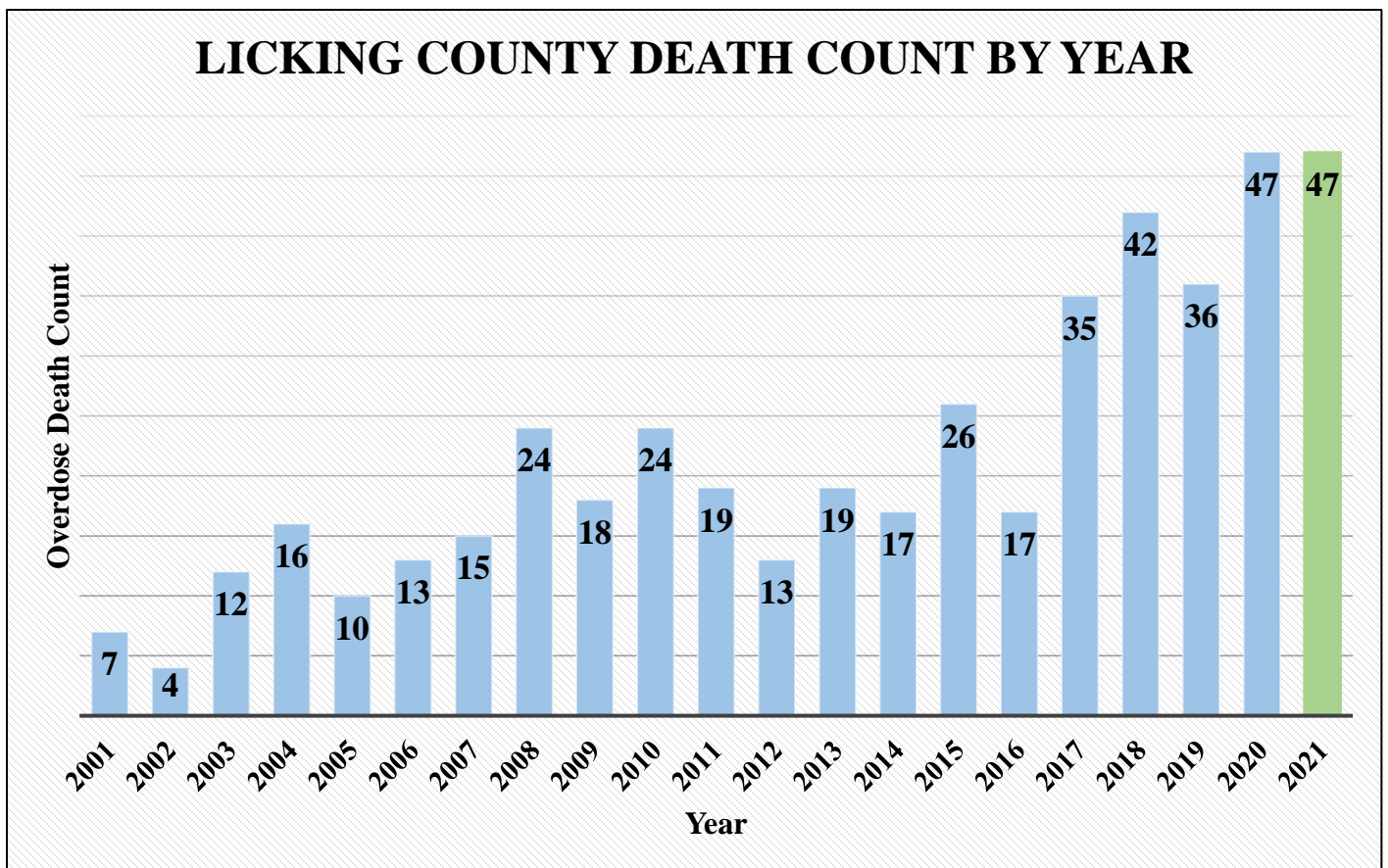


Figure 3: Comparison of overdose death counts by year, Licking County (2001-2021)



In 2021, there were 34 fentanyl-related drug overdose fatalities in Licking County. From 2020 to 2021, there was a 2.9% decrease in fentanyl-related drug overdose fatalities (**Figure 4**).

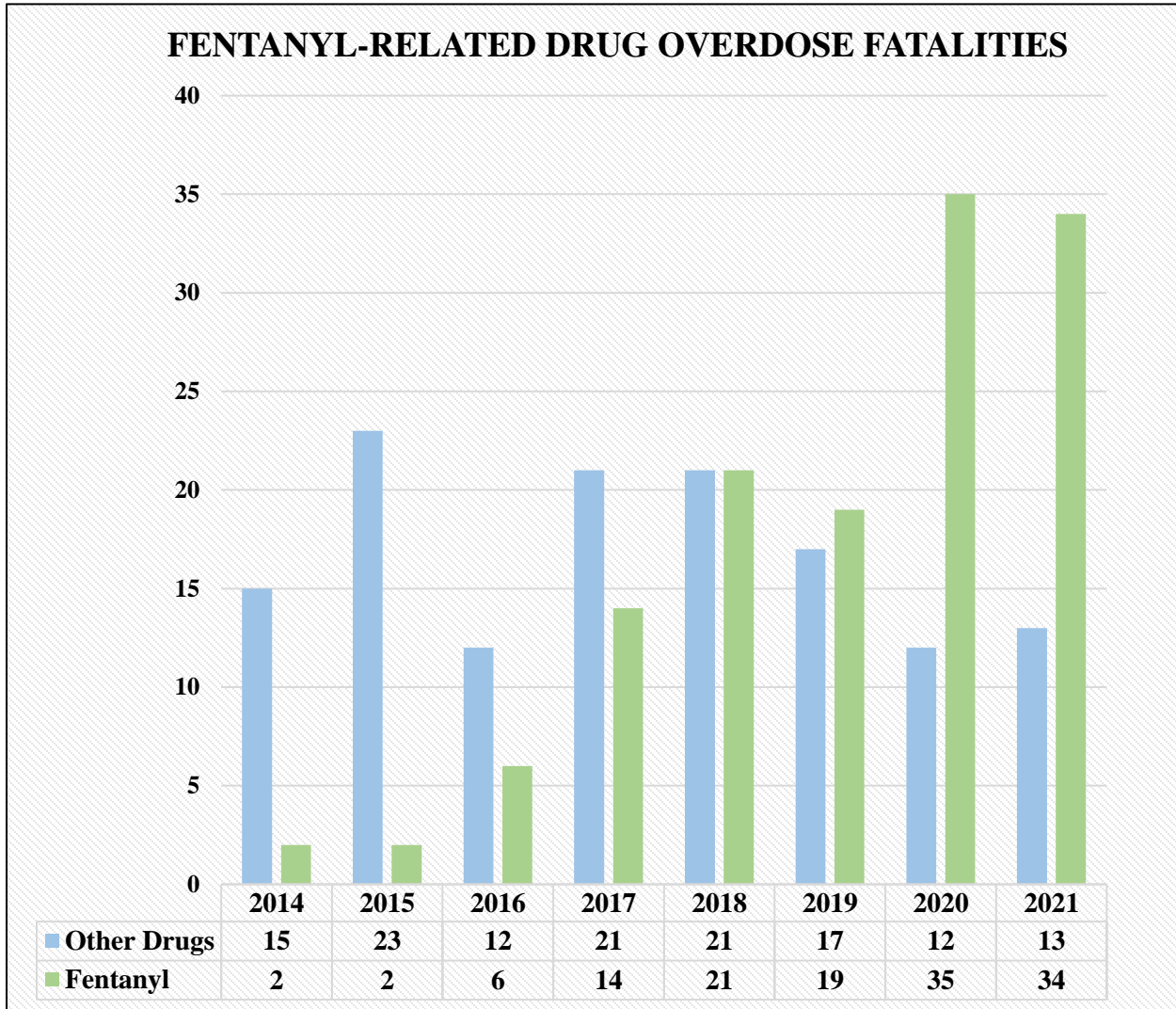


Figure 4: Drug overdose fatalities involving fentanyl versus other drugs by year, Licking County (2014-2021)



Common Substances

The top 10 common substances present in decedents' toxicology reports in 2021 are illustrated in **Figure 5**. The most frequent substance was fentanyl, which was in 34 out of the 47 cases.

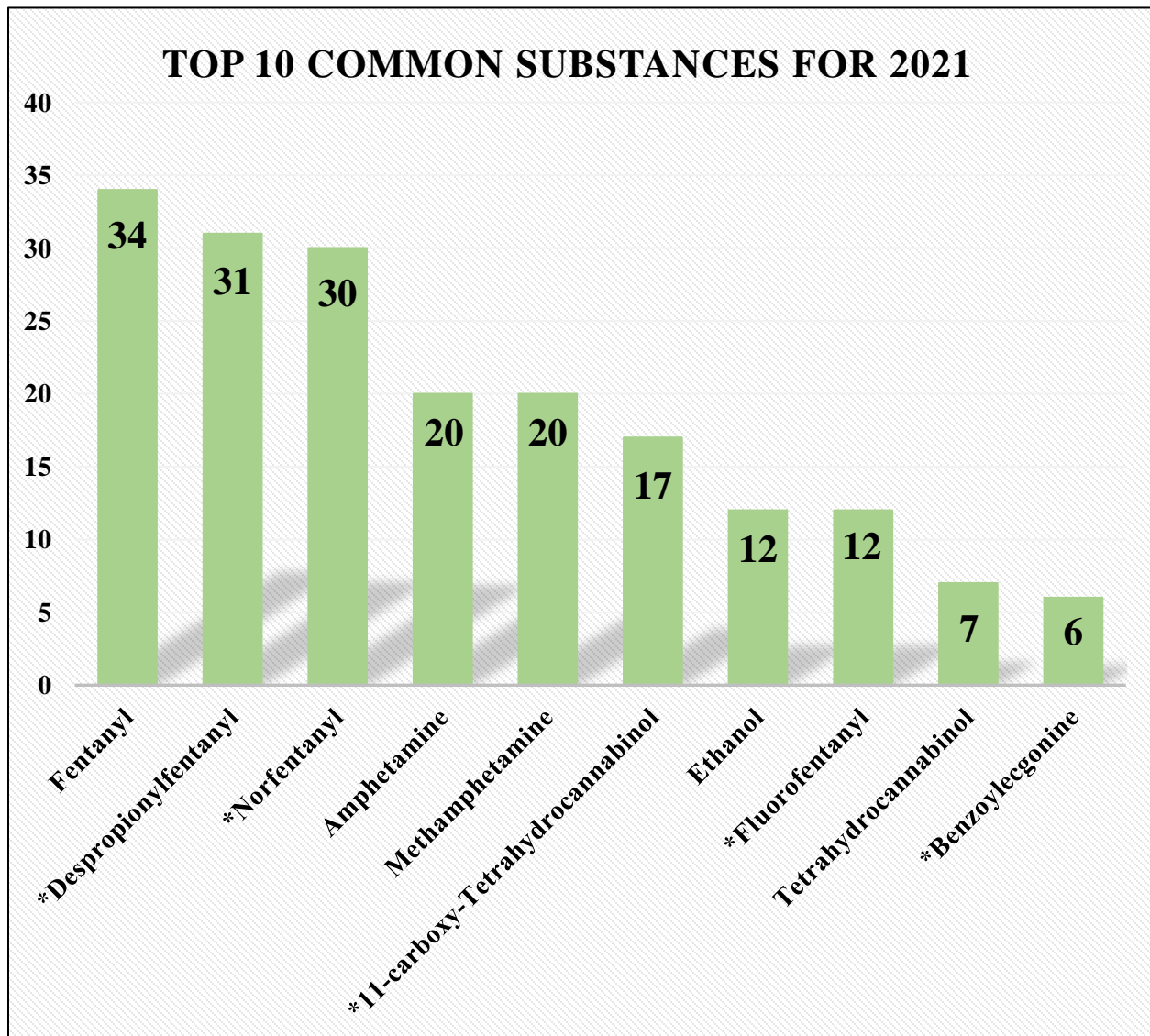


Figure 5: Top 10 common substances found in toxicology reports in Licking County, 2021

* = An analogue or metabolite of a specific substance



Substances in 2021 Cases and Their Fatality Percentage

78.7% (37 out of 47 cases) of all overdose fatalities in 2021 contained opioids. 91.9% (34 out of 37 cases) of those fatalities contained fentanyl. **Figure 6** illustrates a breakdown of the percentage of overdose fatalities by substance found in toxicology reports out of the 47 cases.

SUBSTANCE	PERCENTAGE OF SUBSTANCE FREQUENCY OUT OF 47 CASES, 2021
FENTANYL	72.3%
DESPROPIONYLFENTANYL*	66%
NORFENTANYL*	63.8%
AMPHETAMINE	42.6%
METHAMPHETAMINE	42.6%
11-CARBOXY-TETRAHYDROCANNABINOL*	36.2%
ETHANOL	25.5%
FLUOROFENTANYL*	25.5%
TETRAHYDROCANNABINOL	14.9%
BENZOYLECGONINE*	12.8%
DIPHENHYDRAMINE	10.6%
ACETYLFENTANYL*	6.4%
BENZYL FENTANYL*	6.4%
COCAINE	6.4%
DESPROPIONYLFENTANYL FLUOROFENTANYL*	6.4%
ECGONINE METHYL ESTER*	6.4%
GABAPENTIN	6.4%
OXYCODONE	6.4%
OXYMORPHONE	6.4%
ALPRAZOLAM (XANAX)	4.3%
BUPROPION	4.3%
CITALOPRAM	4.3%
DULOXETINE	4.3%
HYDROXYBUPROPION*	4.3%
LAMOTRIGINE	4.3%
METHADONE	4.3%
NALOXONE	4.3%
TRAZODONE	4.3%
6-MONOACETYLMORPHINE, FREE	2.1%



7-AMINOCLONAZEPAM*	2.1%
ALPHA-HYDROXYALPRAZOLAM*	2.1%
AMITRIPTYLINE	2.1%
BUPRENORPHINE	2.1%
CARBON MONOXIDE	2.1%
CETIRIZINE/HYDROXYZNE/CHLORCYCLIZINE	2.1%
CODEINE	2.1%
CYCLOBENZAPRINE	2.1%
DESVENLAFAXINE	2.1%
DIPHENHYDRAMINE METABOLITES*	2.1%
DOXYLAMINE	2.1%
EDDP (METHADONE METABOLITE) *	2.1%
FLUCONAZOLE	2.1%
IBUPROFEN	2.1%
LIDOCAINE	2.1%
MORPHINE	2.1%
NORBUPRENORPHINE*	2.1%
NORCHLORCYCLIZINE	2.1%
NORTRIPTYLINE	2.1%
OMEPRAZOLE SULFIDE*	2.1%
ONDANSETRON	2.1%
PROCHLORPERAZINE	2.1%
PROMETHAZINE	2.1%
QUETIAPINE	2.1%
QUETIAPINE METABOLITES*	2.1%
TIZANIDINE	2.1%
VENLAFAXINE	2.1%
VORTIOXETINE	2.1%
ZOLPIDEM (AMBIEN)	2.1%
CRYSTAL METHAMPHETAMINE	0%
HEROIN	0%
HYDROCODONE	0%
HYDROMORPHONE	0%
SUBOXONE	0%

Figure 6: Percentage of each substance in toxicology report in Licking County, 2021

* = An analogue or metabolite of a specific substance



Demographics

Assigned Biological Sex

In 2021, 72% of overdose fatality decedents were identified as male (34 out of 47 decedents) and 28% as female (13 out of 47 decedents) (**Figure 7**).

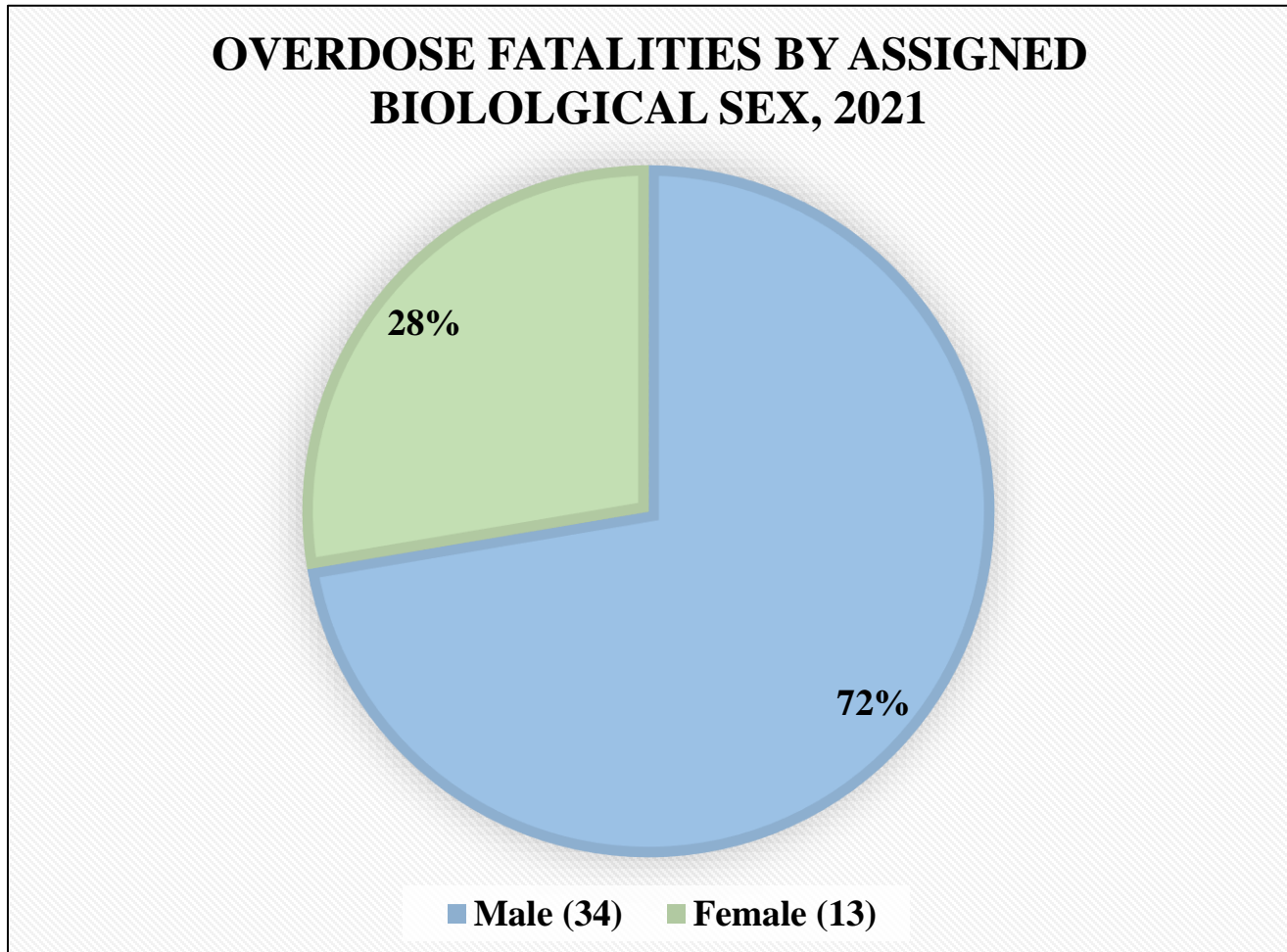


Figure 7: Total overdose fatalities by assigned biological sex in Licking County, 2021



Age Range/Group

In 2021, the age of decedents resulting from a drug overdose fatality ranged from 24 to 64 years old with the average age being 41.5 years old. The most common age group among individuals who died from a drug overdose was 35-44 years old, accounting for 31.9% of all overdose fatalities. The next most common age group was 25-34 years old accounting for 29.8% of all overdose fatalities (**Figure 8**).

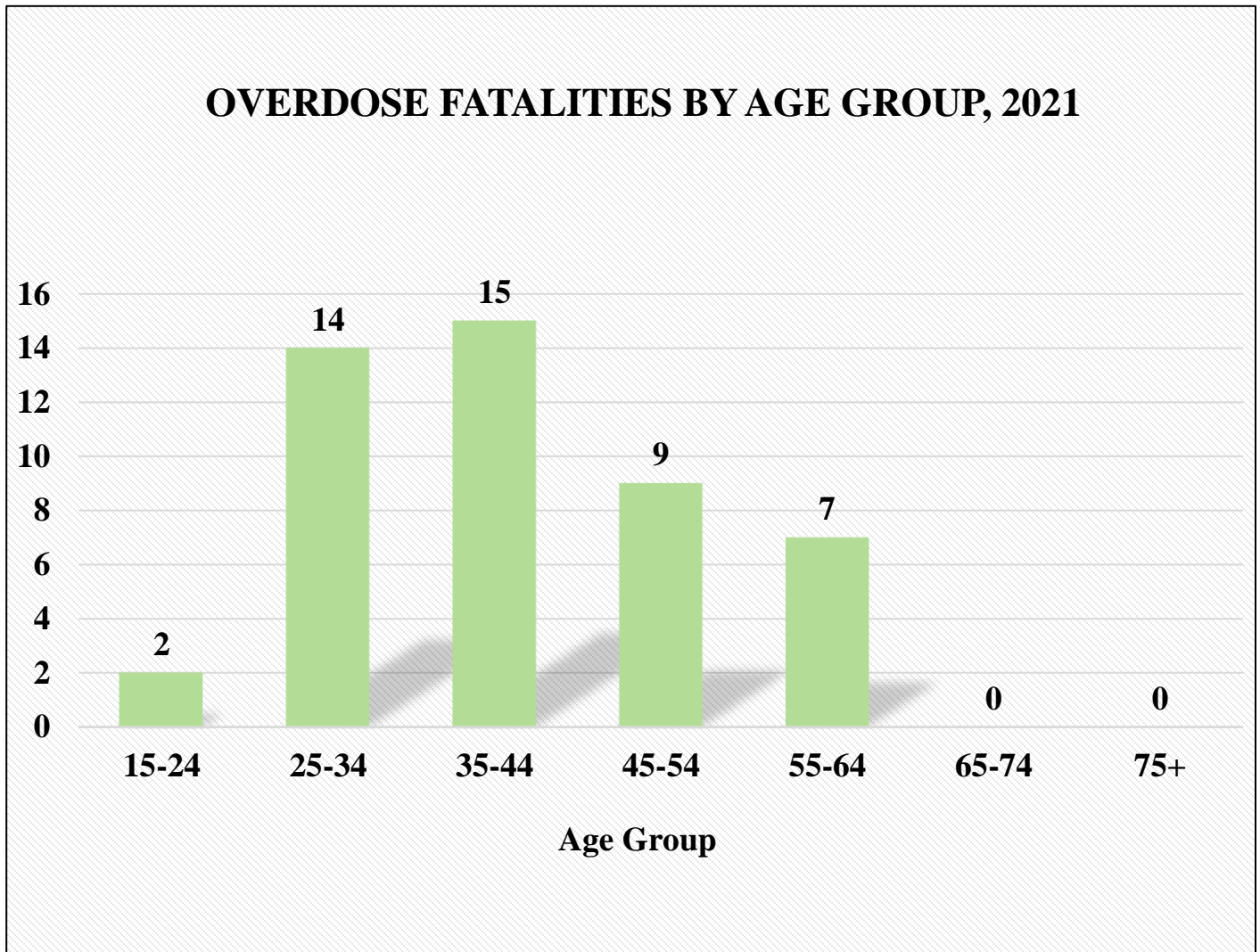


Figure 8: Total overdose fatalities by age range/group in Licking County, 2021



Marital Status

In 2021, 47% (22 out of 47) of decedents who died of a drug overdose were identified as being “never married”, 38% (18 out of 47) were identified as “divorced and not remarried”, and 15% (7 out of 47) were identified as “married” (**Figure 9**).

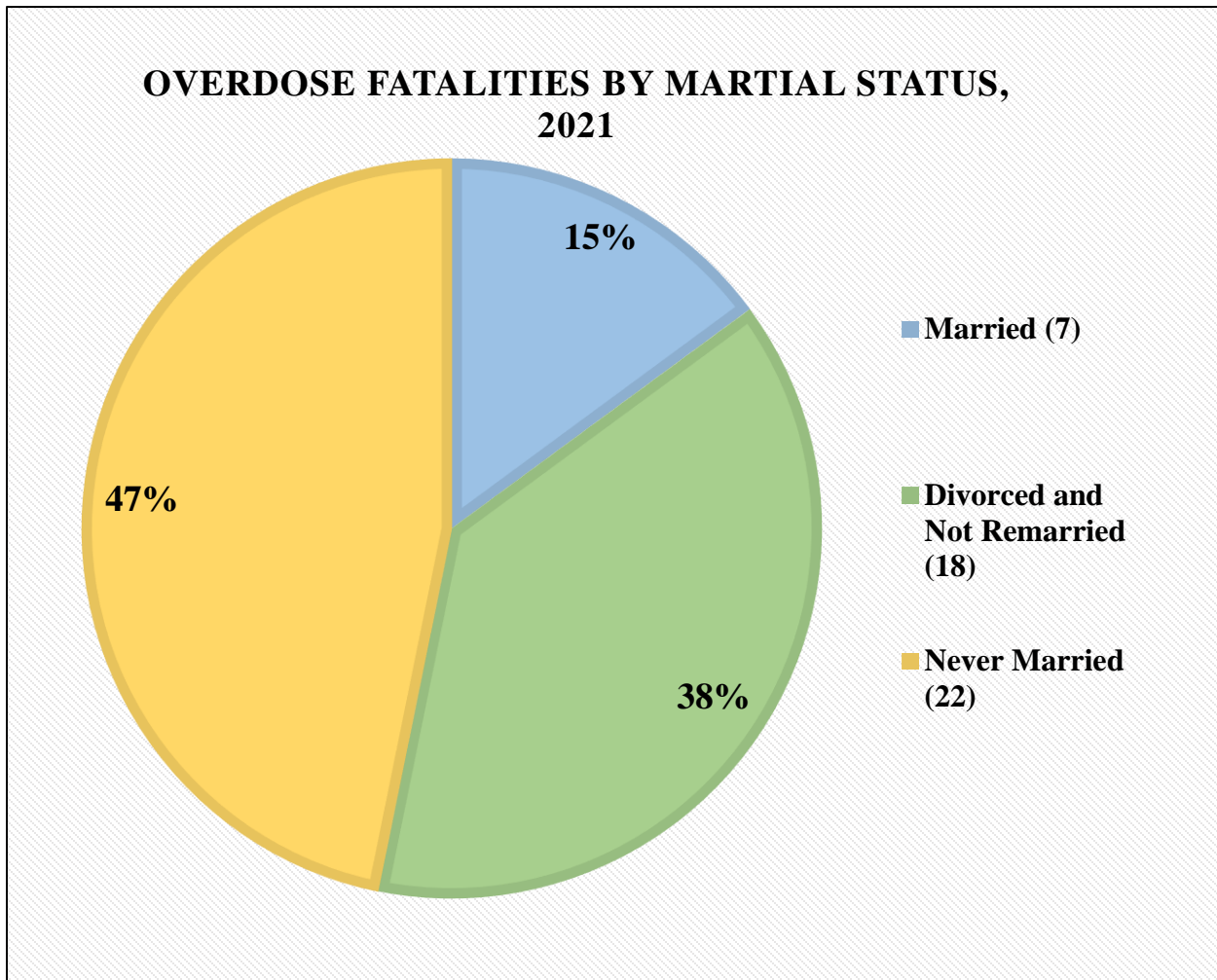


Figure 9: Total overdose fatalities by marital status in Licking County, 2021



Education Level

In 2021, 2.1% (1 out of 47) of decedents who died from a drug overdose were identified as having an 8th grade or less education, 17% (8 out of 47) had a 9-12 education with no diploma, 59.6% (28 out of 47) had a high school or GED education, 12.8% (6 out of 47) had some college education but no degree, and 8.5% (4 out of 47) had a college education with an undergraduate degree (**Figure 10**).

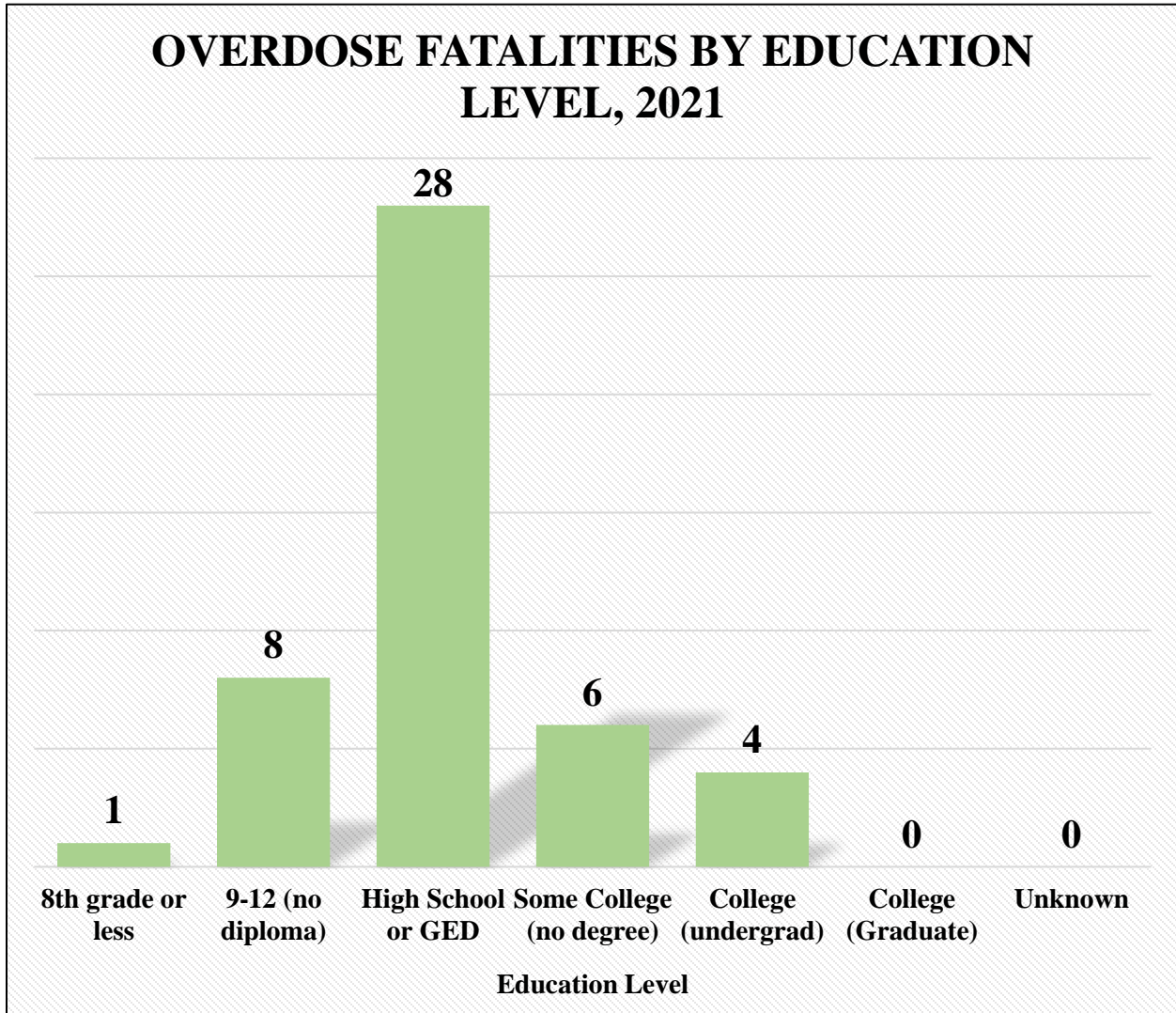


Figure 10: Total overdose fatalities by education level in Licking County, 2021



Race

In 2021, 94% (44 out of 47) of decedents who died of a drug overdose were identified as “White/Caucasian” and 6% (3 out of 47) were identified as “African American/Black” (**Figure 11**).

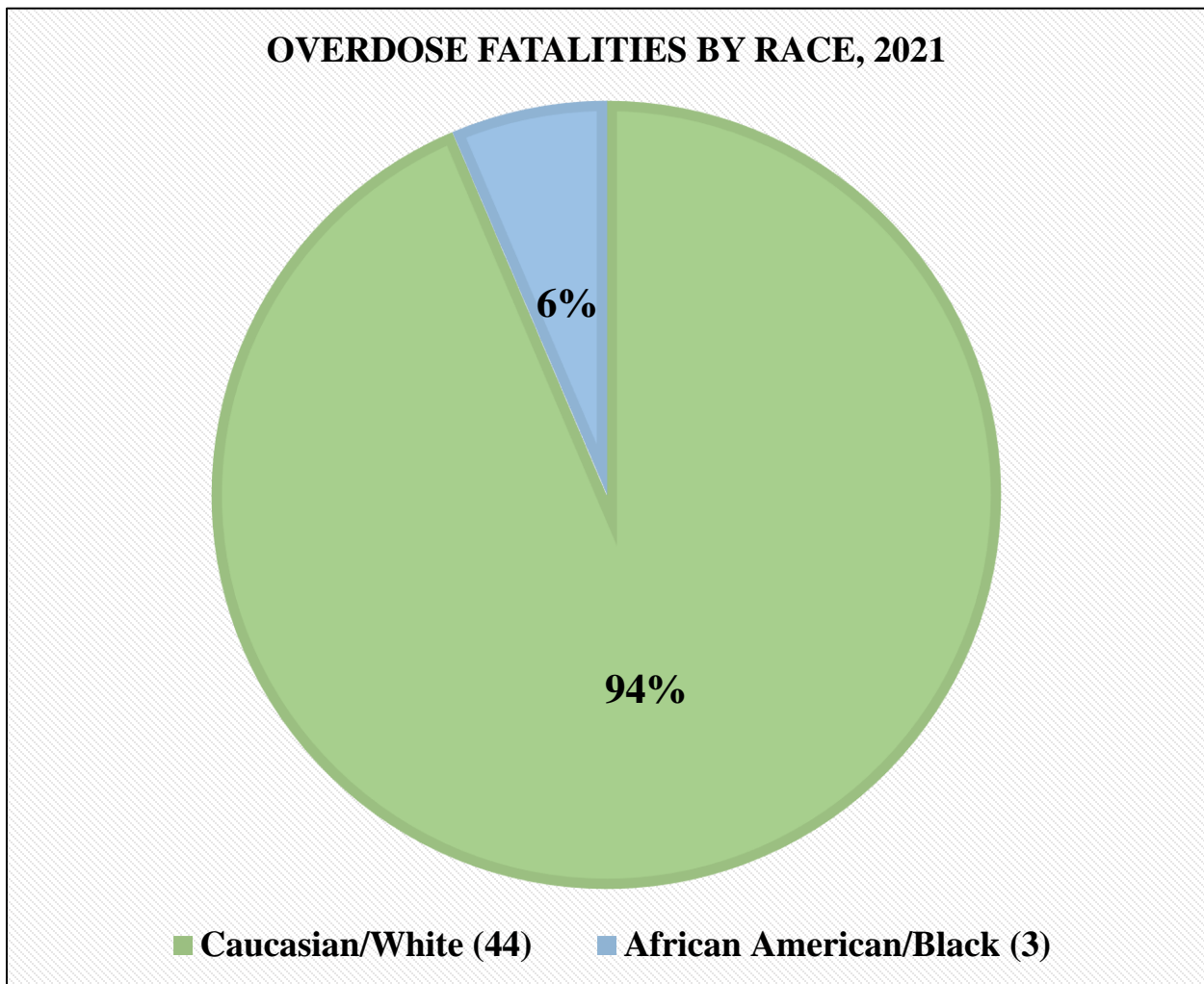


Figure 11: Percent of total overdose fatalities by race in Licking County, 2021



History of Mental Health Illness(es)

In 2021, 34% (16 out of 47) of decedents had a history of mental illness(es) and 66% (31 out of 47) had an unreported or unknown mental illness history (**Figure 12**).

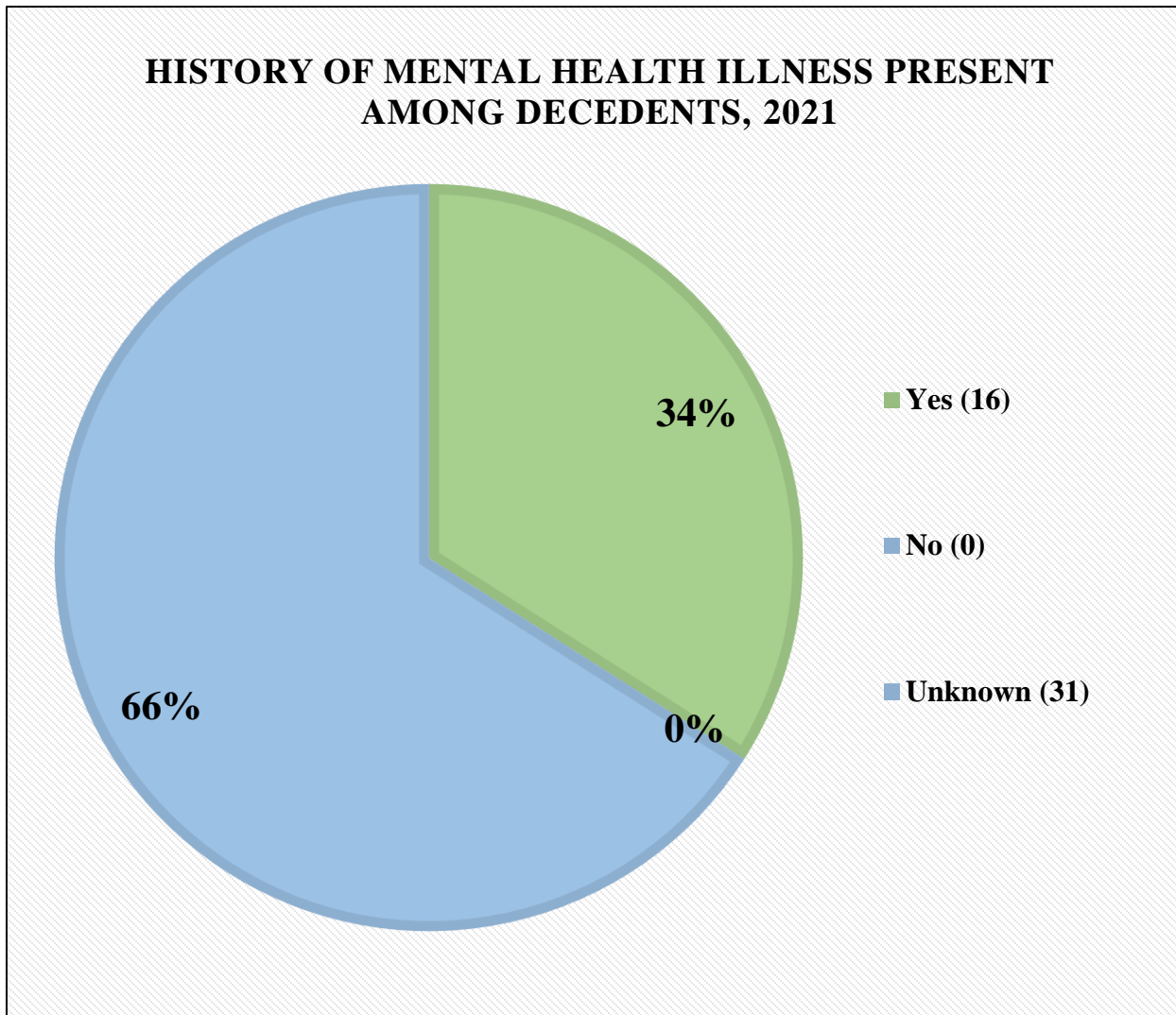


Figure 12: History of mental health illness(es) among decedents in Licking County, 2021



Medical Conditions

In 2021, 87.2% of decedents had at least one medical condition either reported or discovered during autopsy. **Figure 13** illustrates the top 10 medical conditions reported **OR** discovered during an autopsy among the overdose fatalities with a report medical condition.

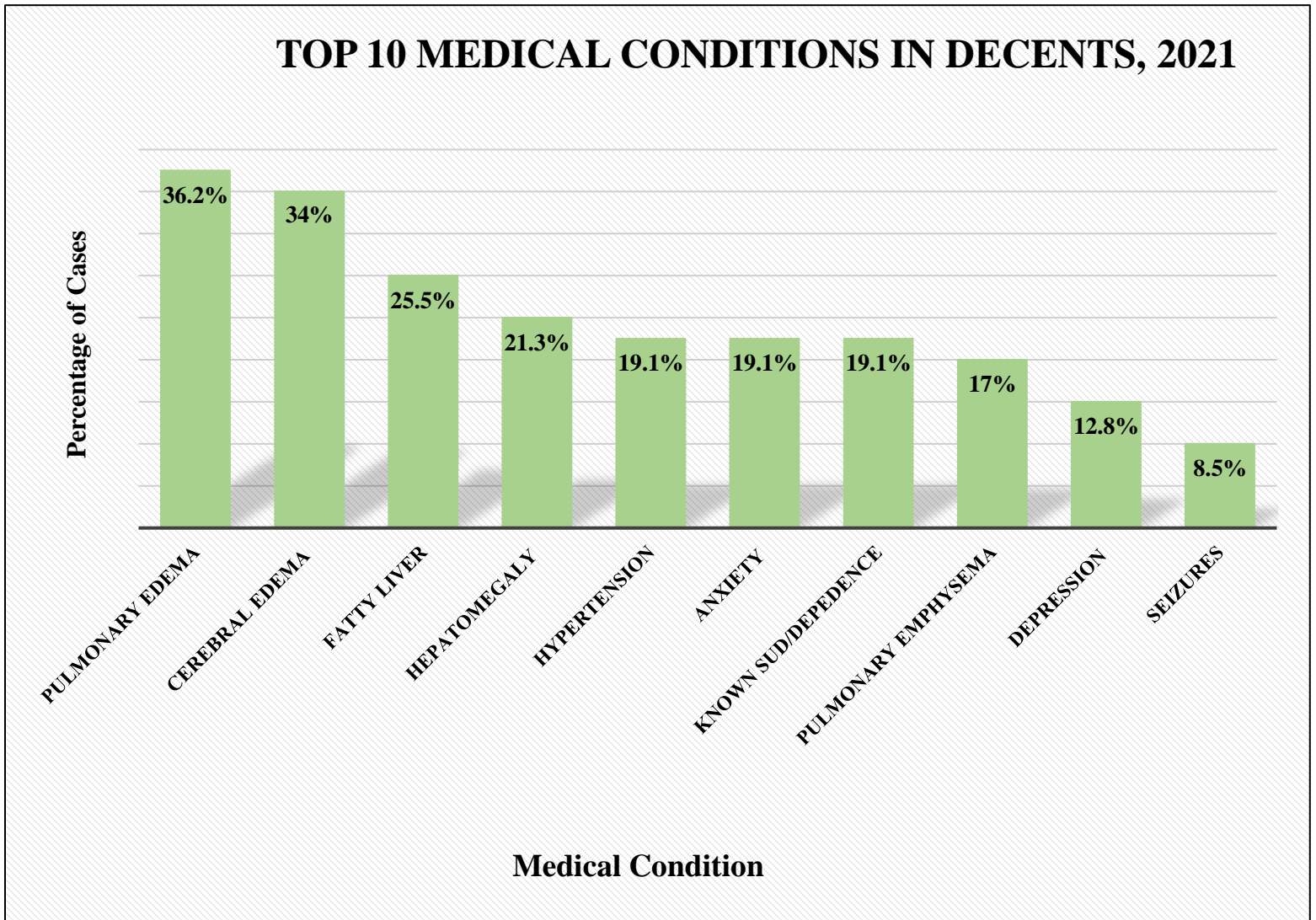


Figure 13: Top 10 medical conditions found before **OR** after autopsy in Licking County, 2021



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 2021 in Licking County include:

- Most deaths resulted from acute multiple drug effects – very seldom fatalities were caused by just one drug
- Decedents were primarily white males
- The highest level of education for 59.6% of decedents was a high school or GED education
- While fentanyl-related deaths dropped from 35 in 2020 to 34 in 2021 (2.9% decrease), there was fentanyl present in 72.3% of overdose fatality cases in 2021
- Decedents with no established primary care physician
- Overall limited access to treatment
- Identifying more fentanyl analogues more frequently within cases
 - Something to look more closely at in the future

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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 substance use disorder (SUD) educational/informational materials.

- Overdose Prevention
 - Promote Naloxone (NARCAN®) via social media.
 - Continue to distribute “Free Naloxone Kits” green cards to agencies and individuals around Licking County.
- 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.
 - 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. In 2021, LCHD's OFR processes and procedures were updated to align with the new state legislation guidelines – Sub. H. B. No. 110, Section 307.637. 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

- Jordan Bell, Health Educator I – Drug Overdose Prevention (DOP) Program Coordinator
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- Kirsten Frissora, MPH, CHES, CPST – Health Education Manager
- Ashley See, MCHES, CPST – Health Promotion Director
- Chad Brown, MPH, REHS – Health Commissioner

References

1. American Psychiatric Association. (2020, December). “*What Is a Substance Use Disorder?*” <https://www.psychiatry.org/patients-families/addiction/what-is-addiction>
2. [Center for Disease Control and Prevention. \(2021, January 26\). “Commonly Used Terms.” www.cdc.gov/opioids/basics/terms.html.](https://www.cdc.gov/opioids/basics/terms.html)
3. Licking County Overdose Fatality Review Annual Report, 2020 released August 2021.

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