



OVERDOSE FATALITY REVIEW ANNUAL REPORT LICKING COUNTY, 2020

August 12, 2021



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Background

The Licking County Overdose Fatality Review (OFR) began in 2017 and meets on a quarterly basis based on the Drug Overdose Prevention grant cycle. During 2020, OFR quarter one, two, and three meetings were held virtually due to COVID-19. The quarter four OFR meeting was offered both in-person and virtually. Moving forward, the Licking County OFR will continue to offer the OFR Committee the option to attend OFR meetings both in-person or virtually.

OFR Purpose

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 prevented an overdose death.

Current OFR Committee

OFR Committee Members are dedicated professionals who are area experts that believe overdoses are preventable, actively participate in OFR meetings, and assist in the development and implementation of preventative strategies. The Licking County OFR is made up of a multidisciplinary 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 and Recovery for Licking and Knox Counties (MHRLK)
- Central Ohio Drug Enforcement Taskforce (CODE)
- Newark Police Department (NPD)
- Licking County Emergency Management Agency (EMA)
- West Licking Joint Fire District (WLJFD)



OFR Process

As LCCO processes autopsies, they begin compiling overdose fatality decedent files. LCCO has the ability to request information from the decedent's family as well as data from the decedent's last three medical visits, prescription medication records, and law enforcement reports, if applicable. Then LCCO organizes cases by date of death (DOD) for LCHD. LCHD reviews all overdose fatality files at the LCCO and creates a case summary within an excel file for each decedent. Decedent case summaries include:

- DOD
- Age
- Sex
- Race
- Marital status
- Education
- Veteran status
- Home address
- Death address
- Medical conditions
- Toxicology
- Manner of death
- How the injury occurred
- History of mental illness
- Medications
- Autopsy findings
- A summary of the decedent's life which may include the following information depending on what information is available to LCCO:
 - Law enforcement records
 - Conversations between LCCO and decedent family/friends
 - Medical records

An OFR Committee meeting is then held to review decedent case summaries. The OFR Committee discusses trends identified as well as system gaps, missed opportunities for preventative strategies, and recommendations to prevent future overdose fatalities. Trends are compiled and recommendations are shared with the Licking County Drug Overdose Prevention (DOP) Coalition during the DOP Coalition meeting that is held shortly after OFR quarterly meetings. The DOP Coalition utilizes OFR data and trends to inform and guide DOP Coalition activities.



Terms

The following definitions give meaning to commonly used terms.

Drug: Substance intended for use in the diagnosis, cure, mitigations, treatment, or prevention of disease.

Fentanyl: Pharmaceutical fentanyl is a synthetic opioid, approved for treating severe pain, typically advanced cancer pain. It is 50 to 100 times more potent than morphine. However, illegally made fentanyl is sold through illicit drug markets for its heroin-like effect, and it is often mixed with heroin or other drugs, such as cocaine, or pressed in to counterfeit prescription pills.

Illicit drugs: The nonmedical use of a variety of drugs that are prohibited by law. Examples include amphetamine-type stimulants, marijuana/cannabis, cocaine, heroin, other opioids, and synthetic drugs, such as illicitly manufactured fentanyl (IMF) and ecstasy (MDMA).

Opioid: Natural, synthetic, or semi-synthetic chemicals that interact with opioid receptors on nerve cells in the body and brain and reduce the intensity of pain signals and feelings of pain. Examples include the illegal drug heroin, synthetic opioids such as fentanyl, and pain medications available legally by prescription, such as oxycodone, hydrocodone, codeine, morphine, and many others.

Overdose: Injury to the body (poisoning) that happens when a drug is taken in excessive amounts. An overdose can be fatal or nonfatal.

Prescription drug: Drug bought at a pharmacy prescribed by a doctor for and intended to be used by one person. Prescription drugs are regulated by the U.S. Food and Drug Administration (FDA) through the New Drug Application (NDA) process.

Prescription opioid (also referred to as opioid analgesics): Medications that have been used to treat moderate to severe pain in some patients. Prescription opioids can be broken down into these four categories:

- Natural opioid analgesics (i.e., morphine, codeine)
- Semi-synthetic opioid analgesics (i.e., oxycodone, hydrocodone)
- Methadone (synthetic opioid prescribed for pain reduction or for medication opioid use disorder)
- Synthetic opioid analgesics (i.e., tramadol, fentanyl)



2020 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 2020 OFR data figures. OPHIW:MD figures include overdose fatalities that originated within Licking County but were transported and died out of county as well as overdose fatalities that occurred within Licking County. OPHIW:MD reports 55 overdose fatalities for Licking County for the year of 2020. Licking County 2020 OFR data figures only include overdose fatalities that occurred within Licking County. The Licking County 2020 OFR reports 47 overdose fatalities for the year of 2020. The Licking County OFR does not currently review overdose fatalities that occur out of county.

Licking County’s 2020 overdose death count reported by OPHIW:MD was 55, ranking Licking County 18th out of 88 counties. **Figure 1** breaks down the overdose death count of Ohio counties by multiples of 25 to better illustrate where Licking County falls within that range. The range in which Licking County falls is colored blue.

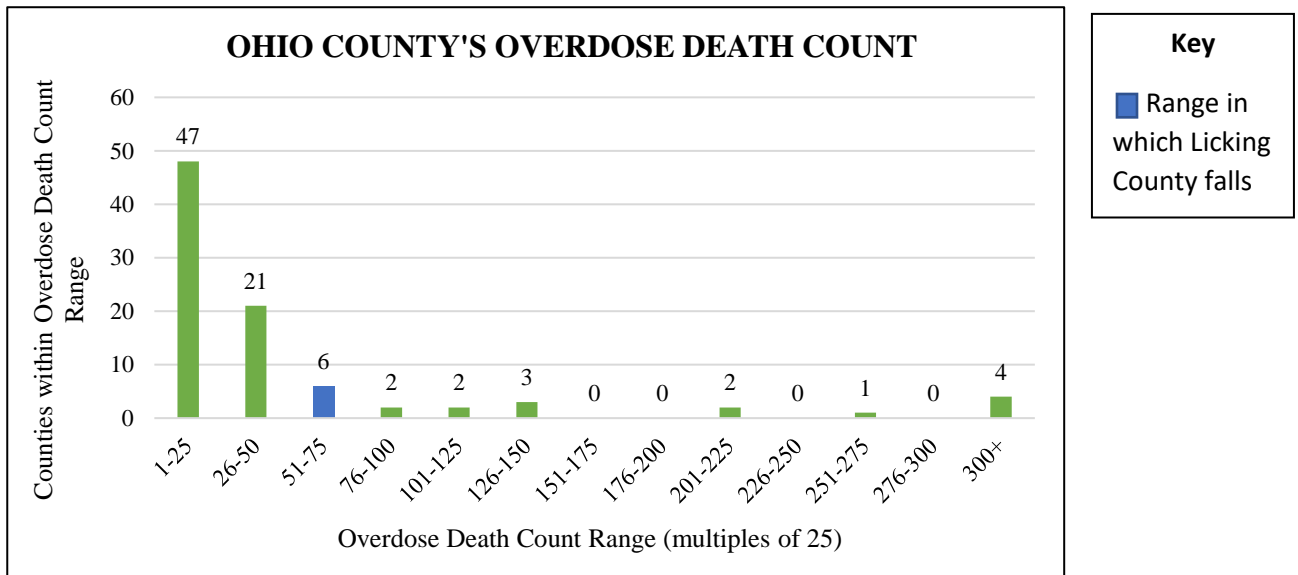


Figure 1: Overdose death count of Ohio counties by multiples of 25.



Licking County’s 2020 overdose death rate reported by OPHIW:MD was 31.1 deaths per 100,000 population, ranking Licking County 52nd out of 88 counties. **Figure 2** breaks down the overdose death rate of Ohio counties by multiples of 10 to better illustrate where Licking County falls within that range. The range in which Licking County falls is colored blue.

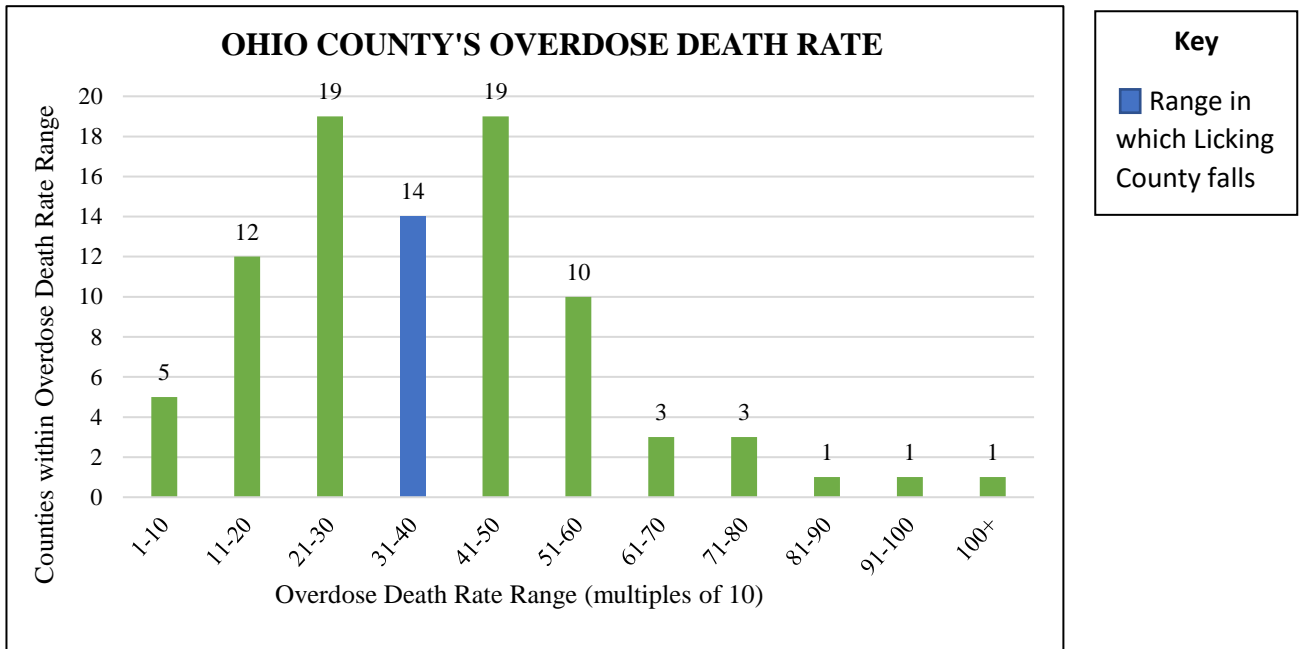


Figure 2: Overdose death rate of Ohio counties by multiples of 10.



Licking County 2020 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 2020, there were 47 overdose fatalities in Licking County, Ohio. Of the 47 overdose fatalities in Licking County in 2020, all 47 were accidental and zero were suicidal. The previous year, 2019, Licking County saw a total of 36 overdose fatalities. Prior to 2020, the highest recorded overdose fatalities in one year occurred in 2018 with 42 overdose fatalities (**Figure 3**).

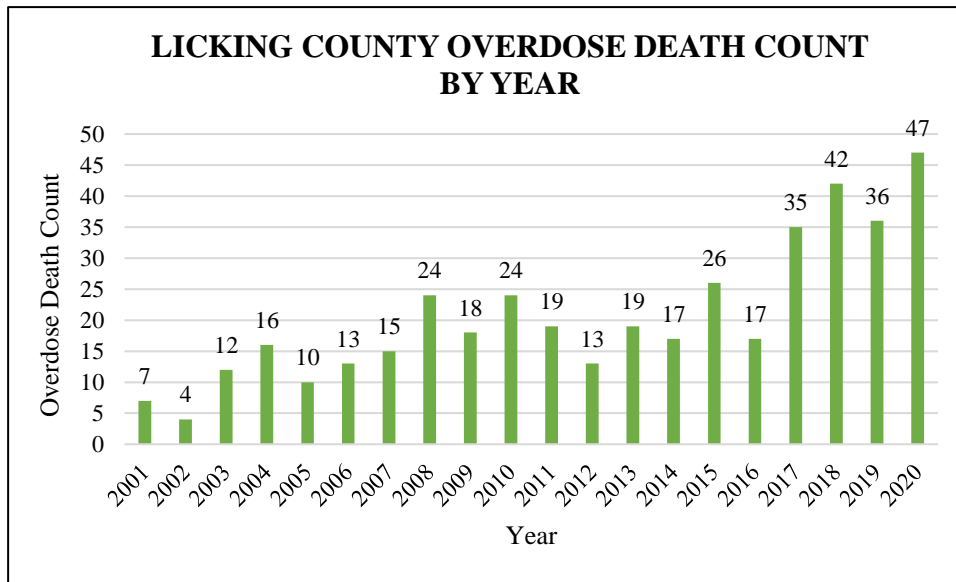


Figure 3: Comparison of Licking County overdose death counts by year (2001-2020).

Figure 4 represents fentanyl related drug overdose deaths compared to other drug deaths (drug deaths not including fentanyl) by year from 2014 to 2020.

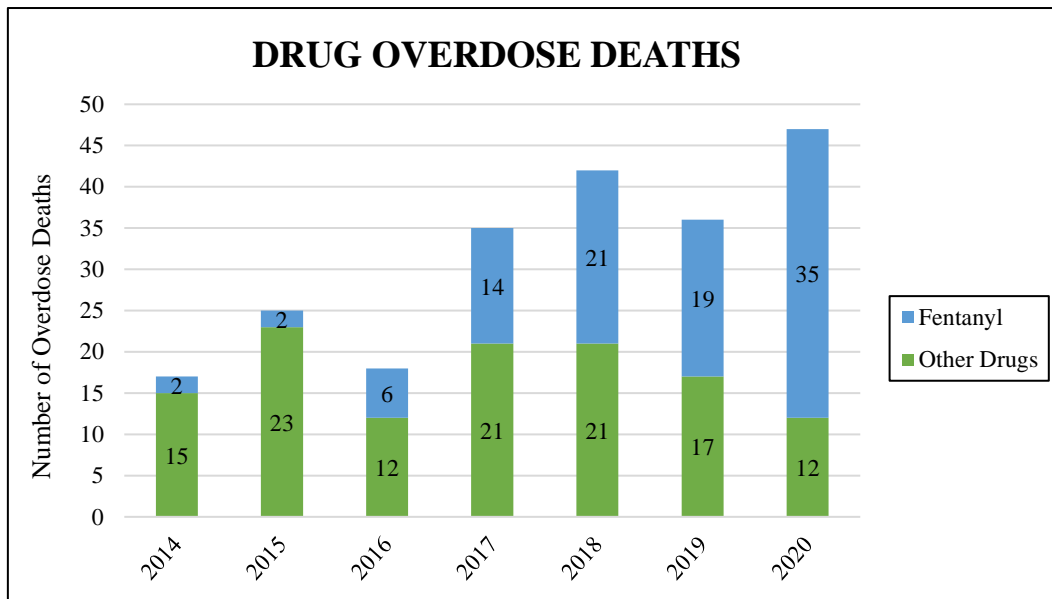


Figure 4: Drug Overdose Deaths by Year, Licking County, 2014-2020.



During the year of 2020, Licking County experienced a 30.6% increase in overdose deaths. While total prescription drug deaths did not change from 2019 to 2020, the amount of fentanyl related deaths increased 84.2% (**Figure 5**).

TOTAL OVERDOSE DEATHS		PRESCRIPTION DRUG DEATHS		FENTANYL DEATHS	
2019	2020	2019	2020	2019	2020
36	47 (+30.6%) ↑	7	7	19	35 (+84.2%) ↑

*Prescription drug deaths include all types of prescription medications and fentanyl is not included in prescription drug death totals.

Figure 5: Comparison of 2019 and 2020 total overdose deaths, prescription drugs, and fentanyl deaths.

The three most common substances present in decedent toxicology reports in 2020 included fentanyl (with or without analogue(s)), crystal meth/methamphetamine, and cocaine. **Figure 6** depicts the percent of overdose fatalities in which the three most common substances were present.

SUBSTANCE	OVERDOSE FATALITIES CONTAINING LISTED SUBSTANCE (%)
Fentanyl (with or without Analogue(s))	74.5%
Crystal Meth/Methamphetamine	34.0%
Cocaine	12.8%

Figure 6: Percent of overdose fatalities in which the three most common substances were present.



85% of all overdose fatalities in 2020 contained opioids. 74.5% of overdose fatalities contained Fentanyl. **Figure 7** shows a breakdown of the percent of overdose fatalities by substance(s) found in toxicology reports.

SUBSTANCE(S)	PERCENT OF OVERDOSE FATALITIES BY SUBSTANCE(S) FOUND IN TOXICOLOGY REPORT
Fentanyl with Analogue(s)	17.0%
Fentanyl with Analogue(s), Methamphetamine	6.4%
Fentanyl with Analogue(s), Cocaine	4.3%
Fentanyl with Analogue(s), Crystal Meth	4.3%
Fentanyl with Analogue(s), Methamphetamine, Amphetamine	4.3%
Buprenorphine, Gabapentin, Bupropion, Trazodone and metabolite(s), Quetiapine and metabolite(s), Alprazolam, Hydroxybupropion	2.1%
Cocaine, Diphenhydramine	2.1%
Crystal Meth	2.1%
Crystal Meth, Nordiazepam, Naproxen	2.1%
Cyclobenzaprine	2.1%
Fentanyl, Methamphetamine	2.1%
Fentanyl with Analogue(s), Cocaine and metabolite(s), Paroxetine, Tetrahydrocannabinol, 11-carboxy-Tetrahydrocannabinol	2.1%
Fentanyl with Analogue(s), Cocaine, Amphetamine	2.1%
Fentanyl with Analogue(s), Crystal Meth, Dextromethorphan	2.1%
Fentanyl with Analogue(s), Crystal Meth, Quinine/Quinidine	2.1%
Fentanyl with Analogue(s), Crystal Meth, Tramadol, Ethanol, Lidocaine, Tetrahydrocannabinol, 11-carboxy-Tetrahydrocannabinol	2.1%
Fentanyl with Analogue(s), Dextro/Levo methorphan, Nortriptyline, Amitriptyline, Quetiapine and metabolite(s), Ibuprofen	2.1%
Fentanyl with Analogue(s), Diphenhydramine	2.1%
Fentanyl with Analogue(s), Diphenhydramine, Nordiazepam, Chlordiazepoxide, Methadone	2.1%

Figure 7 continued on next page



Fentanyl with Analogue(s), Ethanol, Methadone	2.1%
Fentanyl with Analogue(s), Etomidate	2.1%
Fentanyl with Analogue(s), Heroin	2.1%
Fentanyl with Analogue(s), Heroin, Oxycodone, Hydromorphone	2.1%
Fentanyl with Analogue(s), Methamphetamine, Lidocaine	2.1%
Fentanyl with Analogue(s), Methamphetamine, Gabapentin, Citalopram, Trazodone, Duloxetine, Tetrahydrocannabinol, 11-carboxy-Tetrahydrocannabinol, Cetirizine/Hydroxyzine/Chlorcyclizine	2.1%
Fentanyl with Analogue(s), Norbuprenorphine, Cetirizine/Hydroxyzine/Chlorcyclizine	2.1%
Fentanyl with Analogue(s), Oxycodone, Etizolam, Nordiazepam, 7-Aminoclonazepam, Hydroxychloroquine and metabolite(s), Carbon Monoxide	2.1%
Fentanyl with Analogue(s), Venlafaxine, Quetiapine, Quetiapine metabolites, Desvenlafaxine, Nordiazepam, Trazadone	2.1%
Fluoxetine, Norfluoxetine, Promethazine, Gabapentin, Alprazolam, Cocaine, Methamphetamine, Buprenorphine	2.1%
Heroin, Crystal Meth	2.1%
Methadone and metabolite(s), Etizolam, Gabapentin, Olanzapine	2.1%
Nortriptyline, Amitriptyline	2.1%
Oxycodone, Gabapentin, Sertraline, Amitriptyline, Nortriptyline, Ethanol	2.1%
Oxycodone, Venlafaxine, Gabapentin, Desvenlafaxine, Oxymorphone	2.1%
Tizanidine, Hydrocodone	2.1%

Figure 7: Percent of overdose fatalities by substance(s) found in toxicology report in 2020.

Demographics

In 2020, 66% of overdose fatality decedents identified as male and 34% identified as female (Figure 8).

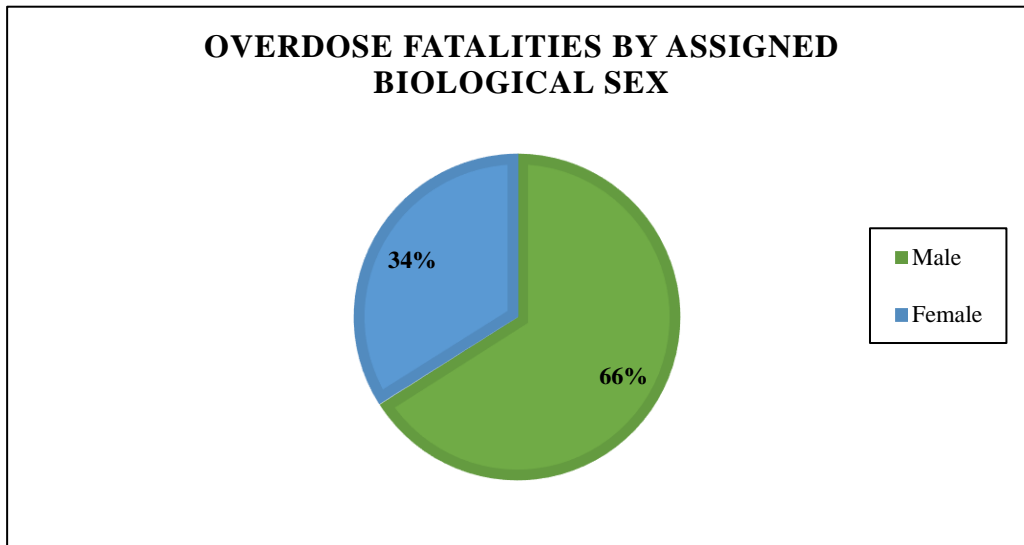


Figure 8: Percent of total overdose fatalities by assigned biological sex in Licking County, 2020.



In 2020, the age of decedents who died of a drug overdose ranged from 21 to 66 years old with the average age being 41.9 years old. The most common age group among individuals who died of a drug overdose was 25-34, accounting for 27.7% of all overdose fatalities. The next most common age group was 35-44, with 25.5% of all overdose fatalities (**Figure 9**).

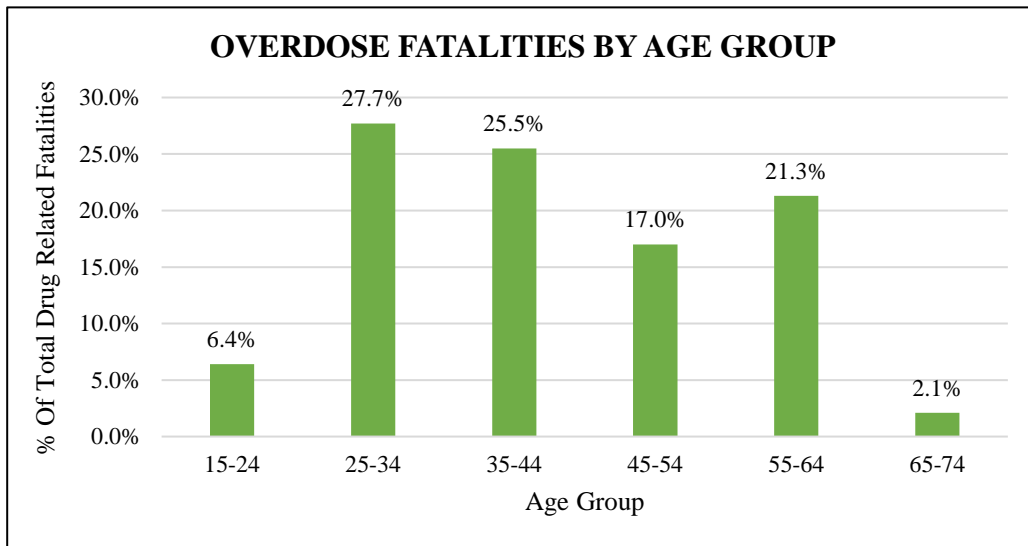


Figure 9: Percent of total overdose fatalities by age group in Licking County, 2020.

In 2020, 46.8% of decedents who died of a drug overdose were identified as being “single” or “never married”. 29.8% were identified as “divorced and not remarried”, and 12.8% were identified as “married”. 10% of decedents marital status was “unknown” (**Figure 10**).

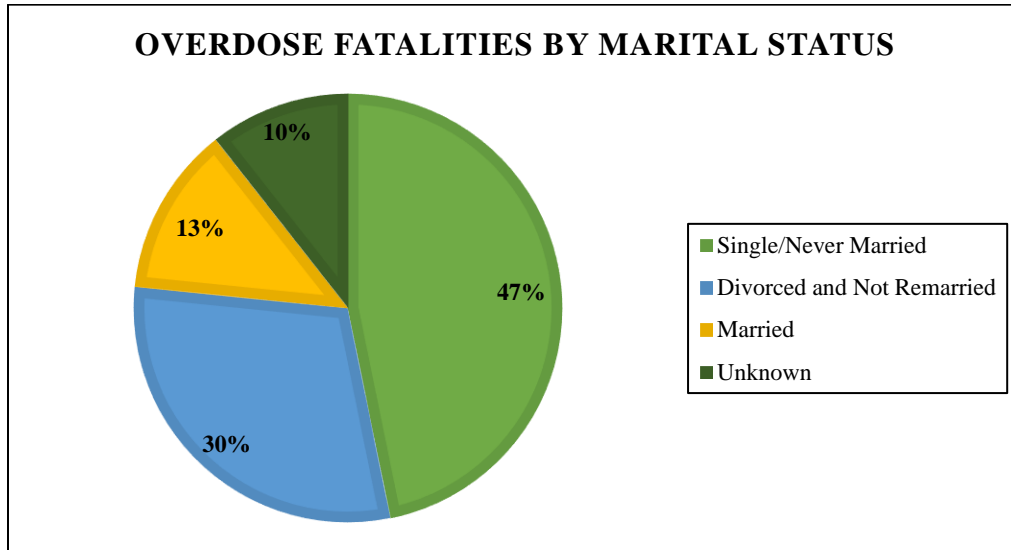


Figure 10: Percent of total overdose fatalities by marital status in Licking County, 2020.

In 2020, 42.6% of all decedents who died of a drug overdose were identified as having a high school diploma/General Education Development (GED) or higher. 42.6% of decedent's education levels were unknown as the Licking OFR began tracking education levels at case number 21 out of 47 (**Figure 11**).

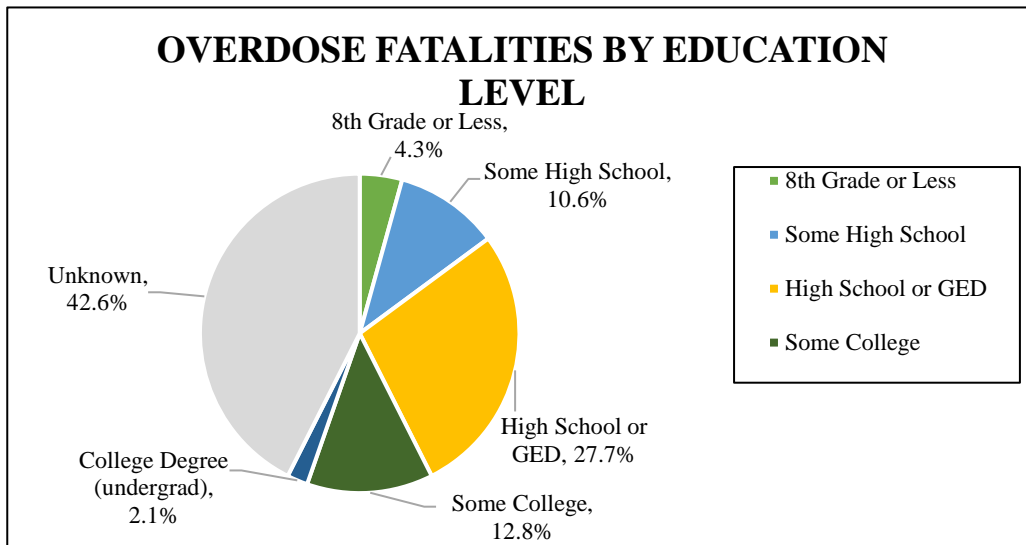


Figure 11: Percent of total overdose fatalities by education level in Licking County, 2020.

In 2020, 89% of all decedents that died of a drug overdose identified as White/Caucasian (Figure 12).

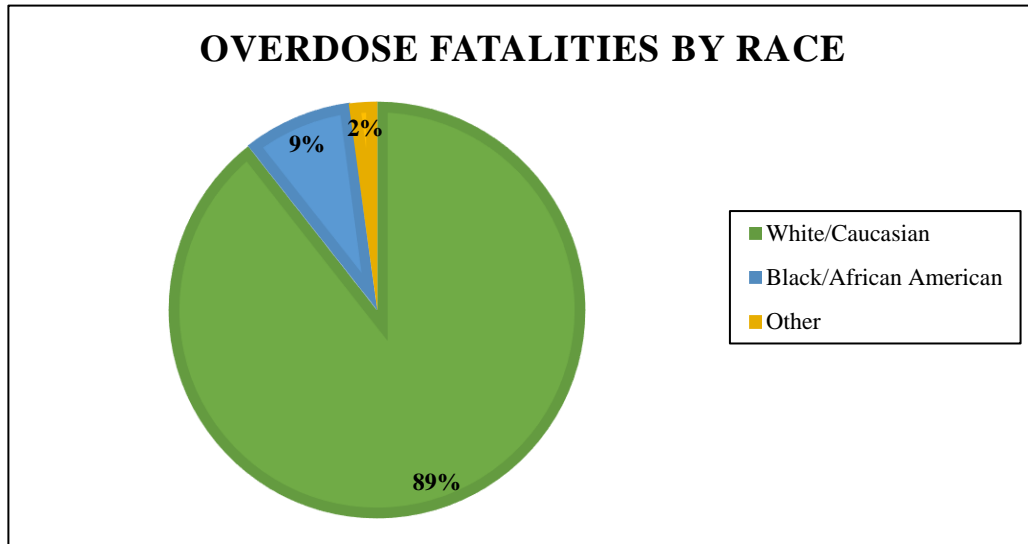


Figure 12: Percent of total overdose fatalities by race in Licking County, 2020.

In 2020, 38% of decedents had a history with a formal mental health illness diagnosis. 7% of decedents were suspected to have history with a mental health illness but were never formally diagnosed. The remaining 55% of decedent's history with mental health illness was unknown or unreported (**Figure 13**). The most common mental health illnesses were reported were depression (66.7% of decedents diagnosed with a mental health illness reported depression) and anxiety (47.6% of decedents diagnosed with a mental health illness reported anxiety). Other mental health illnesses reported included schizophrenia and bipolar disorder.

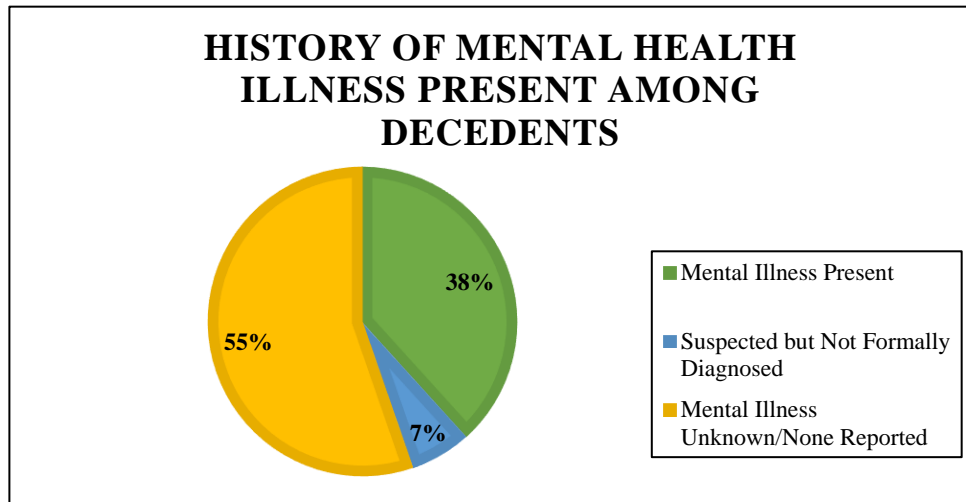


Figure 13: History of mental health illness among decedents, Licking County 2020.



In 2020, 40.4% of decedents had at least one medical condition either reported or discovered during autopsy. **Figure 14** illustrates the percent of medical conditions reported or discovered during autopsy among overdose fatalities with a reported medical condition.

MEDICAL CONDITION	% OF DECEDENTS WITH LISTED MEDICAL CONDITION
Pneumonia	42.1%
Hepatomegaly	42.1%
Cardiovascular Disease/Cardiac Disease/Hypertensive Cardiovascular Disease	42.1%
Fatty Liver	36.8%
Drug Dependence/Known SUD	31.6%
Cardiomegaly	31.6%
Emphysema	31.6%
Nephrosclerosis	21.1%
Chronic Lower Back Pain/Back Pain	21.1%
Obesity	21.1%
Asthma	21.1%
Hepatitis C	15.8%
Type 1 or 2 Diabetes	15.8%
Chronic Triaditis of Liver	15.8%
Epilepsy/Seizure Disorder	15.8%
Hepatic Cirrhosis	15.8%
Cholelithiasis	10.5%
Atherosclerotic Cardiovascular/Vascular Disease	10.5%
Osteomyelitis	10.5%
Migraines	10.5%
Pulmonary Edema	10.5%
Cerebral Edema	10.5%
Leg/Knee Pain	10.5%
Ventricular Hypertrophy	10.5%
Heart Attack/Acute Myocardial Infraction	10.5%

Figure 14: Percent of medical conditions reported or discovered during autopsy among overdose fatalities with a reported medical condition, Licking County 2020



Trends

Identifying trends among overdose fatalities allows the OFR committee to discover systematic gaps, areas of improvement, and missed opportunity for prevention. The OFR Committee discusses trends during OFR meetings. Being able to identify and analyze overdose fatality trends enables the OFR committee to create and/or adapt recommendation plans to implement within the County to prevent future overdose fatalities.

Trends identified throughout the 2020 Licking County OFR included:

- Increase in Fentanyl present in overdose fatalities compared to previous years.
- Overdose fatalities occurring among young males.
- Decedents in the same location as others but found alone.
- Decedents using/misusing substances with other individuals.
- Decedents with a history of previous drug use/misuse and/or overdose.
- An increase in “bulking agents”. Bulking agents are cheap, white powder medications used to supplement a drug to fill the required amount (i.e., Benadryl, Lidocaine).
- Fatty liver found in autopsy among decedents. Fatty liver causes a slower metabolism and can result in an accumulation of drugs in a body, resulting in a delayed overdose.
- Decedents homeless or not having a home of their own (staying with someone else).
- Decedents not married.
- Decedents discovered in hotel rooms.
- Decedents partaking in polysubstance use/misuse.



Recommendations

The following recommendations were discussed and developed by the Licking County OFR Committee. These recommendations were made in expectations to decrease overdose fatalities and overdose events, increase community access to overdose prevention materials, and substance use disorder educational and informational materials. **Not all recommendations listed have been implemented.*

- Overdose Prevention
 - Promoting NARCAN® and Licking County NARCAN® distribution sites.
 - Promote NARCAN® via social media.
 - Distribute “Free NARCAN®” cards to individuals and community agencies for dissemination.
 - Promote NARCAN® on International Overdose Awareness Day through Licking County Project DAWN sites and County hotspot areas identified in the Overdose Detection Mapping Application Program (ODMAP). ODMAP is a free national platform that provides near real-time suspected overdose surveillance data.
- Education
 - Target preventative messaging materials to young males.
 - Promote treatment options, local community resources, and how to navigate the healthcare system in Licking County.
 - Promote non-stigmatizing messaging.
- Community Outreach
 - Onboard Project DAWN service entities beyond the city of Newark to reach hotspots identified on ODMAP and more of Licking County.
 - Provide education to and support current Project DAWN partners to increase community access to NARCAN®.
- Surveillance and Dissemination
 - Disseminate monthly County Overdose Report to Drug Overdose Prevention Coalition, Board of Health, Project DAWN partners, and ODMAP partners.

Next Steps

LCHD OFR documents and processes will be reviewed and enhanced. Documents will be developed or updated to better align with federal and state OFR recommendations and guidelines. LCHD OFR processes and procedures will also be reviewed and updated to align with new state legislation guidelines. Once processes and documents are developed and/or updated, LCHD will continue to review and enhance OFR procedures and materials as necessary.



Contributors

Licking County Coroner's Office

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Licking County Health Department

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- Chad Brown, MPH, REHS, Health Commissioner
- Ashley See, MCHES, CPST, Health Promotion Director

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