

HEALTH MATTERS

Riverside University Health System – Public Health
Epidemiology & Program Evaluation



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Fatal Overdoses Among People Experiencing Homelessness

INTRODUCTION

The Riverside Overdose Data to Action (RODA) program was established in 2019 to enhance surveillance of overdose morbidity and mortality, including improved data collection of overdose deaths among people experiencing homelessness (PEH), and to use that data to inform prevention activities. From January 2019 to April 2022, there were a total of 2,442 county-wide fatal overdoses. Fourteen percent of all fatal overdoses in Riverside County occurred among PEH. This brief aims to bring awareness and understanding as well as to dispel misconceptions concerning fatal overdoses among PEH.

KEY FINDINGS

- The number of fatal overdoses among People Experiencing Homelessness (PEH) increased more among males than females
- The majority of fatal overdoses among PEH occurred among those with a history of drug use
- Overdose deaths among PEH were most common among those aged 45-64
- Multiple substance use was involved in 50% of all fatal overdoses among PEH, most commonly methamphetamine and fentanyl

FATAL OVERDOSES

The number of fatal overdoses increased each year from 2019 to 2021. Among people experiencing homelessness (PEH), the number of fatal overdoses increased by 139% from 2019 (n= 64) to 2021 (n=153). In contrast, there was a 71% increase in the number of fatal overdoses among people not experiencing homelessness (PNEH) during the same time period. The fatal overdose rate among PEH in 2020 was 357 per 10,000 population compared to 2 per 10,000 population among PNEH. Males accounted for the largest proportion of fatal overdoses regardless of housing status- a gap that has continued to increase from 2019 to 2021 (Figures 1, 2).

Figure 1 Number of Fatal Overdoses by Homelessness Status and Gender, Riverside County, 2019-2021

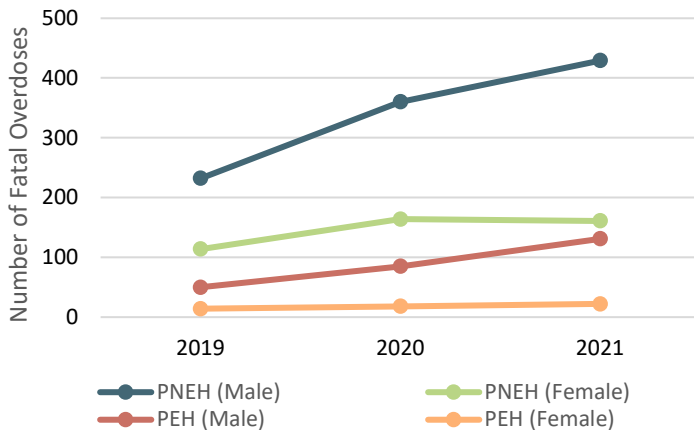
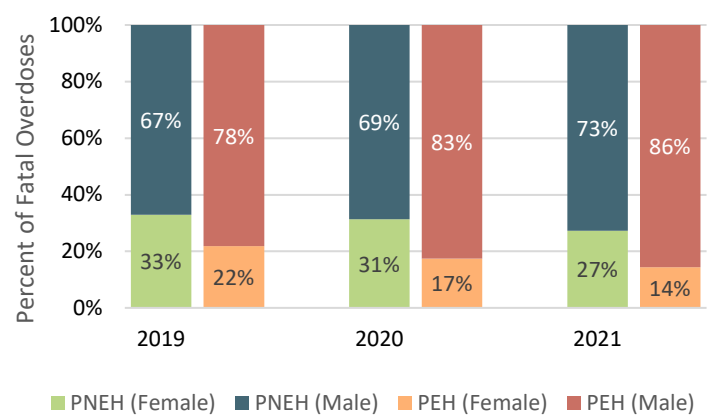


Figure 2 Proportion of Fatal Overdoses by Homelessness Status and Gender, Riverside County, 2019-2021



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2021. *Gender is reported as indicated on the death certificate. Due to the nature of this data, we are currently unable to provide more inclusive information on gender. ** People experiencing homelessness has been abbreviated to "PEH" and people not experiencing homelessness has been abbreviated to "PNEH."

For the purpose of this brief, people experiencing homelessness include people that are unsheltered and unstably housed. Some current data sources only provide gender as binary; RUHS – Public Health fully supports the collection, analysis, and display of gender identity data. We continue to work with partners and advocate for the collection of this data for future reporting.

Drug Type

Some similarities existed between fatal overdose deaths among PEH and PNEH. Toxicology reports found that for single drug use, the top three drugs were the same: methamphetamine, fentanyl, and heroin. Toxicology reports indicating polysubstance use between PEH and PNEH was not significantly different ($\chi^2= 3.5, p=0.06$) but was slightly more common among PNEH, 57%, than among PEH, 50%. As the number of fatal overdoses increased among PEH, so did evidence of polysubstance use, especially methamphetamine and fentanyl (Figure 3). Although 45% of all fatal overdoses among PEH involved methamphetamine alone, 91% of all toxicology reports among decedents that were experiencing homelessness found involvement of methamphetamine; similar to the pattern seen in PNEH, polysubstance use is a growing trend among fatal overdoses in PEH.

Table 1 Comparison of Drugs Involved in Fatal Overdoses Between People Experiencing and Not Experiencing Homelessness, Riverside County, 2019-2021

| Fatal OD | | | |
|---------------|------|-------------------------------------|--|
| Type | Rank | PEH | PNEH |
| Single Drug | 1 | Methamphetamine | Methamphetamine |
| | 2 | Fentanyl | Fentanyl |
| | 3 | Heroin | Heroin |
| Polysubstance | 1 | Methamphetamine + Fentanyl | Methamphetamine + Fentanyl |
| | 2 | Methamphetamine + Heroin | Benzo+ Fentanyl OR Cocaine + Fentanyl OR Heroin + Fentanyl |
| | 3 | Methamphetamine + Heroin + Fentanyl | RxOpioid + Fentanyl |

Figure 3 Polysubstance Use in Overdose Fatalities Among People Experiencing Homelessness Over Time, Riverside County, 2019-2022

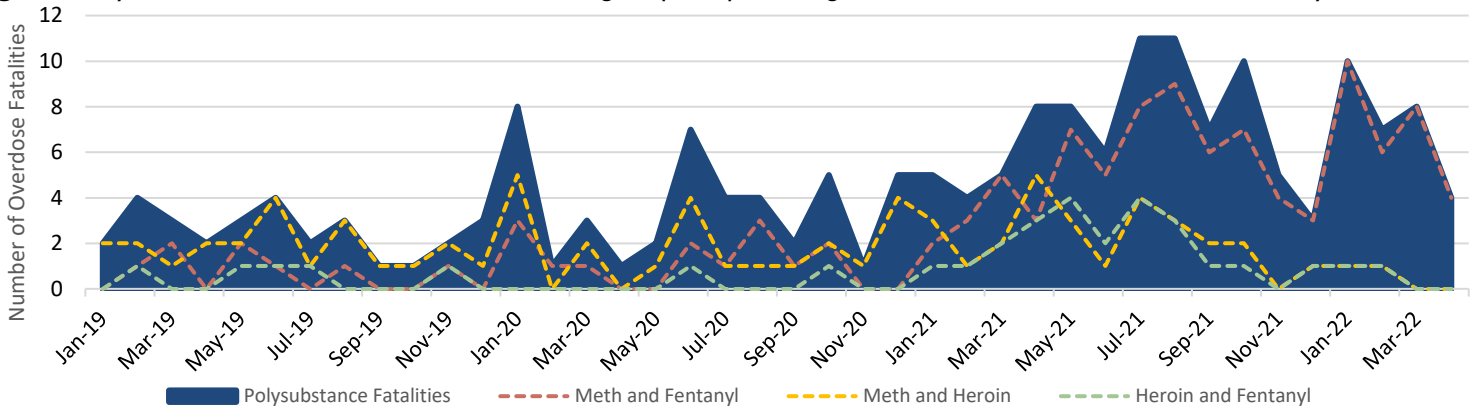
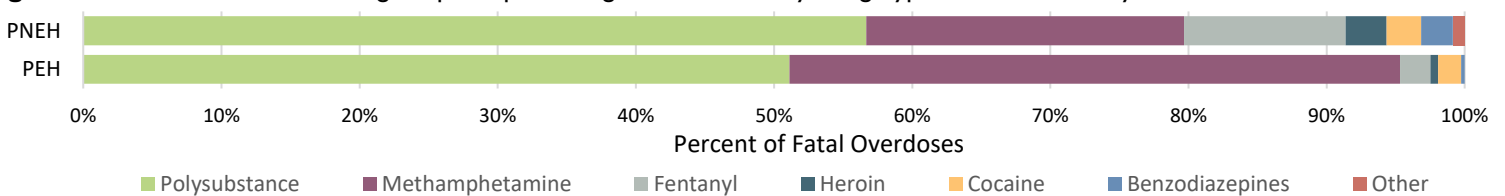


Figure 4 Overdose Fatalities Among People Experiencing Homelessness By Drug Type, Riverside County, 2019-2022

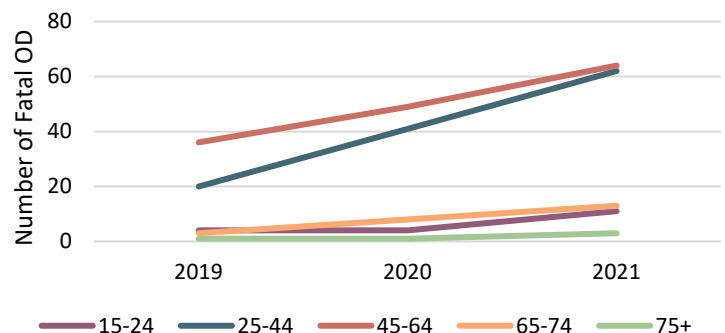


Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2021.

SOCIAL DETERMINANTS OF HEALTH

Data suggests that fatal overdoses (OD) are most common among experienced drug users. From January 2019 to April 2022, 67% of all fatal overdoses among PEH had a history of drug use^{1,2}. This is likely an undercount due to the possibility of a PEH not having a booking incident with law enforcement or lack of reported medical/social history. Most fatal OD's among PEH occurred in those aged 45-64 (Figure 5); the median age from January 2019 to April 2022 was 48 years- three years older than PNEH. Of fatal overdoses among PEH aged 25-44, 80% occurred among those over the age of 30.

Figure 5 Fatal Overdoses Among People Experiencing Homelessness by Age Group, Riverside County, 2019-2021

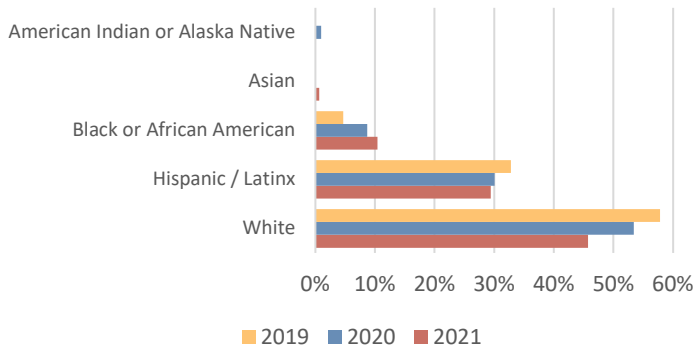


Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2021.

Between January 2019 and April 2022, most fatal overdoses among PEH occurred in decedents identified as Non-Hispanic White (n=178) followed by those identified as Hispanic/Latinx (n=106). However, the proportion of fatal overdoses among White PEH has been decreasing, while the proportion of fatal ODs in people who identified as Black or African American has increased (Figure 6).

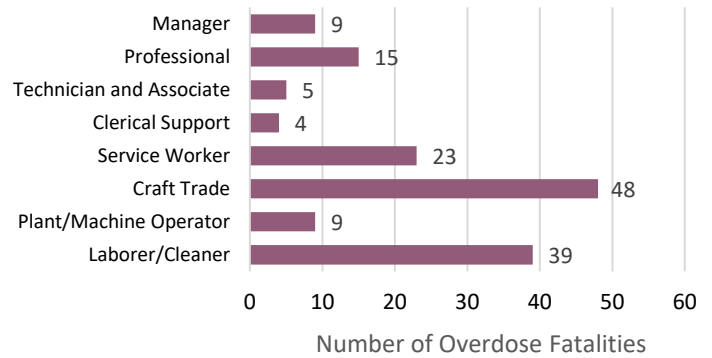
A common misconception may be that PEH were not contributing members of society, but the majority (71%) of PEH over the age of 25 that had a fatal OD, worked for at least 5 years and 54% had worked at least 10 years in the occupation listed on their death certificate. Most PEH that had a fatal overdose worked in a lower skilled occupation, as classified by the International Labor Organization (Figure 7 lists occupations in ranking skill order with general laborers or cleaning professions being the lowest skilled occupations and managers being the highest).

Figure 6 Proportion of OD Fatalities Among People Experiencing Homelessness, by Race/Ethnicity and Year, Riverside County, 2019-2021



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2021. *Denominator only included records where race/ethnicity were known for fatal overdoses. ** Native Hawaiian and Pacific Islander are omitted due to zero count

Figure 7 Number of OD Fatalities Among People Experiencing Homelessness, by Occupation, Riverside County, Jan 2019 - Apr 2022



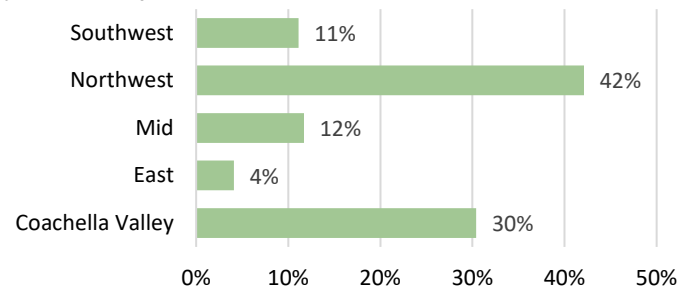
Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2022. *Occupation uses ISCO 88 classifications. Only includes those in which the decedent was 25 years or older and worked 5 or more years in that occupation.

For more information on occupational groupings visit: <https://ilostat.ilo.org/resources/concepts-and-definitions/classification-occupation/>

DISTRIBUTION OF OVERDOSE FATALITIES

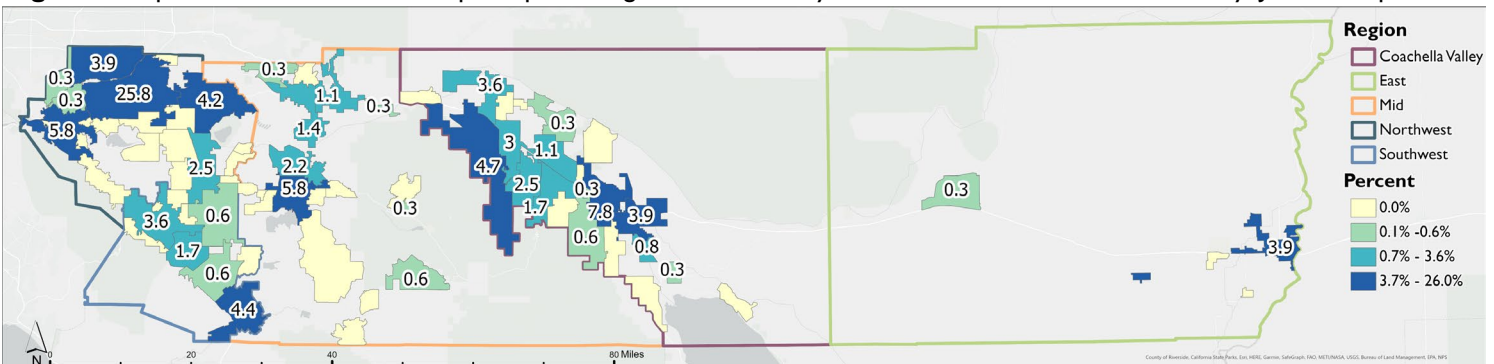
Most overdose fatalities among PEH occurred in the Northwest region of Riverside County. This region is the most urbanized in the county, making it an ideal location for PEH to reside in since it provides much needed access to resources. Within the Northwest region, the city of Riverside accounted for 25.8% of all county overdose fatalities among PEH (Figure 9). Between January 2019 and April 2022, 54% (n=111) of OD fatalities among PEH occurred outdoors and 21% (n=44) occurred at a private residence. The pattern is the opposite for PNEH, in which 77% of fatal OD occurred at a private residence and 13% occurred outdoors.

Figure 8 Percent of OD Fatalities Among People Experiencing Homelessness, by Region of Occurrence, Riverside County, Jan 2019 - Apr 2022



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2022.

Figure 9 Proportion of Fatal ODs in People Experiencing Homelessness by Overdose Location, Riverside County, Jan 2019-April 2022



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2019-2021. *Data displayed by quantiles

FURTHER DIRECTIONS

Fatal overdoses among people experiencing homelessness follow very similar trends to what is seen among those not experiencing homelessness. To be able to truly compare the differences between drug overdoses among PEH and PNEH, reliable population counts are needed. Population in Time counts for PEH did not occur in 2021 due to the COVID-19 pandemic and although there has been an effort to collect more inclusive gender data, it is often lacking. Fatal overdoses among PEH are probably more likely to occur among someone with a history of drug use but data collection and sharing need to improve to close this gap.

This brief focused on the fatal overdoses that occurred among PEH but, to get a whole picture, it is important to look at non-fatal suspected overdoses that occurred among PEH. Further studies will use EMS and hospital data to explore and compare non-fatal overdose trends among people experiencing homelessness.

FROM THE DESK OF WENDY HETHERINGTON, MPH, CHIEF OF EPIDEMIOLOGY

The Riverside Overdose Data to Action (RODA) program was established in 2019 with the goal of improving data collection, analysis, and reporting of overdose morbidity and mortality and using this data to create and implement overdose prevention activities. RODA depends on strong multi-disciplinary partnerships with other County departments, the private sector, and community-based organizations. Prior to 2019, Public Health only had access to limited overdose data available on death certificates and hospitalization records. Through our enhanced data activities, the RODA surveillance team quickly identified the increase of overdose deaths and EMS/911 overdose responses in persons experiencing homelessness. The team also identified the rapid increase of overdose deaths involving both methamphetamine and fentanyl.

Addiction is a chronic, relapsing, and progressive disease that requires compassion and a holistic approach to treatment. A root cause of addiction is untreated trauma due to adverse childhood experiences, racism (and other -isms), and other life events. The goal is to prevent addiction through the identification and treatment of trauma and the building of resiliency skills. Treatment of addiction requires that biological, psychological, familial, cultural, and social needs are met on a continuous spectrum (e.g., meeting the individual where they are) and appropriate for the individual at the current time. Especially relevant to the population experiencing homelessness is harm reduction. This includes ensuring that people have access to food, water, and other biological needs. It includes access to housing-first programs, overdose prevention sites, and needle-exchange programs. It includes access to naloxone, fentanyl test strips, and behavioral health programs. And finally, it includes community support and not stigmatization.

For more information on harm reduction strategies, please visit <https://harmreduction.org/>

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2. Law Enforcement Records Management Systems. Database. Riverside County. 2022.