HARRIS COUNTY HOMELESSNESS MORTALITY REPORT (2024)

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Acknowledgments

ADDITIONAL THANKS TO OUR PARTNERS AT

HARRIS COUNTY INSTITUTE OF FORENSIC SCIENCES (HCIFS)

Michal Pierce, M.S., ASQ CMQ/OE

Si Gao, M.S.

UH TILMAN J. FERTITTA FAMILY COLLEGE OF MEDICINE

Matthew Spieldenner

SPECIAL THANKS TO OUR STUDENT INTERNS & RESEARCH ASSISTANTS

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AND AS ALWAYS

David Buck, M.D., M.P.H.

FOR MENTORSHIP AND DIRECTION

Research reported in this publication was supported by the National Institute on Minority Health and Health Disparities (NIMHD) of the National Institute of Health (NIH) to the University of Houston under Award Number U54MD015946. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

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Introduction

In Harris County, deaths among people experiencing homelessness remain an ongoing public health tragedy. In 2024, 305 individuals died while experiencing homelessness. This means that on more than four out of every five days someone lost their life without the security of stable housing. Each of these deaths represents not only a personal loss, but a failure of our collective systems to ensure safety, dignity, and access to care for our neighbors.

The magnitude of this mortality, occurring amid persistent efforts to expand outreach, health access, and housing interventions, underscores the entrenched hazards faced by individuals living unhoused. Drawing again from Harris County Institute of Forensic Sciences (HCIFS) records, this report describes the causes and circumstances of these deaths, their demographic characteristics, and the intersecting health and social determinants that shape these outcomes.

UPDATES IN 2024 REPORT

New in this year's report is an expanded examination of the unique racial disparities in deaths among people experiencing homelessness. The report includes a focus on the 'racial mortality inversion' effect in the study of deaths in homelessness. Mortality inversion is an apparent paradox where the usual racial gap in death rates is reversed in homeless populations. In the United States, Black Americans have shorter life expectancy and higher death rates than White Americans [1]. In 2023, the average life expectancy was 74.0 years for Black Americans and 78.4 years for White Americans [2], and on average, Black mortality rates are about 24% higher than those of White people [3].

Similarly, homelessness reflected racial inequality seen in the rest of the country. Black people make up about 13% of the total U.S. population but more than 40% of those without housing [1].

One study found that among Americans born between 1946 and 1964, one in six Black adults had experienced homelessness, compared to one in twenty White adults [4]. These numbers show that homelessness is not random but follows the same racial patterns of vulnerability seen throughout American society.

However, surprisingly, studies on mortality associated with homelessness have found that Black and White patterns reverse in this group. Fowle analyzed 18,618 deaths among people experiencing homelessness across twenty regions in the United States. They found that between 2015 and 2020, the death rate for White individuals was between 67.8% and 138.4% higher than for Black individuals in homelessness [4]. This mortality inversion appeared in all twenty localities and nearly every year studied [1].

One possible explanation is the difference in who enters into homelessness. Fowle's selection theory suggests that homelessness may draw less vulnerable Black individuals but more vulnerable White individuals from the general population [1]. Many Black people in poor health may die before ever becoming homeless, while it may be easier for relatively-healthy Black individuals to fall into homelessness, simply from financial stress and a more porous safety net. In contrast, White individuals often fall into homelessness coinciding with major health problems, often involving multimorbidity that includes addiction and mental illness [5]. As a result, the average Black person may be less at risk of death during their homelessness than the average White person [1]. These patterns make it clear that racial mortality inversion is not driven by biology or individual behavior. Instead, it reflects the broader social and structural forces that determine who becomes homeless in the first place.

Takeaways

The findings presented in this 2024 report reaffirm that homelessness is a lethal condition, not merely a circumstance of lacking shelter, but a marker of extreme health and social marginalization. Each death recorded by the medical examiner represents a missed opportunity for prevention, treatment, and connection to housing and care.

The patterns identified, including the racial mortality inversion and the continued prominence of preventable causes such as drug toxicity and cardiovascular disease, underscore the urgency of coordinated, data-driven action. These results should inform planning across public health, healthcare, and housing systems to direct resources where they are most needed and most effective.

Simply put, *the single most effective intervention to prevent deaths in homelessness is access to affordable, supportive housing*. Every additional layer of care, recovery and treatment, chronic disease management, crisis response, and coordinated reentry from hospitals and jails, extends the margin for survival. Yet without stable housing, these remain temporary solutions to a structural problem.

Our community's commitment must therefore remain clear: to measure, understand, and ultimately prevent deaths in homelessness by ensuring that no one's life ends for lack of a safe place to live.

Homelessness in Harris County

Table 1. Demographic Data from Point-In-Time Counts for Harris County in 2023, 2024, 2025						
Race/Ethnicity	2023 (n)	2023 (%)	2024 (n)	2024 (%)	2025 (n)	2025 (%)
American Indian or Alaska Native	30	1.0%	22	0.7%	11	0.4%
Asian	30	1.0%	28	1.0%	19	0.6%
Black or African American	1644	55.0%	1719	58.5%	1726	57.5%
Hispanic	448	15.0%	377	12.8%	413	13.8%
Middle Eastern/North African	0	0.0%	4	0.1%	1	0.03%
Multi-Racial	60	2.0%	60	2.0%	68	2.3%
Native Hawaiian or Other Pacific Islander	9	0.3%	6	0.2%	7	0.2%
White	768	25.7%	723	24.6%	755	25.2%
Total	2989	100%	2939	100%	3000	100%

*From HUD HDX; Hispanic ethnicity is subtracted from every other racial group total

In January 2024, more than half of the population experiencing homelessness in Harris County was composed of Black or African American individuals. The 2024 Point-in-Time count shows that 58.5% of people experiencing homelessness in the county identified as Black [6]. This share is substantially higher than the national average. In 2024, 32% of people experiencing homelessness in the United States were identified as Black [7]. Furthermore, only 20.9% of Harris County's total population is Black, highlighting the significant overrepresentation of Black individuals in homelessness, which may be influenced by ongoing structural and systemic factors that disproportionately affect Black communities [8].

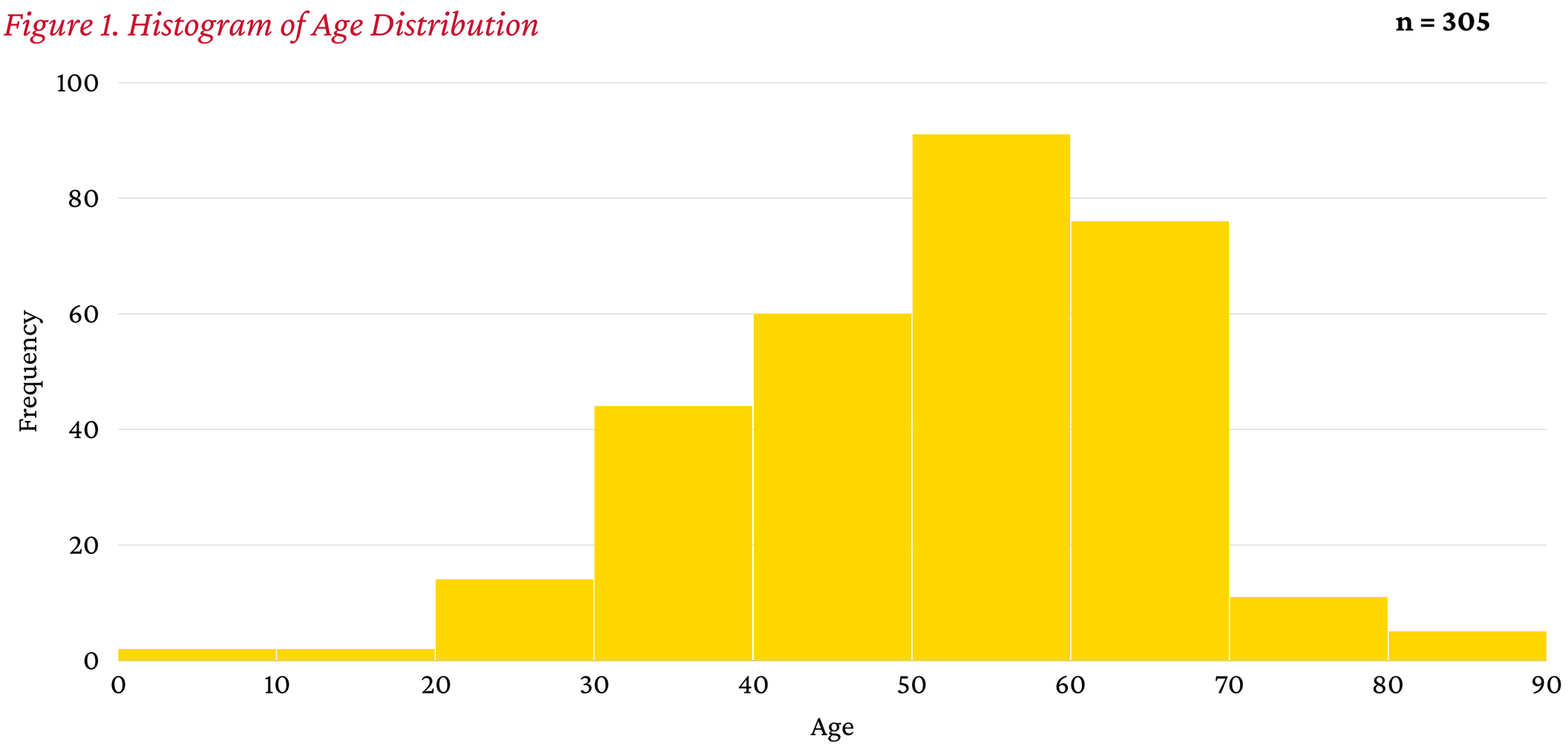
In contrast, Hispanic individuals were underrepresented in the homelessness population. In 2024, 12.8% of people experiencing homelessness in Harris County identified as Hispanic or Latino [6]. This differs sharply from the county’s overall population, where 45.0% of residents identify as Hispanic or Latino [8]. Nationally, Hispanic or Latino individuals accounted for between 20.1% and 30.6% of people experiencing homelessness in 2024, depending on racial classification [7]. These comparisons indicate that Hispanic individuals are less represented in homelessness relative to their share of the county population.

Between 2023 and 2025, the estimated racial composition of people experiencing homelessness in Harris County exhibited modest shifts. The percentage of Hispanic or Latino individuals decreased by two percentage points from 2023 to 2024, before increasing by one point in 2025. Over the same period, the proportion of Black or African American individuals rose by over three percentage points between 2023 and 2024, followed by a decrease of one point in 2025. The percentage of non-Hispanic White individuals remained relatively unchanged across the three years.

Demographics

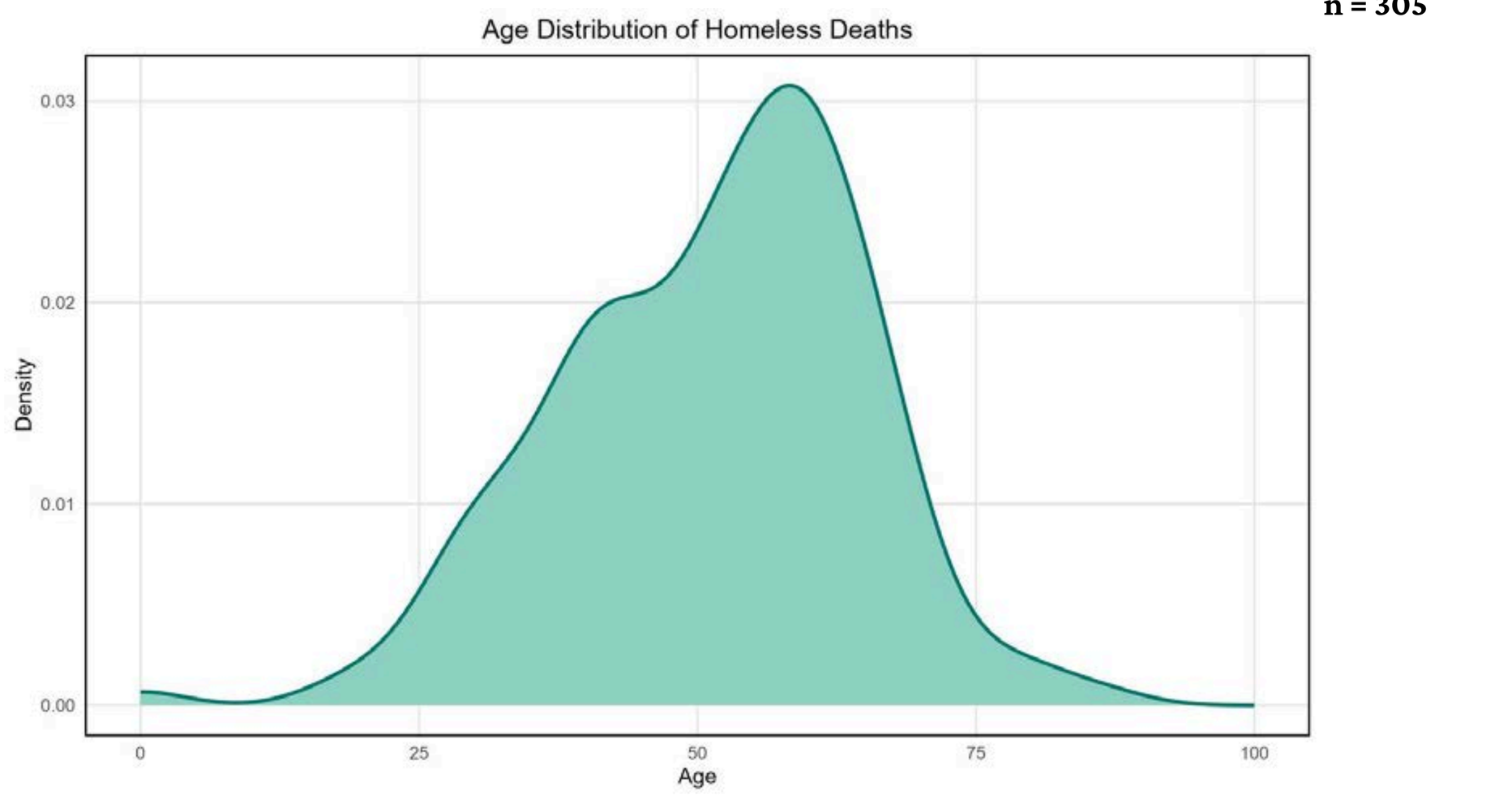
Age

Figure 1. Histogram of Age Distribution



Figures 1 and 2 show the distribution of ages at death among individuals who died while experiencing homelessness in 2024. Figure 1 is a histogram that displays the frequency of deaths across different ages. The mean age at death was 51.3 years, and the median was 53 years (Interquartile Range = 42 to 61 years). The kernel density plot (Figure 2) reveals two peaks in the distribution between ages 40 and 65, indicating that the majority of deaths occurred within this age range.

Figure 2. Kernel Density Plot of Age Distribution



Note: A kernel density plot estimates the probability density function of a continuous variable, allowing you to understand its distribution and where values are most concentrated. Here's how to interpret it:

- *Peak Location:* Where each line has its highest point (peak) shows where most values are concentrated for that group. Different peak locations mean different central tendencies between groups.
- *Peak Height:* Higher peaks indicate more frequent values in that range for a group.
- *Shape and Spread:* Wider shapes mean more spread (variability) in values for that group; narrow shapes mean values are closer together.

Figure 3. Kernel Density Plot of Age Distribution for Deaths in Homelessness and Harris County General Population

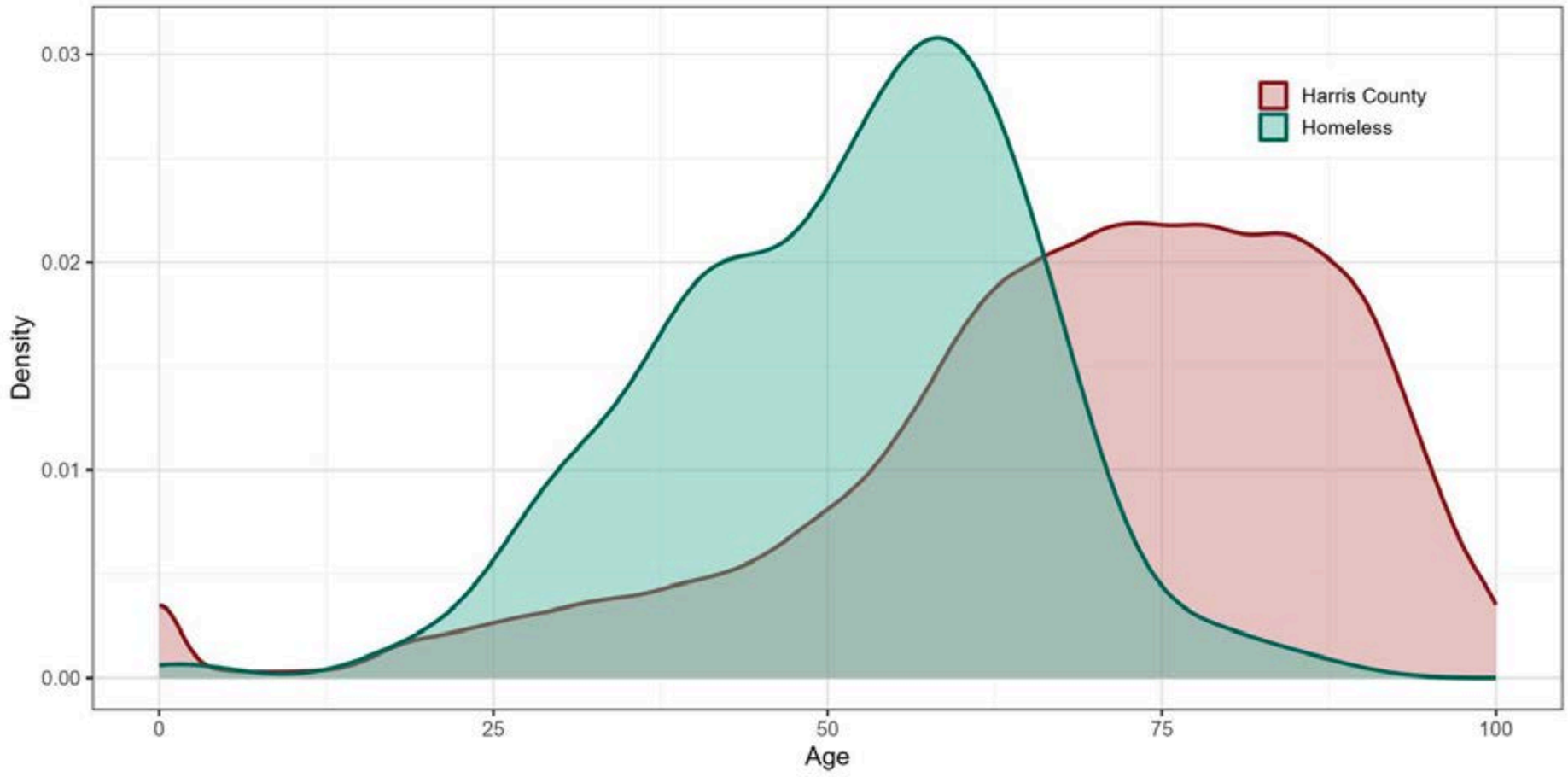


Figure 3 shows the kernel density plot of age at death for individuals who died while experiencing homelessness in 2024, compared to the distribution for the Harris County general population. The data for the general population were obtained from the CDC WONDER database, which compiled data from 2018–2023 [9]. The distribution for individuals experiencing homelessness peaks between ages 40 and 65, while the general population distribution peaks at substantially older ages, around the late-60s and early-70s. It is evident from the distributions that individuals who die while experiencing homelessness tend to die at much younger ages than the general population in Harris County.

Sex

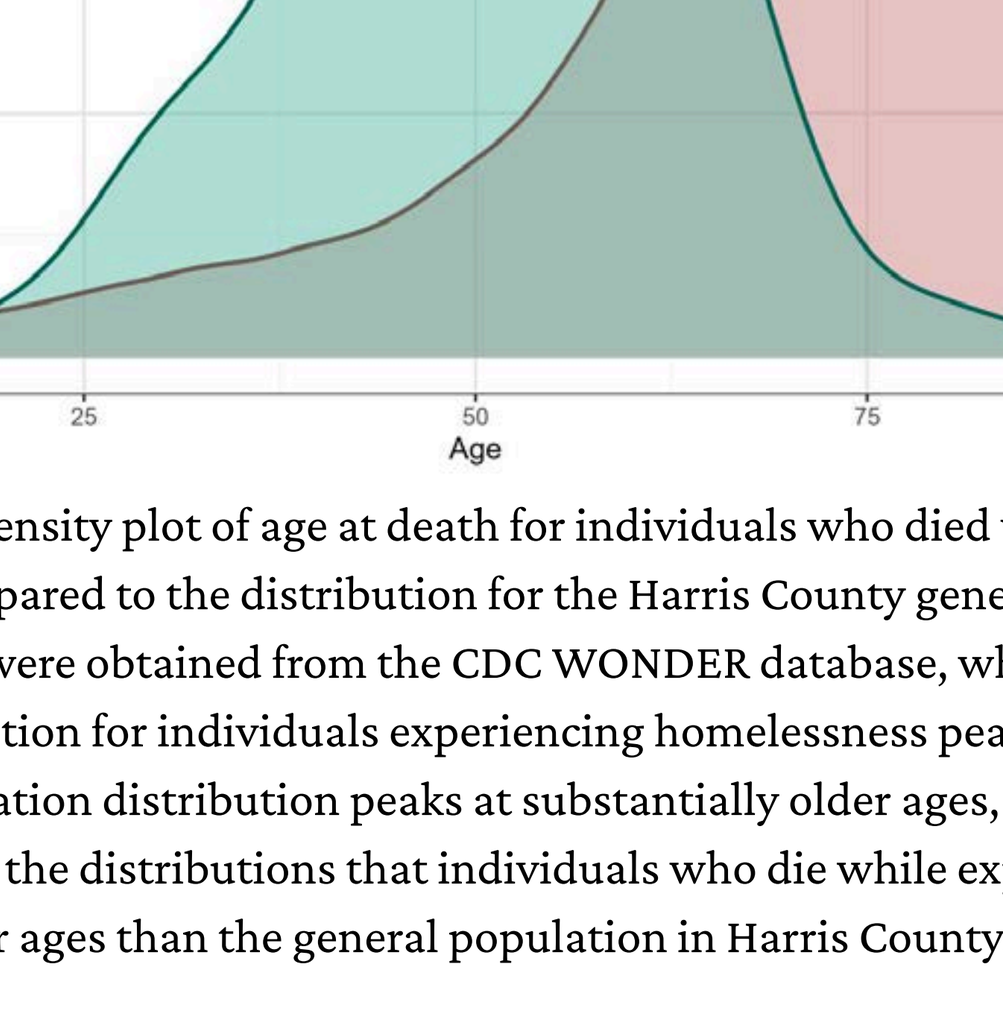
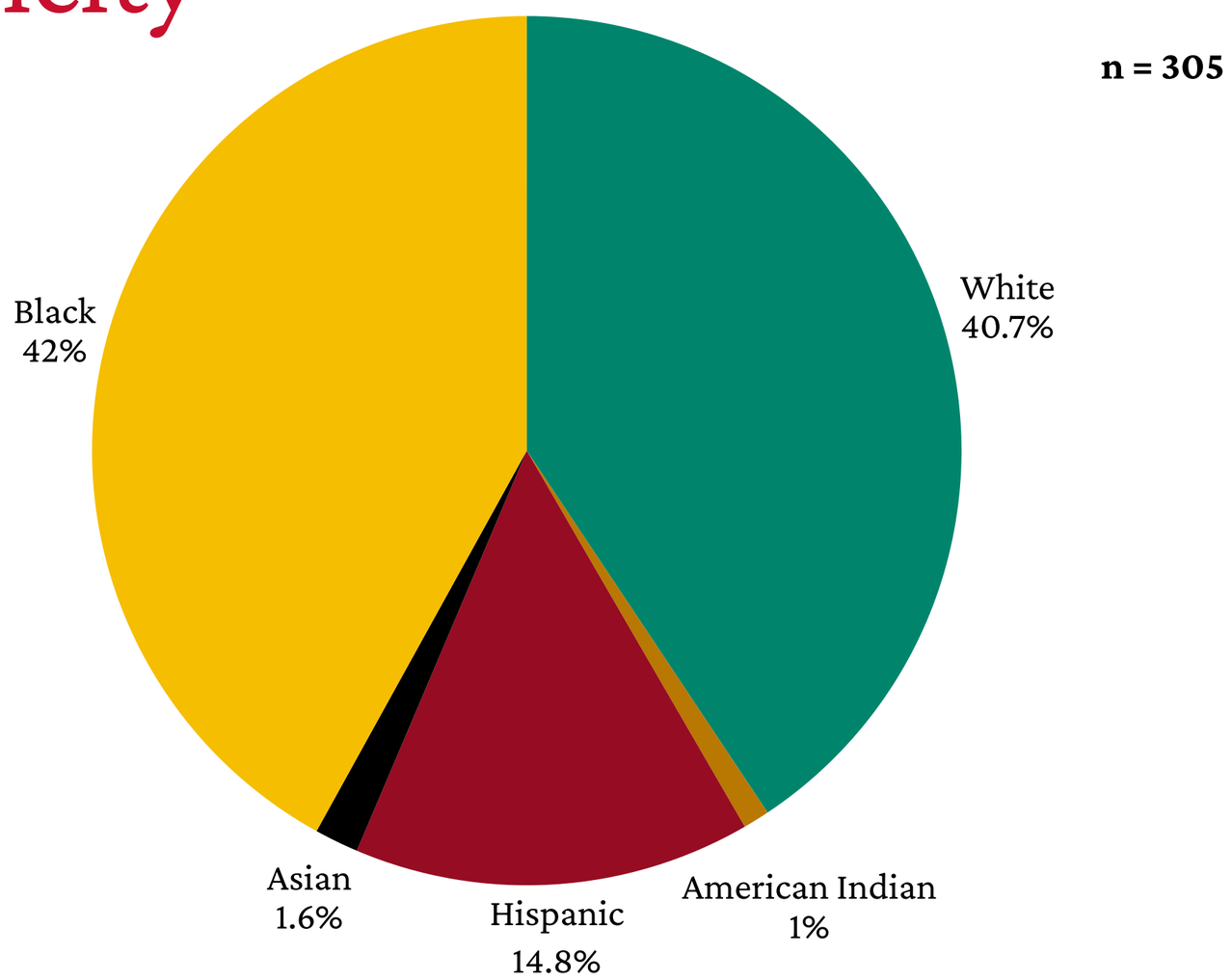


Figure 4. Distribution of Sex

The chart above shows the distribution of sex among those who died in homelessness. Females accounted for 21% of deaths in 2024, an increase from 14.5% in 2023. This rise indicates a growing proportion of female deaths within the population experiencing homelessness compared to the previous year. However, considering that males represent roughly half of the general population in Harris County [8], this continued overrepresentation highlights the disproportionate burden of mortality experienced by men experiencing homelessness.

Race & Ethnicity



Hispanic ethnicity is excluded from every other racial group total

Figure 5. Distribution of Race and Ethnicity

Figure 5 shows the racial and ethnic distribution of individuals who died while experiencing homelessness. Decedents were predominantly White (41%) or Black (42%), with Hispanic individuals constituting 15% of the decedents. Compared to the overall demographics of Harris County, White and Black individuals were disproportionally overrepresented in homeless mortality, while Hispanic individuals were underrepresented.

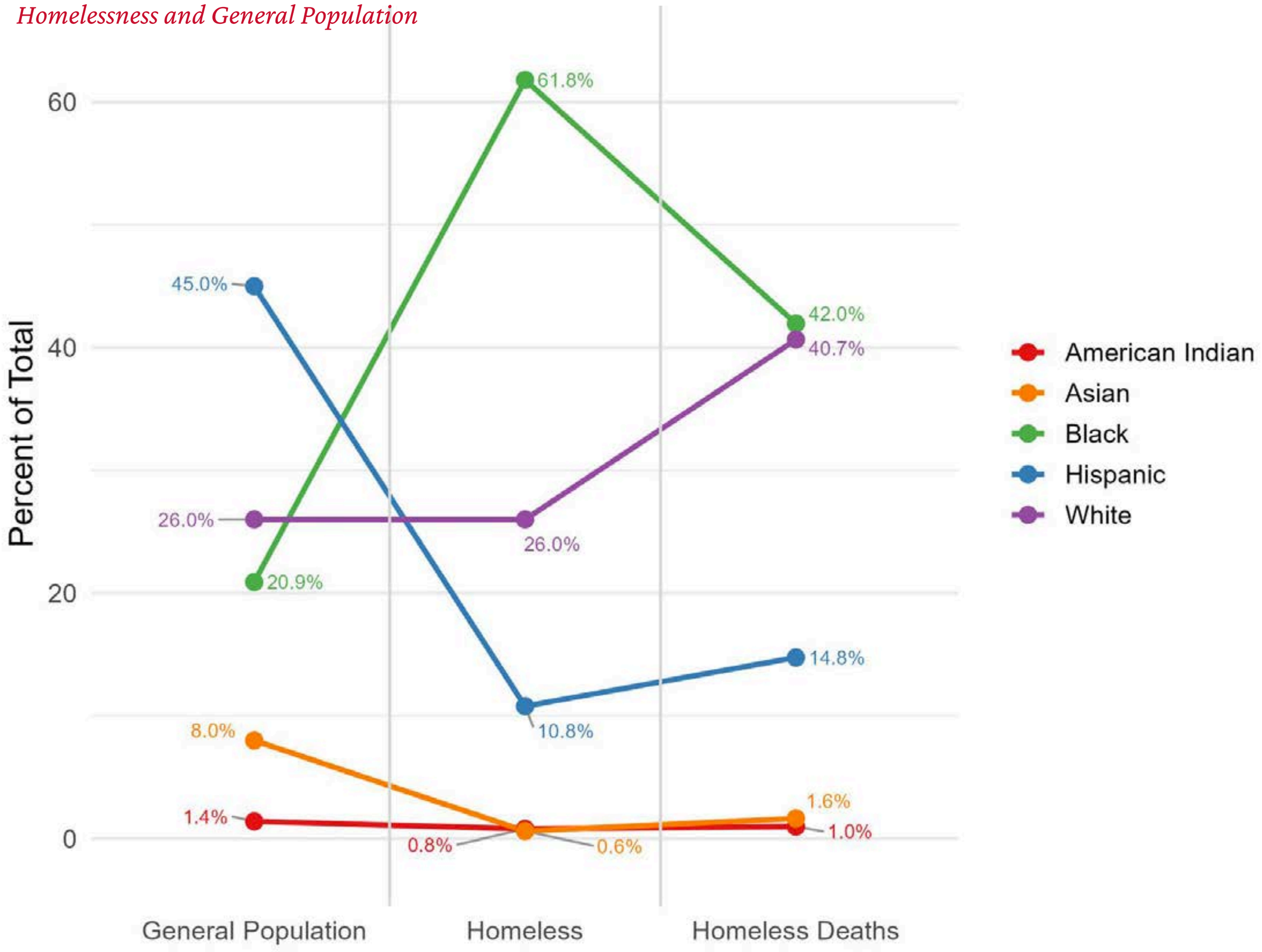
Table 2. Racial Distribution of Homeless Deaths Compared to the Population Experiencing Homelessness and the General Population [6,8]

Race/Ethnicity	General Population	Homelessness (January 23, 2023)	Homeless Deaths (2024)
American Indian or Alaska Native	1.2%	1%	1%
Asian	7.7%	1%	1.6%
Black or African American	21.1%	55%	42%
Hispanic/Latino	44.1%	15%	14.8%
Multi-Racial	**2.1%**	**2%**	
Native Hawaiian or Other Pacific Islander	**0.1%**	**0.3%**	
White	27%	26%	40.7%
Unknown	0%	0%	

*From HUD HDX; Hispanic ethnicity is subtracted from every other racial group total

Note: Data for Multi-Racial, Native Hawaiian or Other Pacific Islander, and Unknown categories were not collected in the 2024 homeless deaths dataset and are therefore not represented in the Homeless Deaths column.

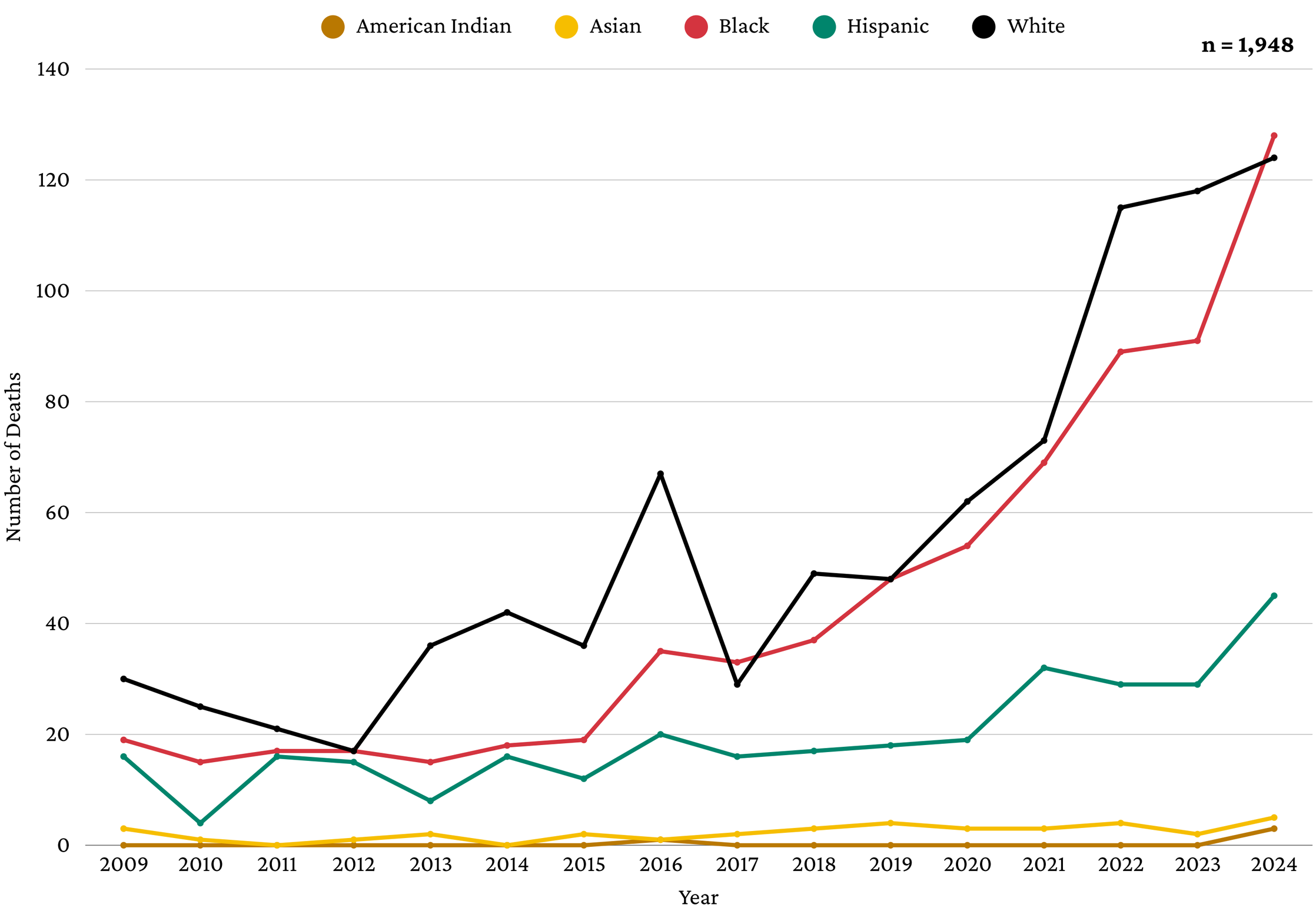
Figure 6. Racial/Ethnic Distribution of Deaths in Homelessness Compared to Population Experiencing Homelessness and General Population



This figure highlights racial and ethnic disparities between the general Harris County population [8], those experiencing homelessness [6], and homeless mortality in Harris County. Asian and Hispanic individuals are notably underrepresented in homelessness compared to their proportions in the general population, with Asians representing 8.0% of the general population but only 0.6% of the population experiencing homelessness, and Hispanic individuals making up 45.0% of the general population but only 10.8% of the population experiencing homelessness. In contrast, Black individuals are significantly overrepresented in homelessness, comprising only 26.0% of the general population but 61.8% of those experiencing homelessness.

When comparing the population experiencing homelessness to homeless mortality, non-Hispanic White individuals are overrepresented among decedents, making up 26% of the population experiencing homelessness but 40.7% of those who died while experiencing homelessness. While Black individuals are underrepresented in homeless mortality (42%) compared with the proportion seen in the population experiencing homelessness (61.8%), they remain overrepresented relative to the general population. All remaining racial and ethnic groups aside from the Black and non-Hispanic White individuals are underrepresented in both the population experiencing homelessness and homeless mortality relative to their proportions in the general population, with the exception of American Indian or Alaska Native individuals, for whom small sample sizes may influence observed patterns.

Figure 7. Count of Deaths in Homelessness by Race/Ethnicity 2009 - 2024



Note: Starting in 2021, our team began adjudicating homelessness status in addition to medical examiner flagging, which may have increased case sensitivity.

Figure 7 shows how the number of deaths in homelessness has changed across time for each racial and ethnic group. Non-Hispanic White and Black individuals consistently account for the largest share of deaths throughout the 2009–2024 period, with both groups experiencing substantial increases over time. Deaths among Black individuals rose more sharply beginning around 2018 and reached the highest count in 2024, increasing from 91 deaths in 2023 to 128 deaths in 2024. Non-Hispanic White deaths show a similar upward trajectory, particularly after 2019.

Hispanic deaths increased more gradually over the study period, with a notable rise beginning around 2020 and continuing through 2024. In contrast, Asian and American Indian deaths have remained relatively low. These patterns illustrate that increases in homeless mortality over time have affected all racial and ethnic groups, though the magnitude of these changes has been most pronounced among Black and non-Hispanic White populations.

Demographic Comparisons

Figure 8. Age by Sex Kernel Density Plot

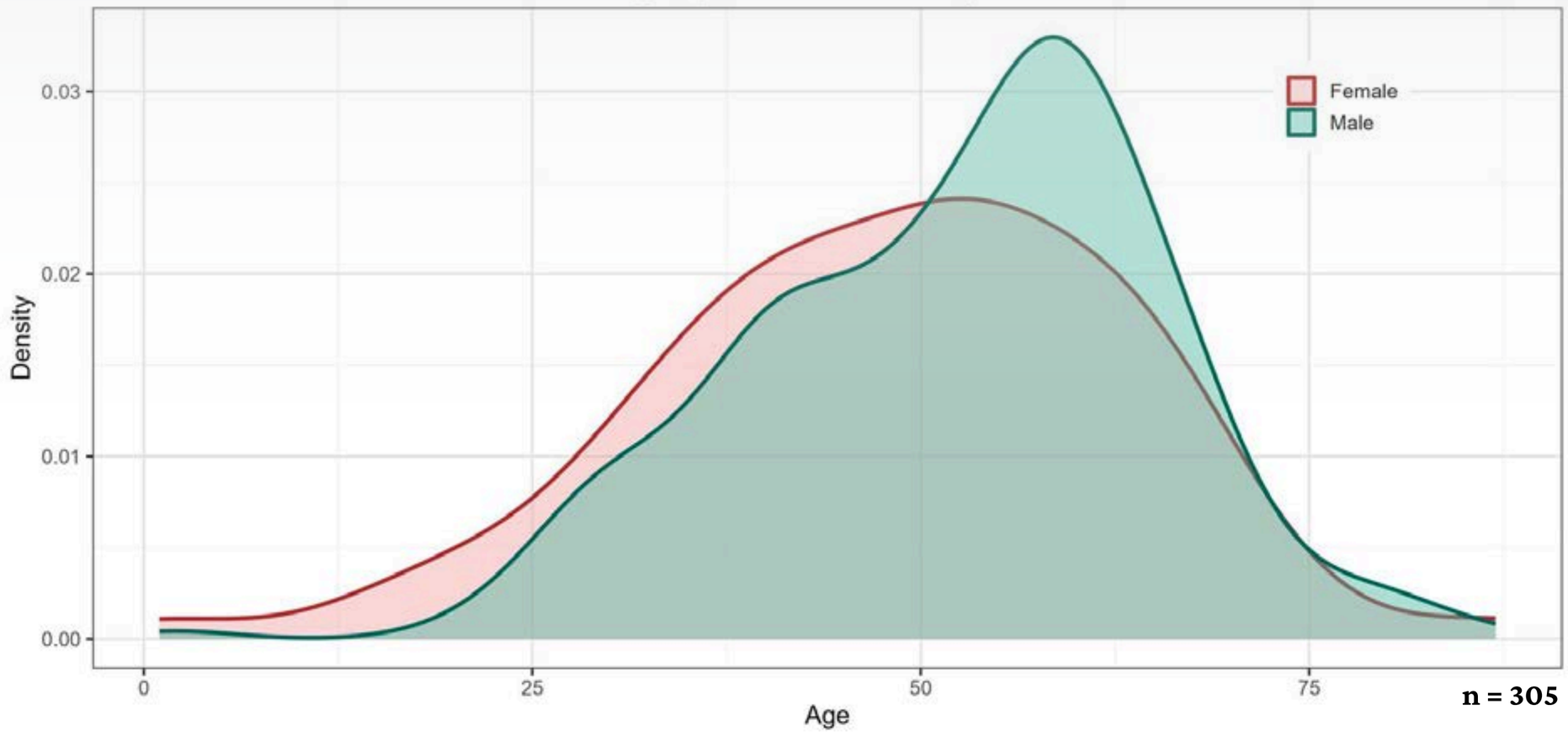


Figure 8 highlights the age distribution of individuals who died while experiencing homelessness by sex. Male decedents show a pronounced peak near age 58, indicating that deaths are most concentrated between ages 50 and 65. In contrast, female decedents exhibit a broader peak centered around age 53, with commonly observed ages of death extending from approximately 35 to 65. Consistent with the density plot, male decedents demonstrated a higher median age at death compared with females (54 vs. 50 years).

Figure 9. Age by Sex Kernel Density Plot of Deaths in Homelessness and Harris County General Population

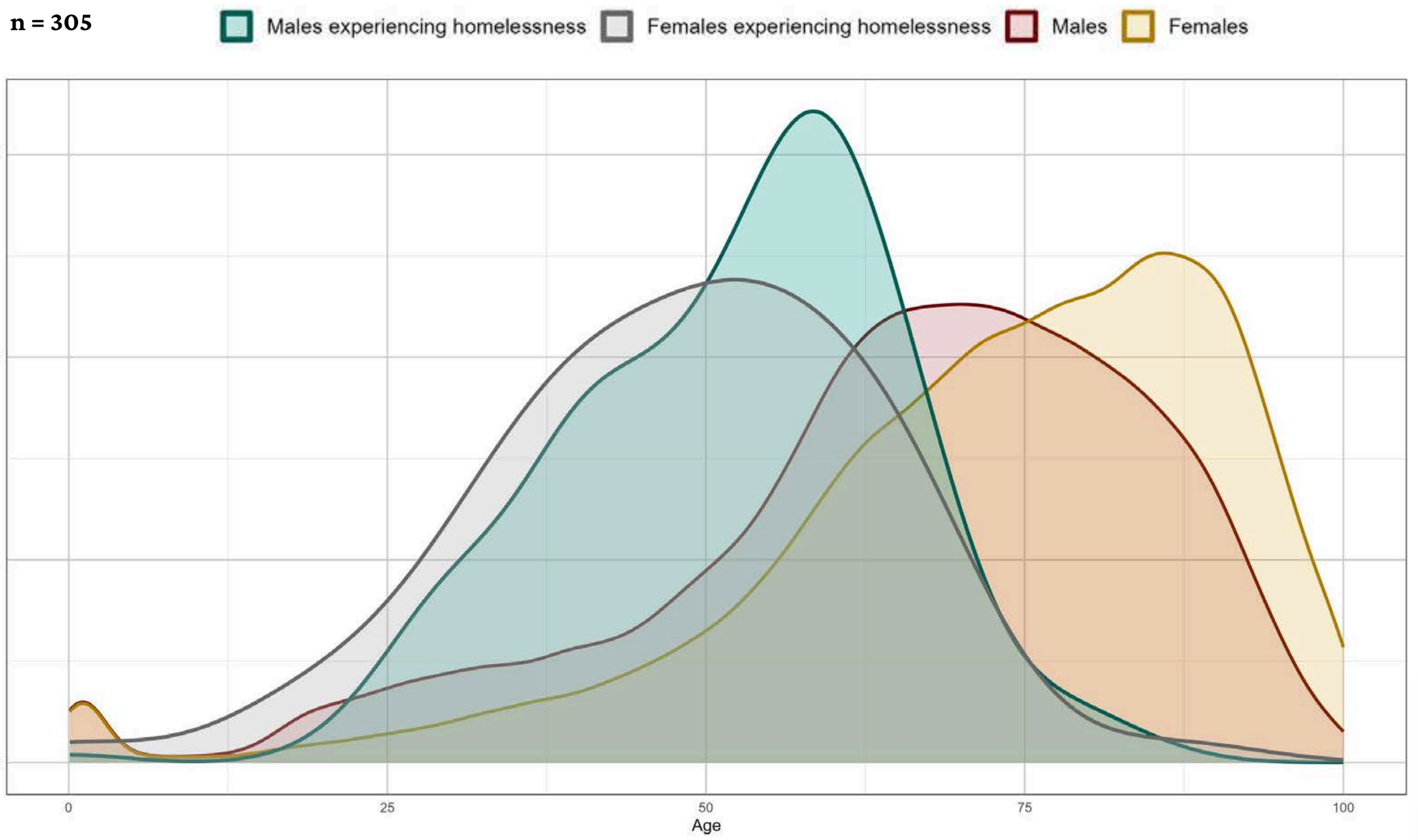


Figure 9 compares the age distribution between those who died in homelessness and the general population of Harris County by sex [9]. Among males experiencing homelessness, deaths are concentrated between ages 50 and 65, earlier than the 55-85 age range observed in the general population. Similarly, the peak of females experiencing homelessness also occurs at a younger age than that of females in the general population, with deaths among homeless females concentrated between ages 35 to 65, compared with ages 65 to 95 in the general population. However, the distribution peaks for females are farther apart than those for males, indicating that premature mortality associated with homelessness is more severe and prevalent among females.

Figure 10. Race/Ethnicity by Sex

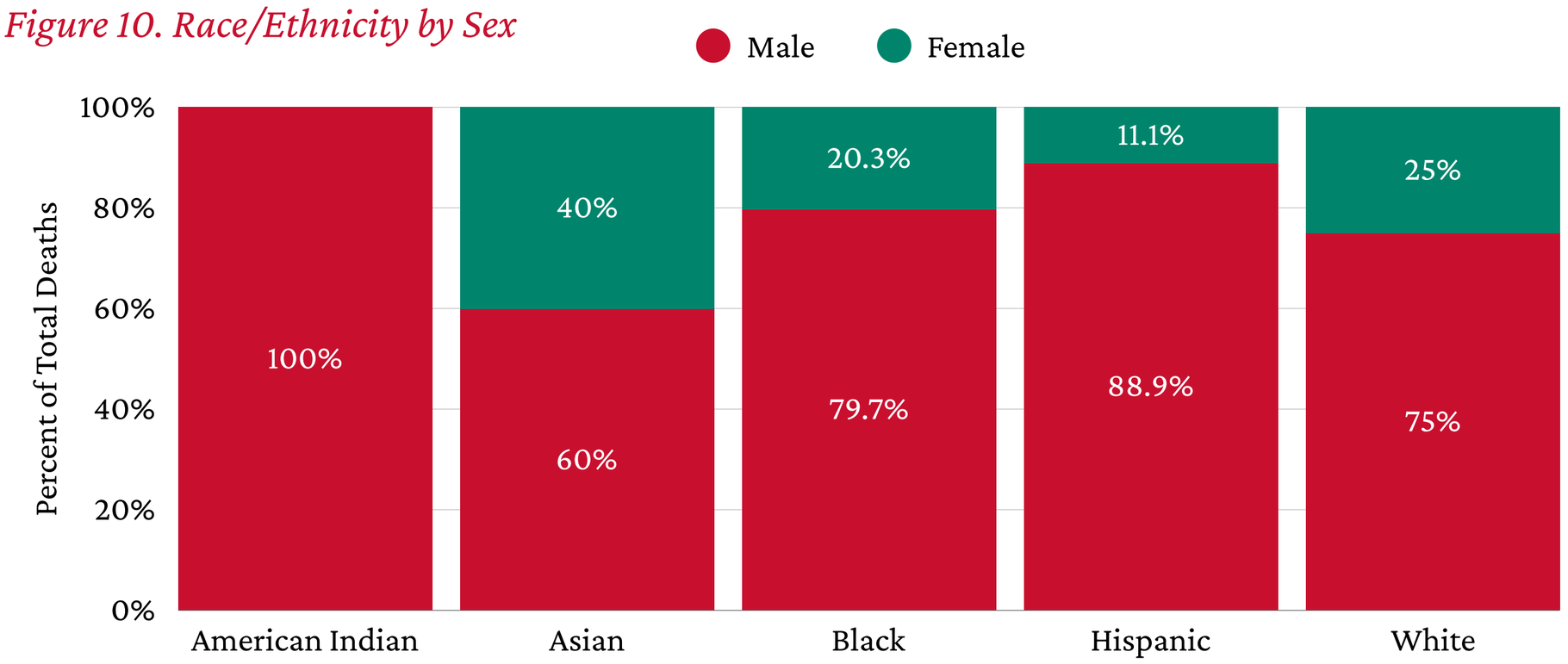


Figure 10 shows the sex distribution of individuals who died while experiencing homelessness by race/ethnicity. Across all groups, males represent the majority of deaths. Among the larger racial and ethnic groups, males account for 79.7% of deaths among Black individuals, 88.9% among Hispanic individuals, and 75% among White individuals. Asian individuals show a lower proportion of male decedents (60%), while American Indian deaths were entirely male. However, both of these groups represent only a small number of total deaths and should be interpreted as such.

Figure 11. Age by Race/Ethnicity Kernel Density Plot

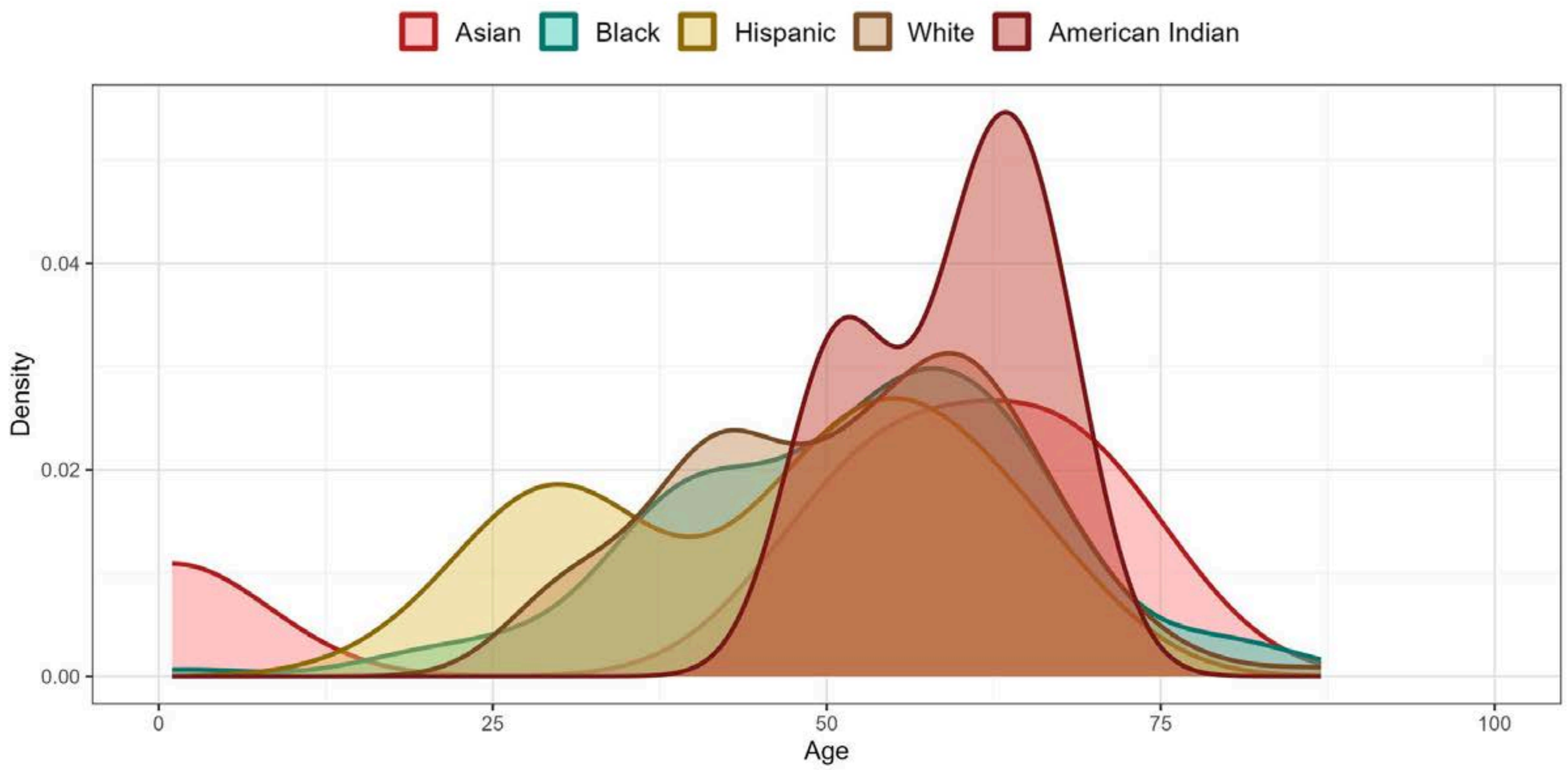
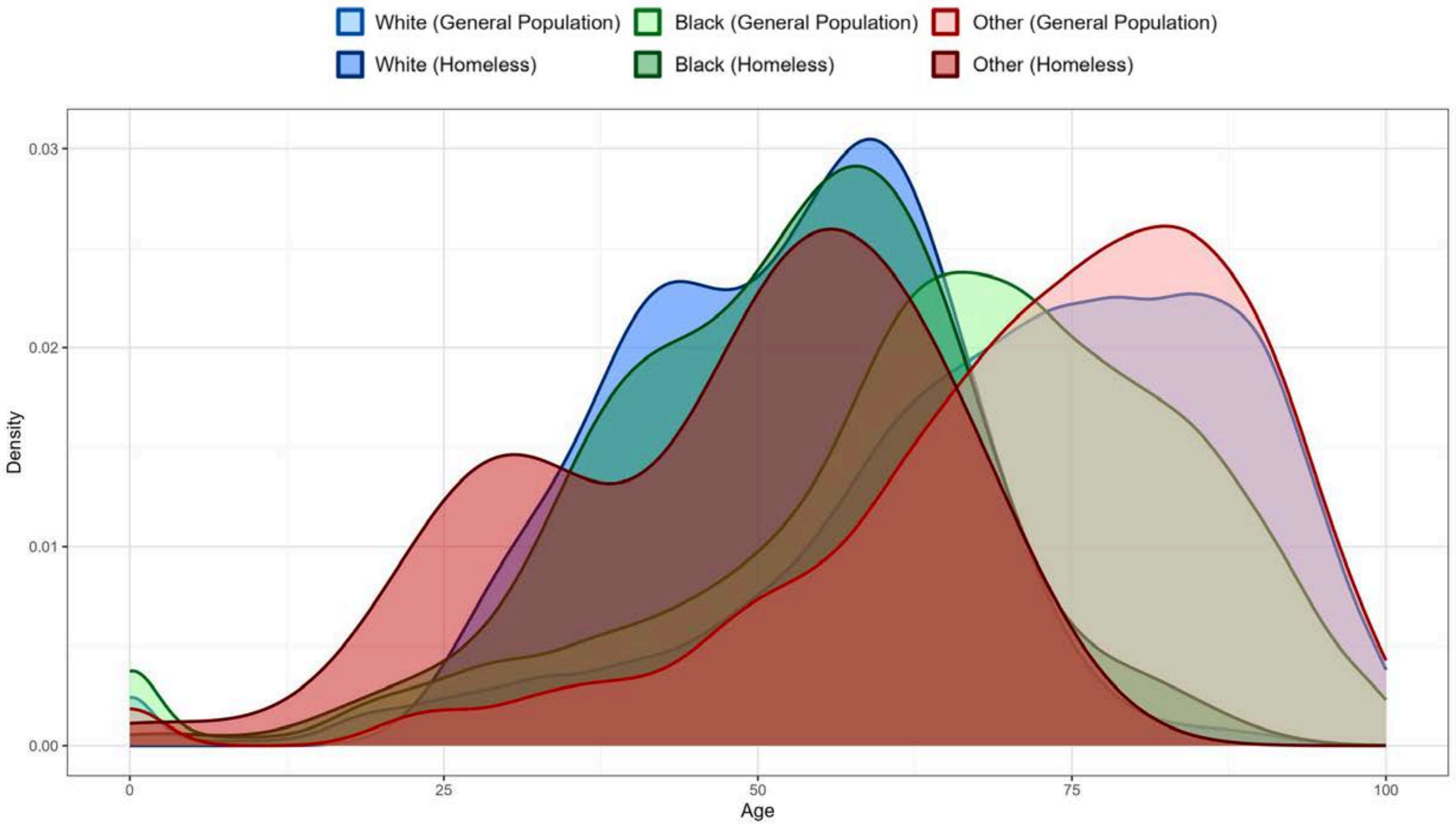


Figure 11 highlights the age at death distribution by race and ethnicity. White and Black individuals have similar distributions, with a primary peak around age 60 and deaths concentrated between ages 35 and 70. White individuals also exhibit a distinct secondary peak around age 45. Hispanic individuals also display a bimodal distribution, with two younger peaks around ages 30 and 55. While the distribution for American Indian decedents appears clearly bimodal, its interpretability is limited because only three individuals are represented in this group. The distribution for Asian decedents also appears irregular, likely due to the small sample size. This group also includes two deaths that occurred below the age of 1, which contribute to the density observed at age 0. American Indian individuals exhibited the highest median age (61 years), followed by Asian (57 years), Black (54 years), White (53 years), and Hispanic individuals (50 years).

Figure 12. Age by Race/Ethnicity Kernel Density Plot of Deaths in Homelessness and Harris County General Population



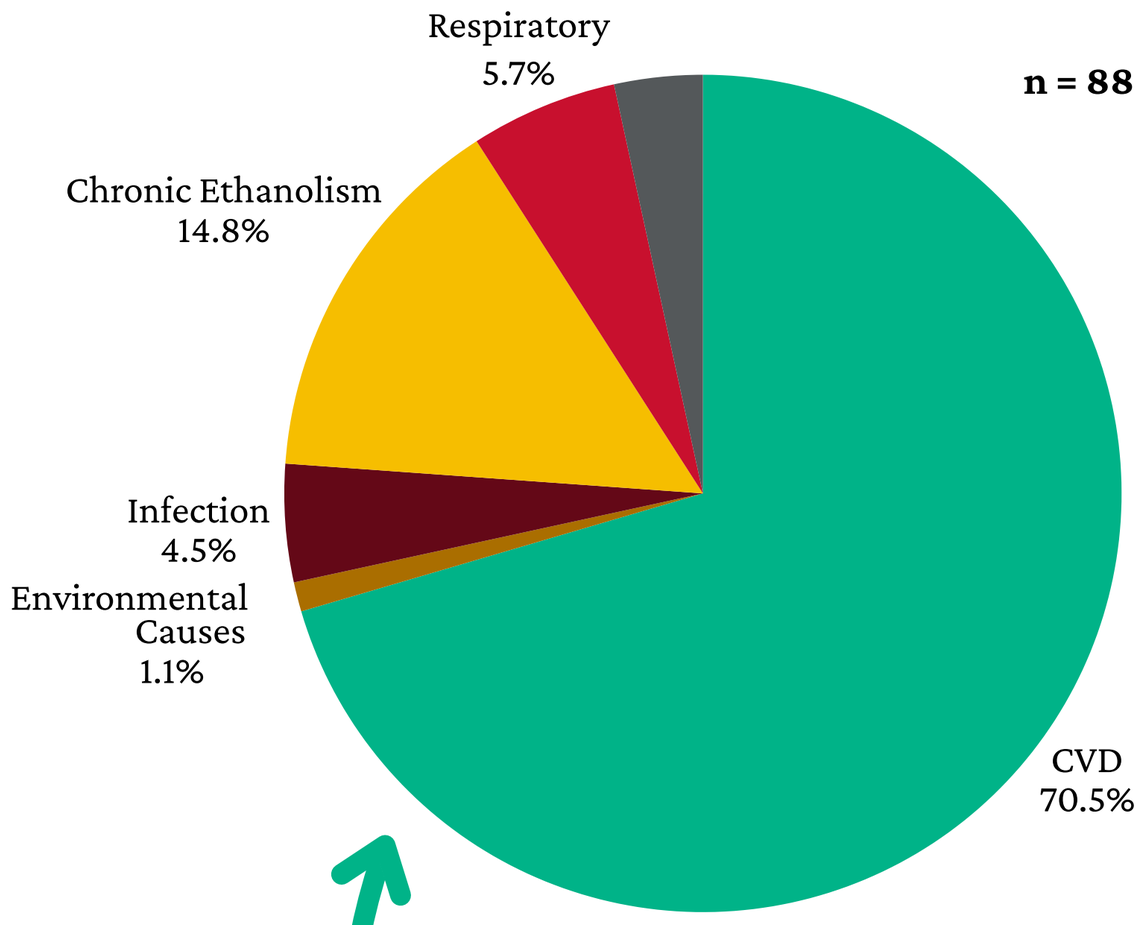
Note: General population age-at-death data was obtained from the CDC WONDER database and is based on underlying cause-of-death records from 2018-2023

The figure above presents kernel density plots of age at death by racial/ethnic group for individuals who died while experiencing homelessness in 2024, compared to the age at death for the Harris County general population [9]. The analysis includes White, Black, and individuals categorized as Other (Hispanic, Asian, and American Indian).

Across all racial and ethnic groups, individuals who died while experiencing homelessness show a noticeably younger age at death than their counterparts in the general population. Each homeless group shows a concentration of deaths beginning in early adulthood and peaking well before age 65, while the general population curves peak at substantially older ages. This consistent pattern across groups highlights the widespread and disproportionate burden of premature mortality among people experiencing homelessness in Harris County.

Manner of Death

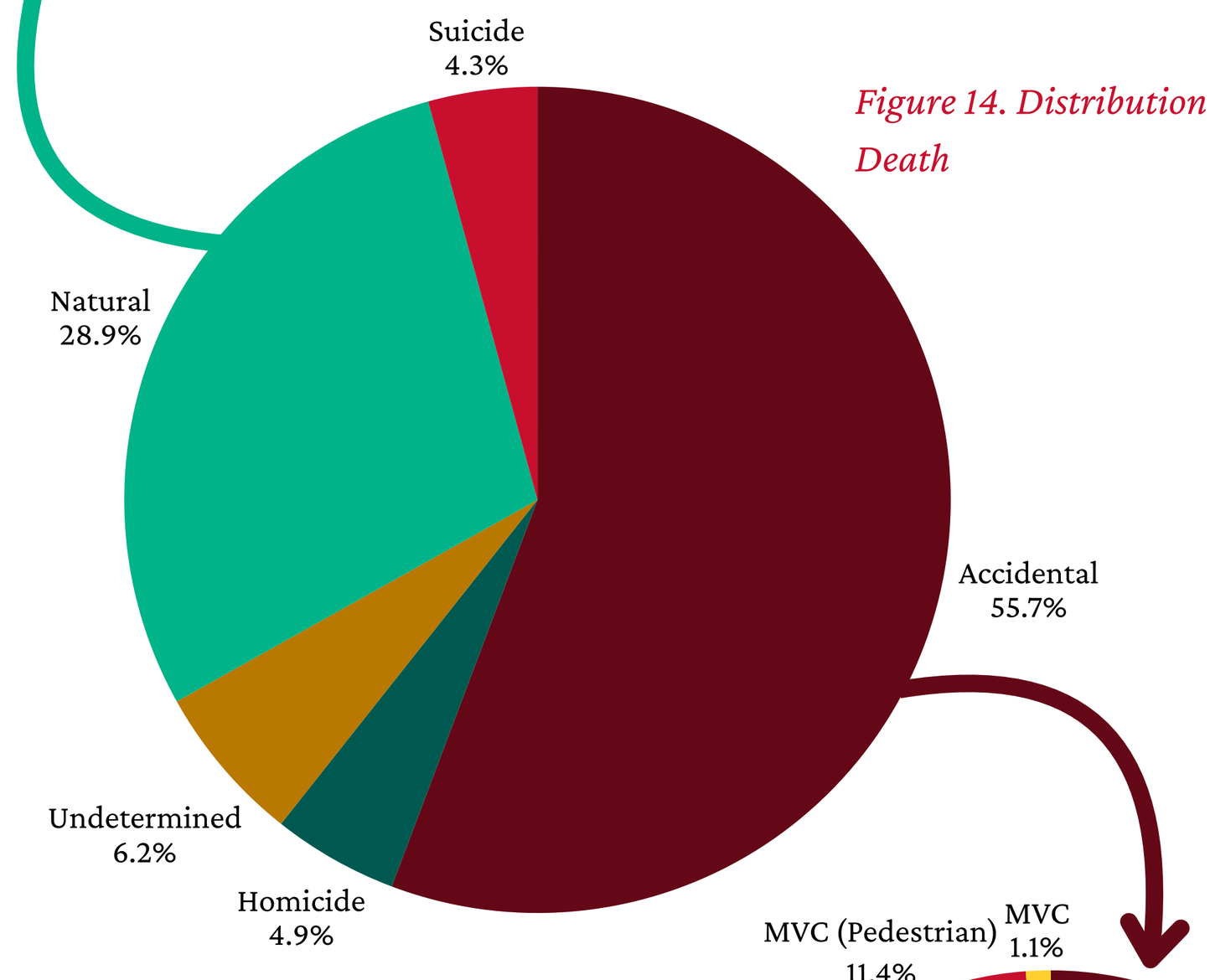
Figure 13. Distribution of Manners of Natural death



Figures 13-15 depict the distribution of manners of death among decedents. More than half of the deaths were classified as accidental, followed by natural causes.

For natural deaths, around 71% were attributed to cardiovascular disease (CVD), followed by conditions associated with chronic alcohol use, respiratory diseases, and infections

Figure 14. Distribution of Manners of Death



Among accidental deaths, 76% were attributed to acute drug toxicity, with others resulting from injuries or trauma, such as blunt force trauma.

Figure 15. Distribution of Manners of Accidental Death

Figure 16. Age by Manner of Death Kernel Density Plot

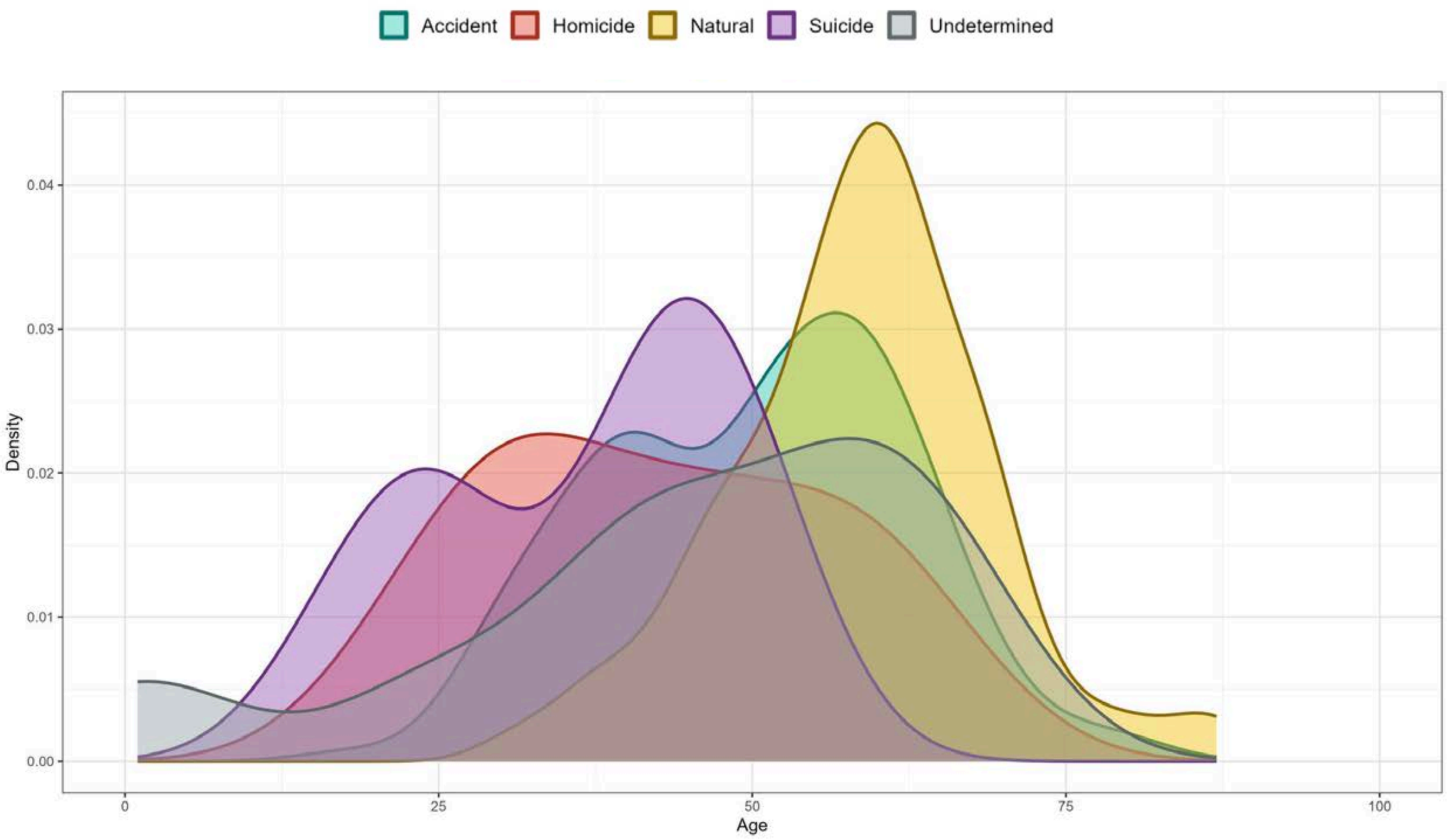


Figure 16 highlights the age distribution of individuals who died while experiencing homelessness by manner of death. For natural causes of death, most individuals died at older ages, with a distribution peak around age 60, with the majority of deaths occurring between ages 50 and 70. Deaths due to accidents and homicides both show bimodal distributions, with two distinct peaks that occur at younger ages than the peak for natural causes. Accident deaths are concentrated around ages 65 and 45, while homicide deaths are concentrated around ages 45 and 25. Deaths classified as homicide and undetermined both present more uniform distributions across a wider age range, which could be explained by the small sample size.

Regarding median age at death, individuals who died from natural causes exhibited the highest median age (60 years), followed by accident (52 years), undetermined (50 years), homicide (45 years), and suicide (41 years).

Table 3. Counts of Manner of Death by Sex					
Sex	Manner of Death				
	Accident	Natural	Homicide	Suicide	Undetermined
Female	38	19	2	3	2
Male	132	69	13	10	17

Figure 17. Proportions of Manner of Death by Sex

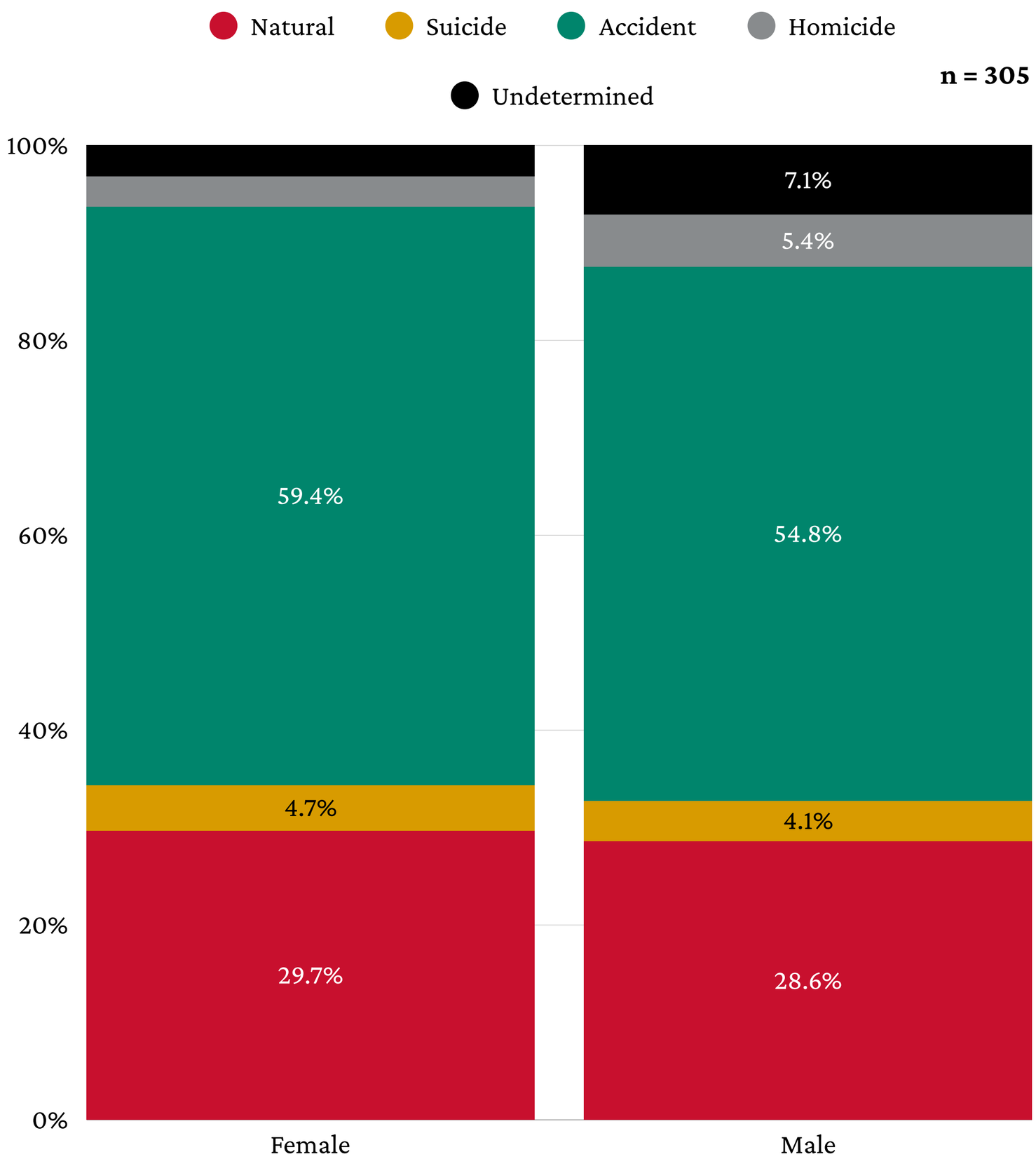


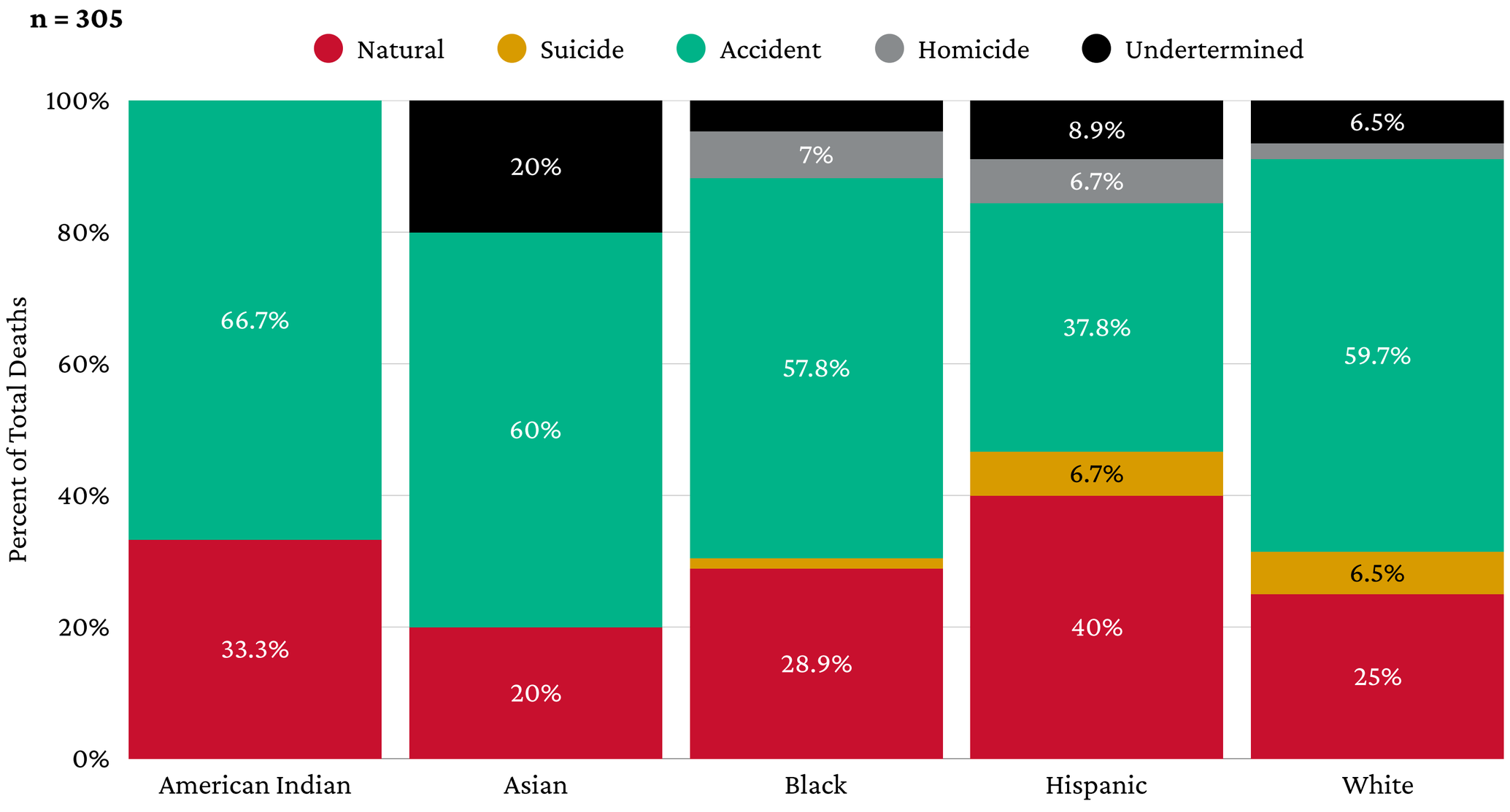
Figure 17 and Table 3 illustrate the distribution of manner of death by sex, presenting percentages and counts, respectively. Accidents constitute the majority of deaths for both sexes, accounting for approximately 59% of female deaths and 55% of male deaths. Among males and females, natural causes are the second most common manner of death (29% for men and 30% for women). Overall, the distribution of manners of death is similar between sexes. However, females have a lower proportion of deaths classified as undetermined or homicide and a higher proportion of accidental deaths compared with males.

Table 4. Counts of Manner of Death by Race/Ethnicity					
Race/Ethnicity	Manner of Death				
	Undetermined	Natural	Accident	Homicide	Suicide
American Indian	0	1	2	0	0
Asian	1	1	3	0	0
Black	6	37	74	9	2
Hispanic	4	18	17	3	3
White	8	31	74	3	8

Figure 18 and Table 4 present the proportions and counts of manner of death by race/ethnicity, respectively. Accidental deaths are the most common manner of death across all racial/ethnic groups, accounting for 66.7% of deaths among American Indian individuals, 60% among Asian individuals, 57.8% among Black individuals, and 59.7 % among White individuals. Natural causes represent the second most common manner of death for these groups, accounting for 33.3% of deaths among American Indian individuals, 20.0% among Asian individuals, 28.9% among Black individuals, and 25.0% among White individuals.

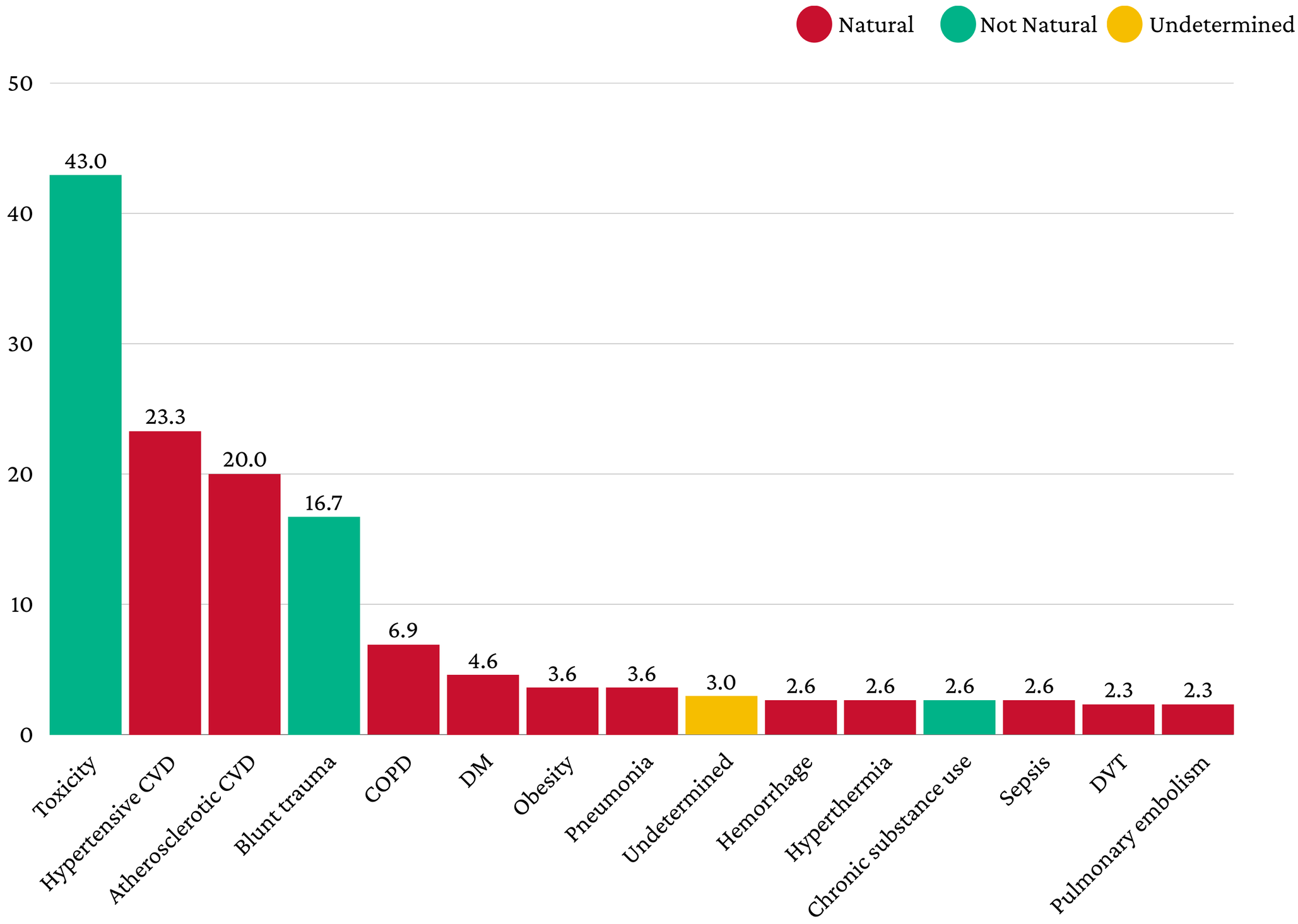
Among Hispanic individuals, the pattern differs, with natural causes accounting for the largest share of deaths at 40.0%, followed by accidental deaths at 37.8%. Non-Hispanic Black individuals experience the highest proportion of homicide deaths (7%), while suicide accounts for similar proportions of deaths among Hispanic (6.7%) and non-Hispanic White individuals (6.5%). Undetermined manners of death remained relatively uncommon across all racial and ethnic groups, ranging from 6.5% to 20.0%.

Figure 18. Proportions of Manner of Death by Race/Ethnicity



Leading Causes of Death

Figure 19. Leading Causes of Death Among People Who Died While Experiencing Homelessness



Note: Percentages add up to more than 100% due to overlapping causes of death, and causes of death with percentages <2 were excluded from this chart

The figure above shows the leading causes of death among people who died while experiencing homelessness in Harris County in 2024.

The leading cause of death among those who died while experiencing homelessness was acute toxicity, which accounted for 43.0% of all deaths, exceeding all other leading causes. This was followed by hypertensive CVD at 23.3%, atherosclerotic cardiovascular disease at 20.0%, and blunt trauma at 16.7%. Additional leading causes included chronic obstructive pulmonary disease (COPD) (6.9%), diabetes mellitus (DM) (4.6%), obesity (3.6%), and pneumonia (3.6%). A portion of deaths were classified as undetermined (3.0%), while other causes, such as hemorrhage, chronic substance use, sepsis, deep vein thrombosis (DVT), and pulmonary embolism, each accounted for smaller shares. Many drug toxicity deaths also involved additional primary causes, including cardiovascular disease and chronic respiratory conditions. It remains unclear whether chronic substance use contributes to the development of these conditions or whether the presence of underlying health issues increases susceptibility to fatal drug toxicity.

Substance Involved Deaths

Nearly 60% of the deaths in homelessness in 2024 were attributed to substance use, as shown in Figure 20. Like the previous figure, this further demonstrates the significant burden of substance-related harms and mortality in this population.

Figure 20. Proportion of Deaths Attributed to Substance Use

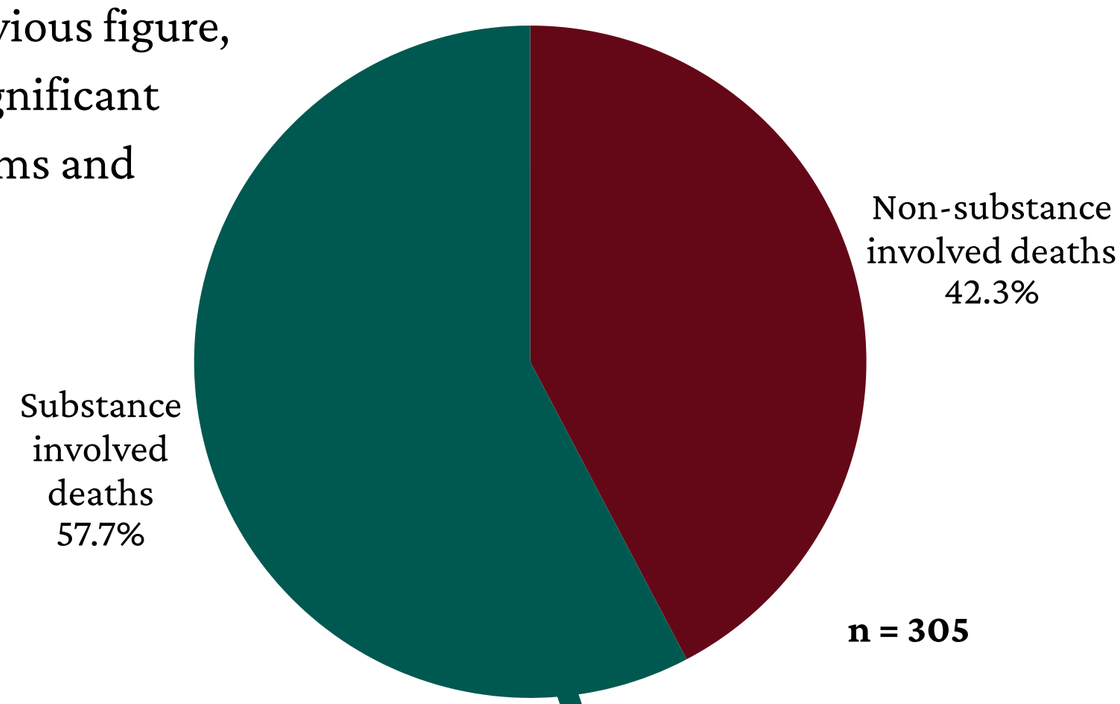


Figure 21. Proportion of Substance Involved Deaths Attributed to Acute Toxicity

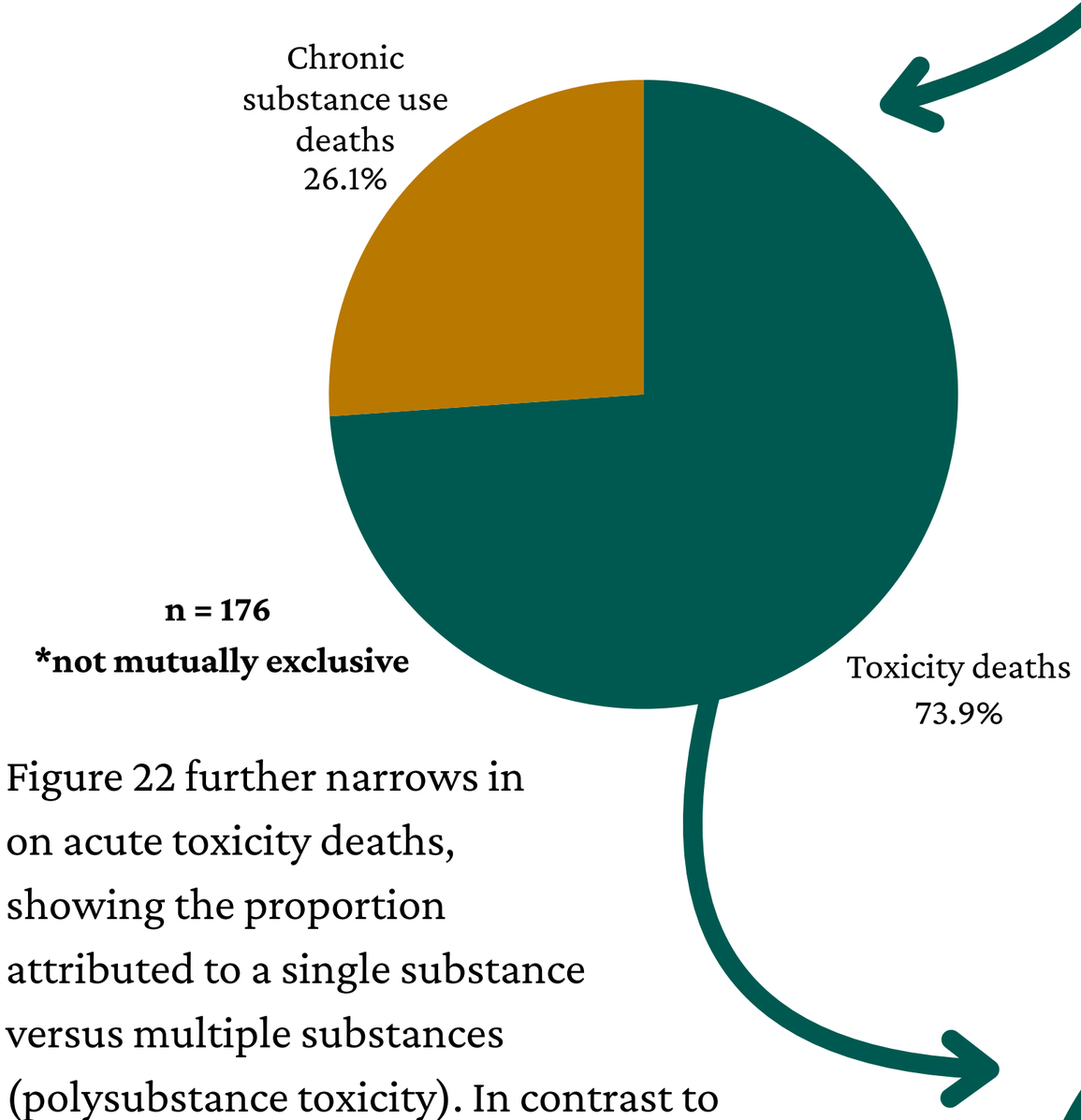


Figure 22 further narrows in on acute toxicity deaths, showing the proportion attributed to a single substance versus multiple substances (polysubstance toxicity). In contrast to prior years, where polysubstance deaths represented a larger share of deaths, both 2023 and 2024 showed a more even distribution, nearly 50/50. This two-year shift suggests a potential emerging deviation in substance-related mortality patterns in this population.

Building on Figure 20, Figure 21 shows the proportion of substance-involved deaths attributed to acute toxicity versus chronic substance use, noting that some individuals had co-occurring conditions. The majority (74%) of substance-involved deaths in 2024 were due to acute toxicity, with a smaller proportion attributed to chronic substance use. Most chronic substance use deaths involved alcohol, and the specific substances contributing to toxicity deaths are further detailed on the following page.

Figure 22. Proportion of Acute Toxicity Deaths Attributed to Polysubstance Use

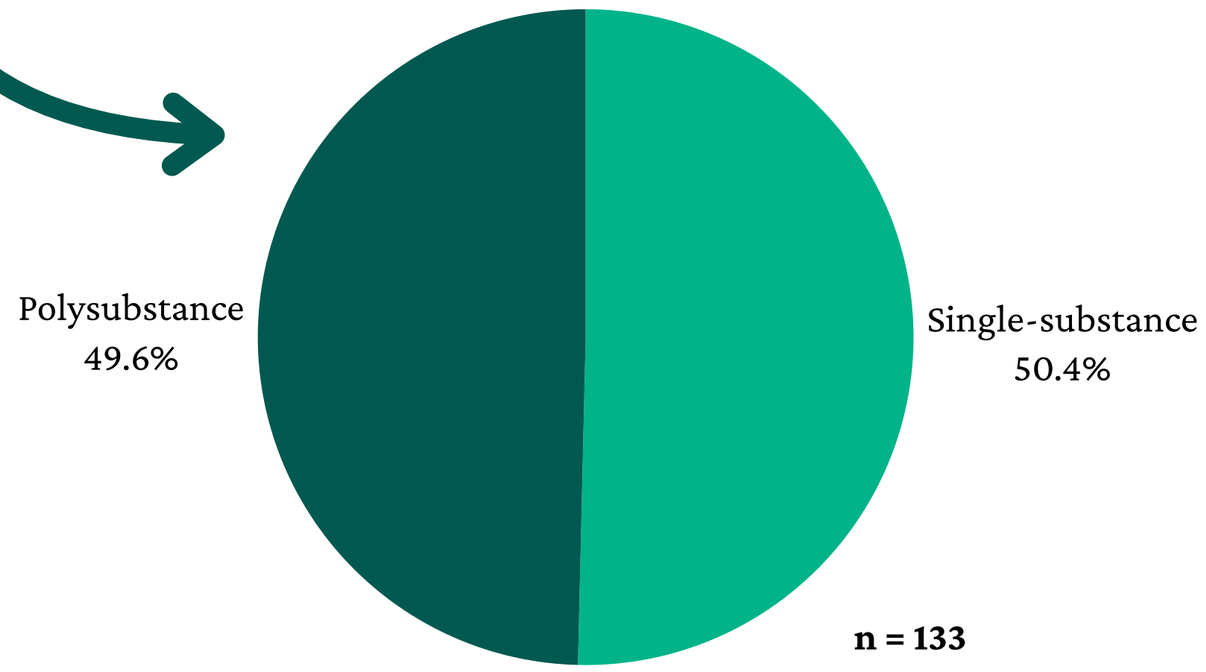
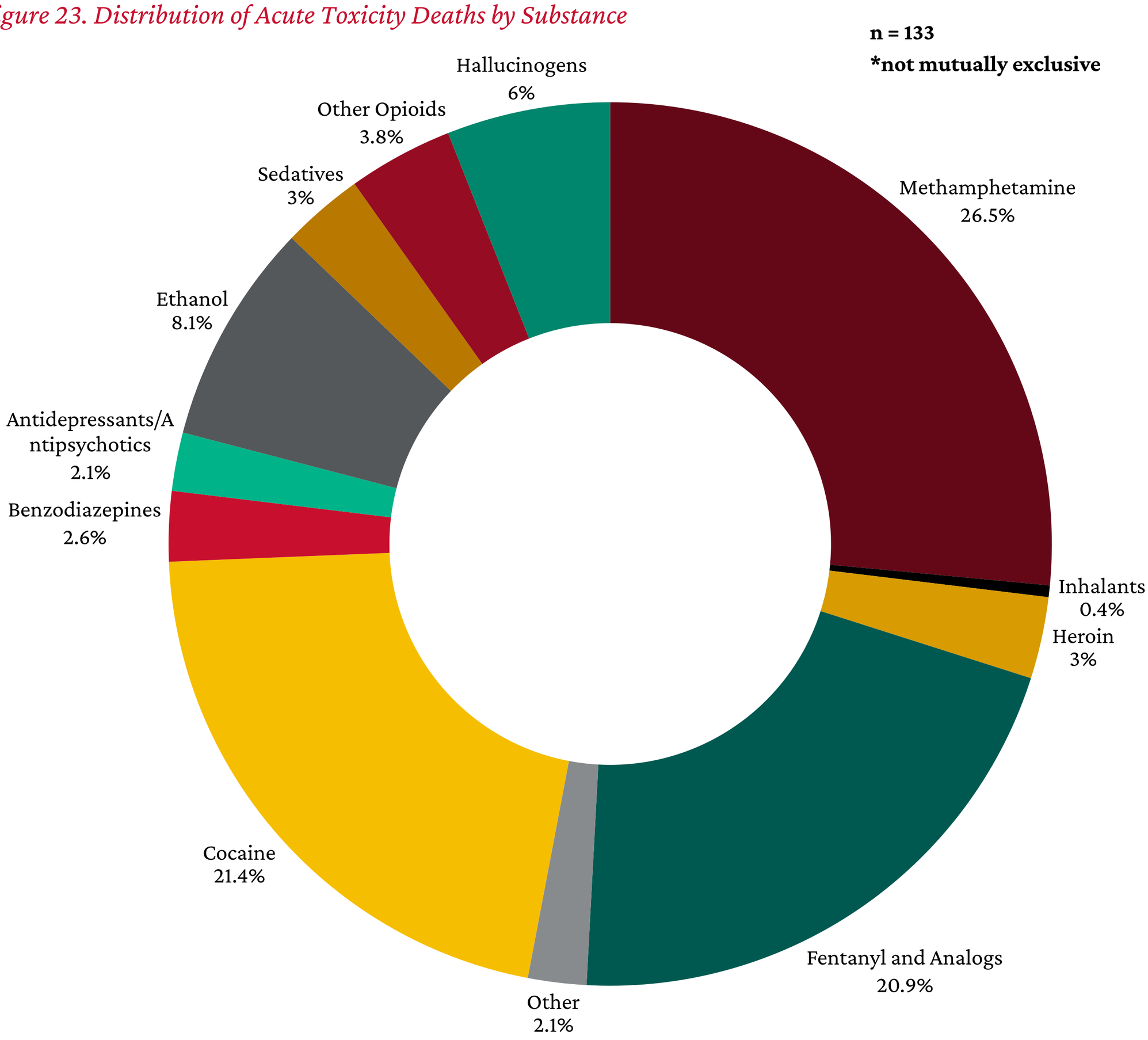


Figure 23. Distribution of Acute Toxicity Deaths by Substance



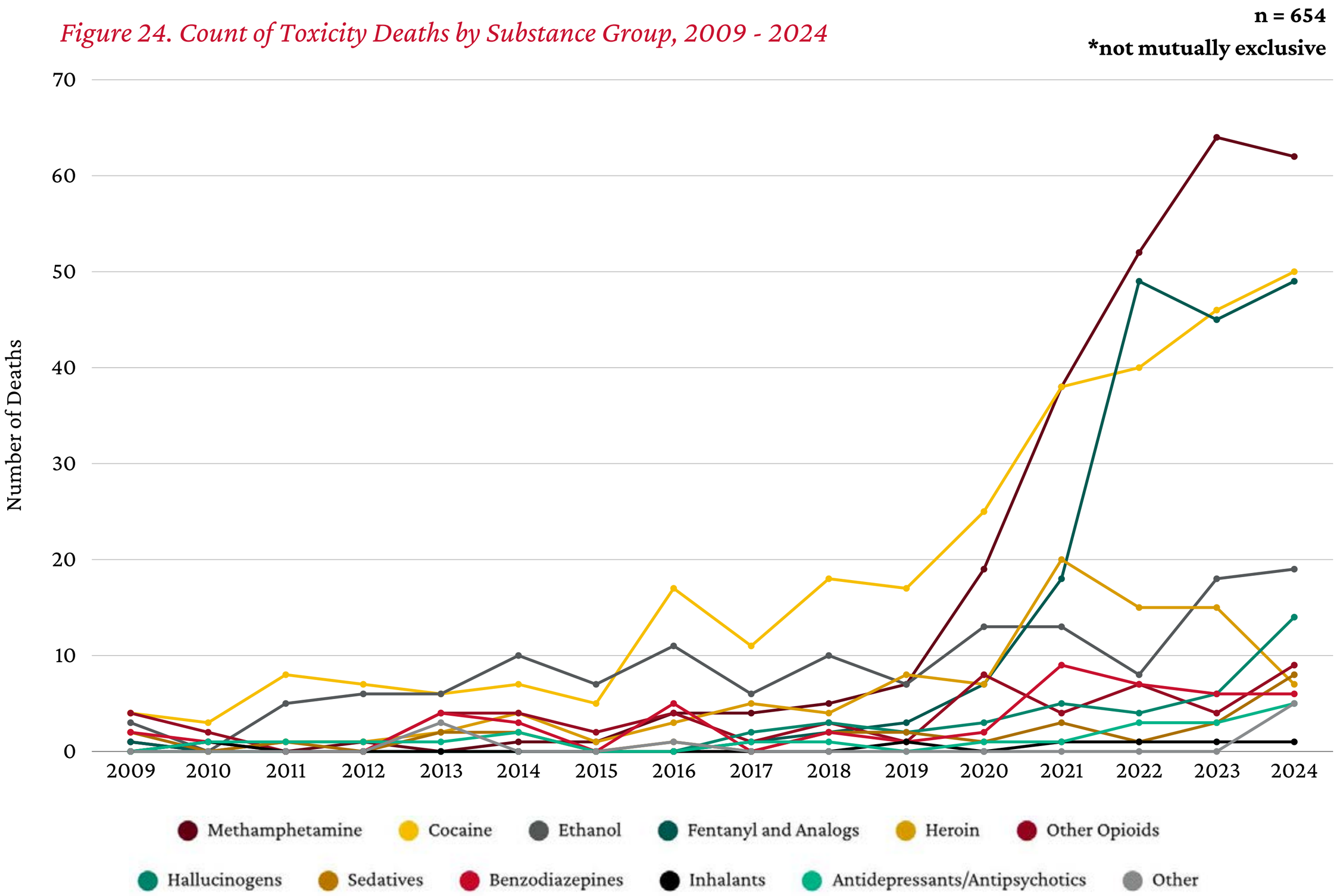
Note: Substances with similar effects were combined into broader groups.
A full list of substances included in each category is provided in the Appendix.
Substance groupings were updated from prior reports to better reflect current toxicity trends.

The chart above displays the distribution of substances identified in acute toxicity deaths. Because multiple substances are often involved in a single death, these percentages reflect the relative frequency of substance involvement and do not represent the proportion of deaths caused by each substance. Rather, this figure highlights the substances that appear most frequently among acute toxicity cases.

Consistent with national patterns, stimulants, predominantly methamphetamine, followed by cocaine, were the most prevalent substances detected, together contributing to over half of acute toxicity deaths. Fentanyl and its analogs represented the next most frequently indicated substances, aligning with ongoing shifts toward opioid–stimulant polysubstance use [10, 11]. Although detected in fewer deaths compared to stimulants and fentanyl-class drugs, ethanol (alcohol) remained a commonly indicated substance, though it rarely appeared as the sole substance present. Hallucinogens, such as phencyclidine, ketamine, and psilocybin, represented another less frequent but notable category. It is important to note that some substances, such as antidepressants, may be present without necessarily contributing to the cause of death.

Toxicity Death Trends

Figure 24. Count of Toxicity Deaths by Substance Group, 2009 - 2024

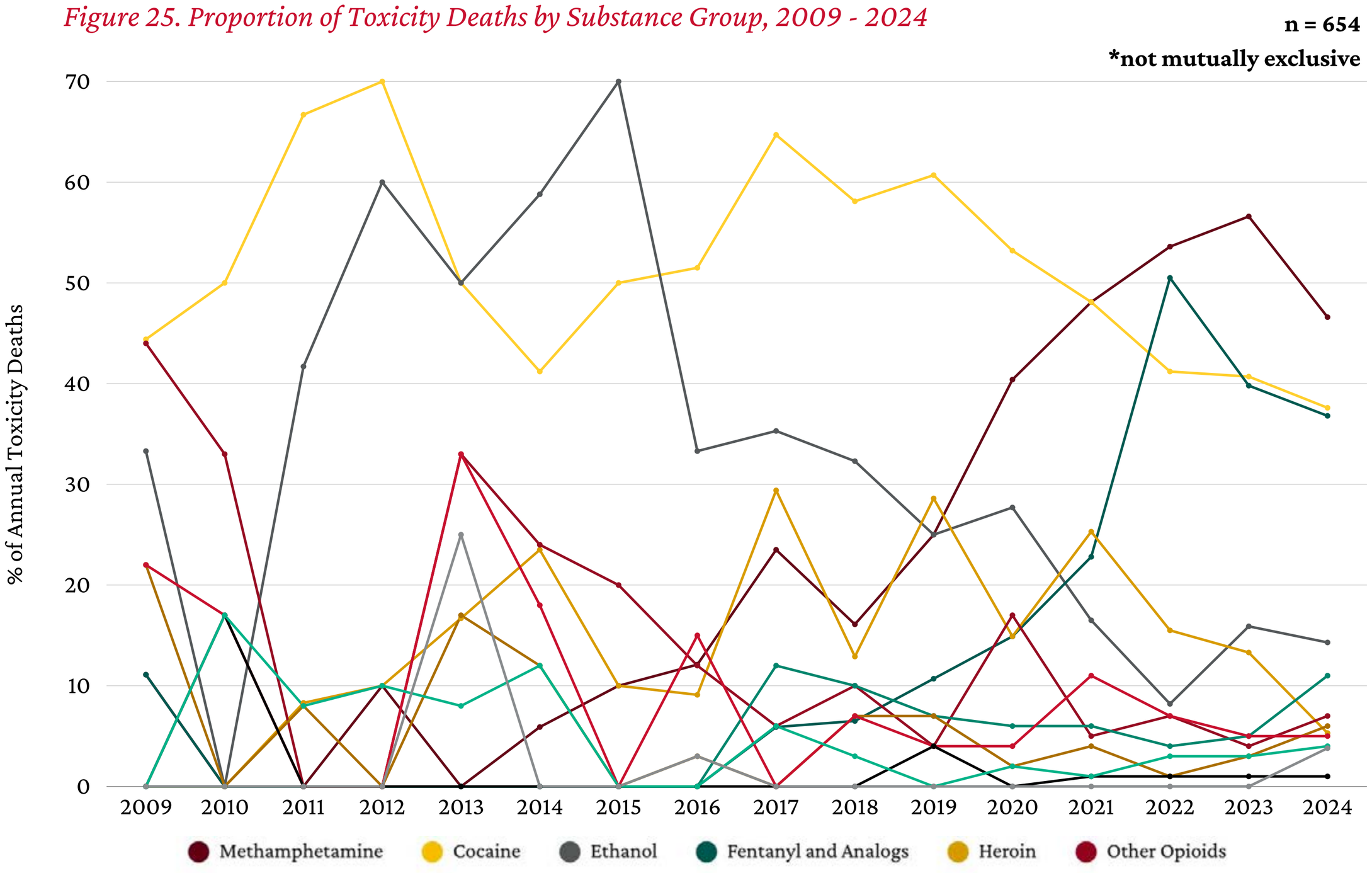


Note: Substances with similar effects were combined into broader groups.
A full list of substances included in each category is provided in the Appendix.
Substance groupings were updated from prior reports to better reflect current toxicity trends.
Starting in 2021, our team began adjudicating homelessness status in addition to medical examiner flagging, which may have increased case sensitivity.

Figure 24 shows trends in toxicity deaths in homelessness from 2009 to 2024. Each data point represents the annual count of deaths involving a given substance group, recognizing that cases may appear in multiple categories due to polysubstance involvement. In 2024, methamphetamine involvement was highest (62 deaths), followed by cocaine (50) and fentanyl or fentanyl analogs (49).

Looking at longitudinal trends, beginning around 2019, Harris County experienced a notable escalation in overall toxicity deaths, particularly those involving stimulants and synthetic opioids. This upward shift aligns with broader shifts in substance use patterns, including the increased presence of fentanyl and rising stimulant use [12]. Ethanol involvement has remained more stable over time, with a modest increase seen in 2023. Heroin involvement stayed relatively low across the period, showing a peak in 2021 before declining again in recent years. Most other substance groupings consistently accounted for fewer than 10 deaths annually, though hallucinogen-related deaths increased to 14 in 2024, marking the highest level in the 16 year period.

Figure 25. Proportion of Toxicity Deaths by Substance Group, 2009 - 2024



Note: Substances with similar effects were combined into broader groups.
A full list of substances included in each category is provided in the Appendix.
Substance groupings were updated from prior reports to better reflect current toxicity trends.
Starting in 2021, our team began adjudicating homelessness status in addition to medical examiner flagging, which may have increased case sensitivity.

Unlike the previous figure, Figure 25 presents the proportion of annual toxicity deaths involving each substance group. This approach highlights how patterns of substance involvement have shifted over time, independent of changes in the total number of deaths. In 2024, methamphetamine contributed to the largest share of toxicity deaths (47%), followed by cocaine (38%) and fentanyl and analogs (37%). The next most frequently involved substances were ethanol (14%) and hallucinogens (11%). Interestingly, 2024 showed declines in the proportion of methamphetamine (down 10%) and heroin-involved deaths (down 8%) compared to 2023, which marks a disruption in the steady upward trajectory seen for methamphetamine since 2018.

Over the 16 year period, cocaine has consistently been among the top contributors to toxicity deaths, ranking first or second in most years (aside from 2022). Ethanol was a major contributor in earlier years, peaking around 2015, but its involvement has gradually declined since 2016. Methamphetamine and synthetic opioids showed somewhat parallel trends in recent years, though their increases began at different points, around 2014 for methamphetamine and 2017 for fentanyl and analogs. Both saw steep rises beginning around 2019. However, synthetic opioid involvement appears to have declined since 2023, which mirrors early national indications of a slowing in fentanyl-involved mortality growth following several years of steady increases [13].

Figure 26. Count of Toxicity Deaths by Single-Substance vs. Polysubstance, 2009 - 2024

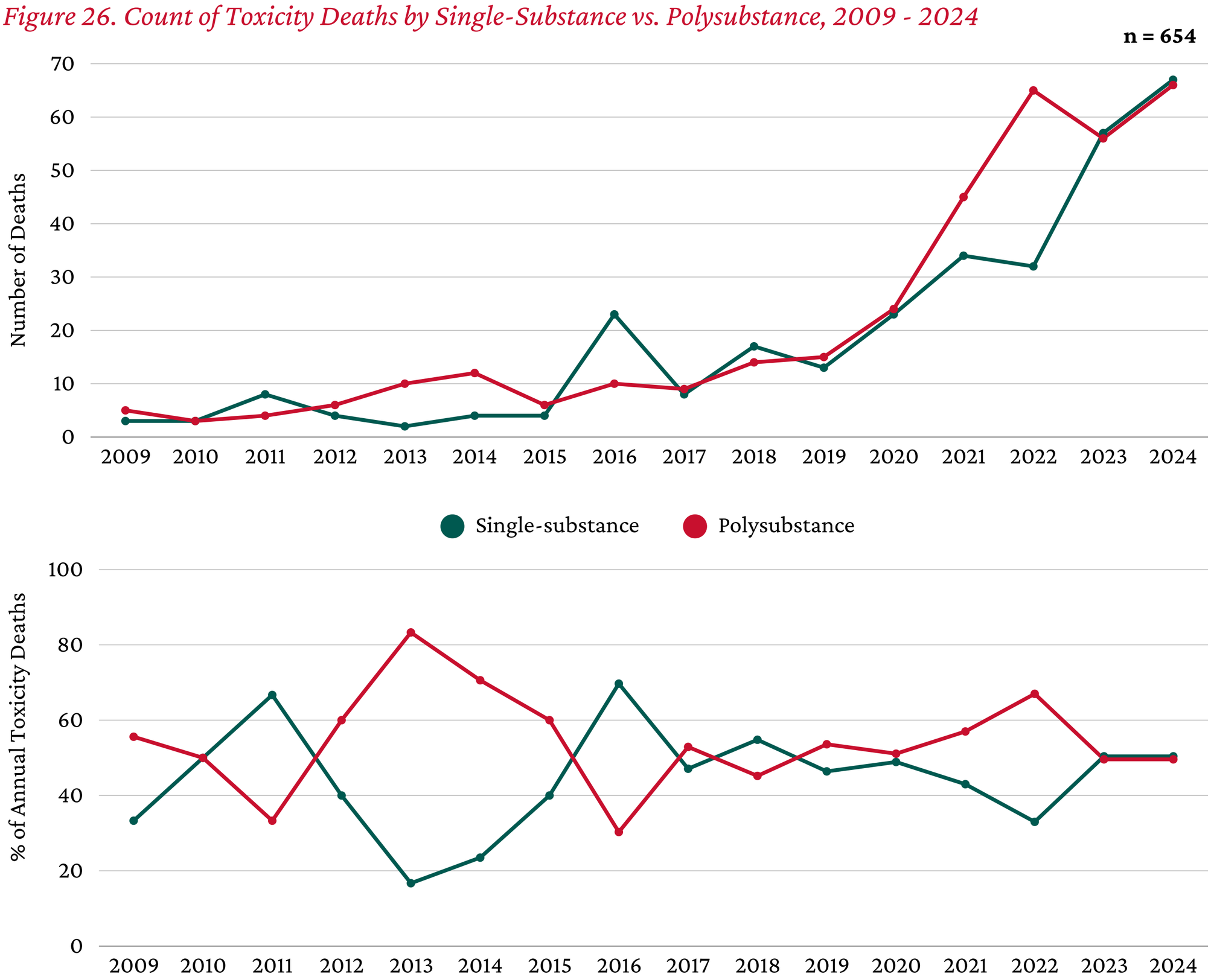


Figure 27. Proportion of Toxicity Deaths by Single-Substance vs. Polysubstance, 2009 - 2024

Note: Starting in 2021, our team began adjudicating homelessness status in addition to medical examiner flagging, which may have increased case sensitivity.

Similar to the previous figures, Figure 26 shows the annual count of single-substance and polysubstance toxicity deaths from 2009 to 2024, while Figure 27 displays the proportion of toxicity deaths involving one versus multiple substances. As noted earlier, 2024 deaths were nearly evenly divided between single- and polysubstance toxicity, differing by only one case. This mirrors the distribution in 2023, which also showed near equivalence between toxicity types. These recent trends contrast with mortality trends in 2022, when approximately two-thirds of toxicity deaths involved polysubstance use.

Across the broader time period, the proportion of deaths involving single versus multiple substances fluctuates year-to-year without a consistent directional trend, suggesting that the relative contribution of polysubstance involvement has varied over time. In contrast, the count of deaths in both categories rose sharply beginning around 2019, highlighting a sustained increase in acute toxicity mortality in this population regardless of substance involvement patterns.

Figure 28. Seasonality of 2024 Deaths by Month

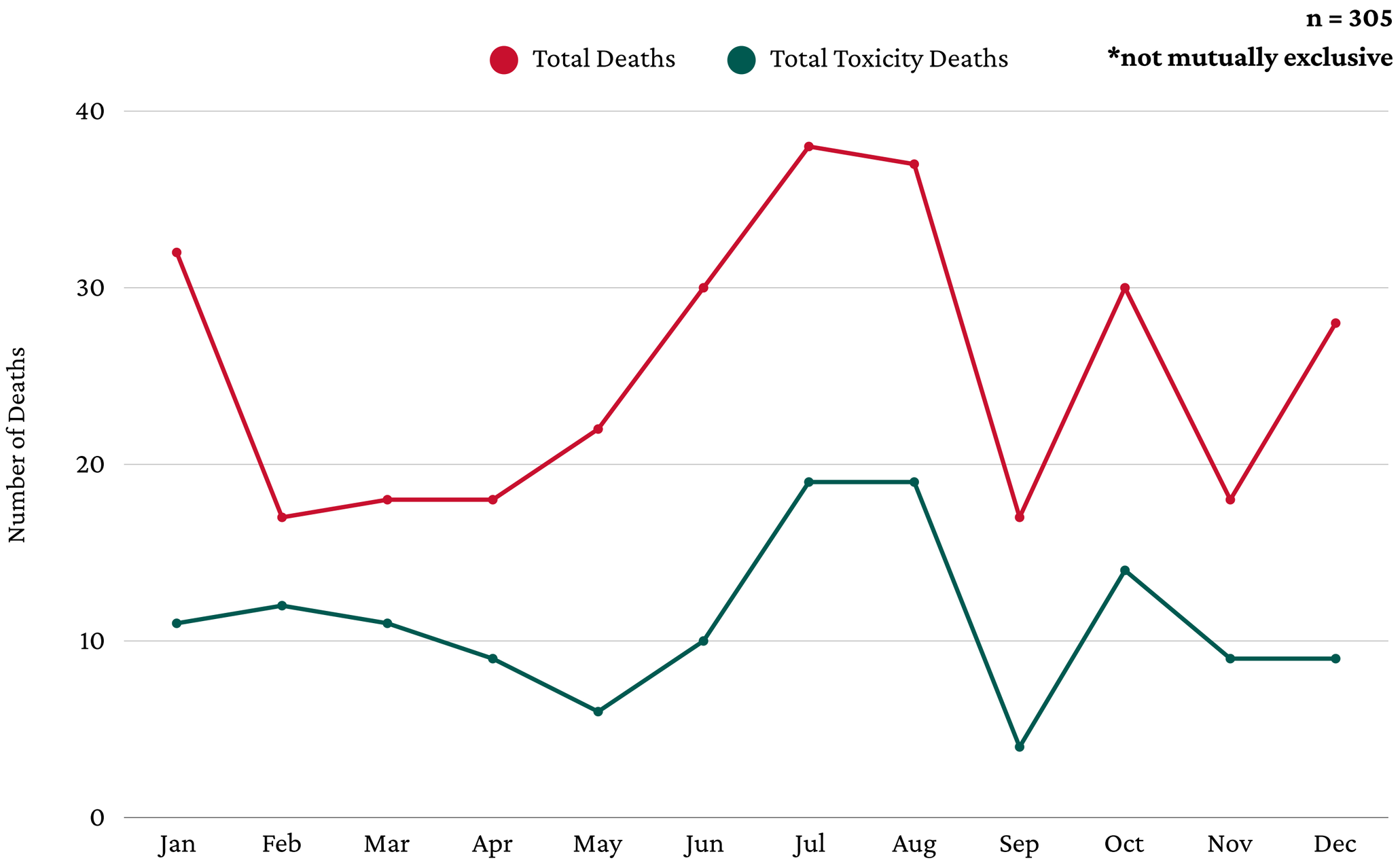


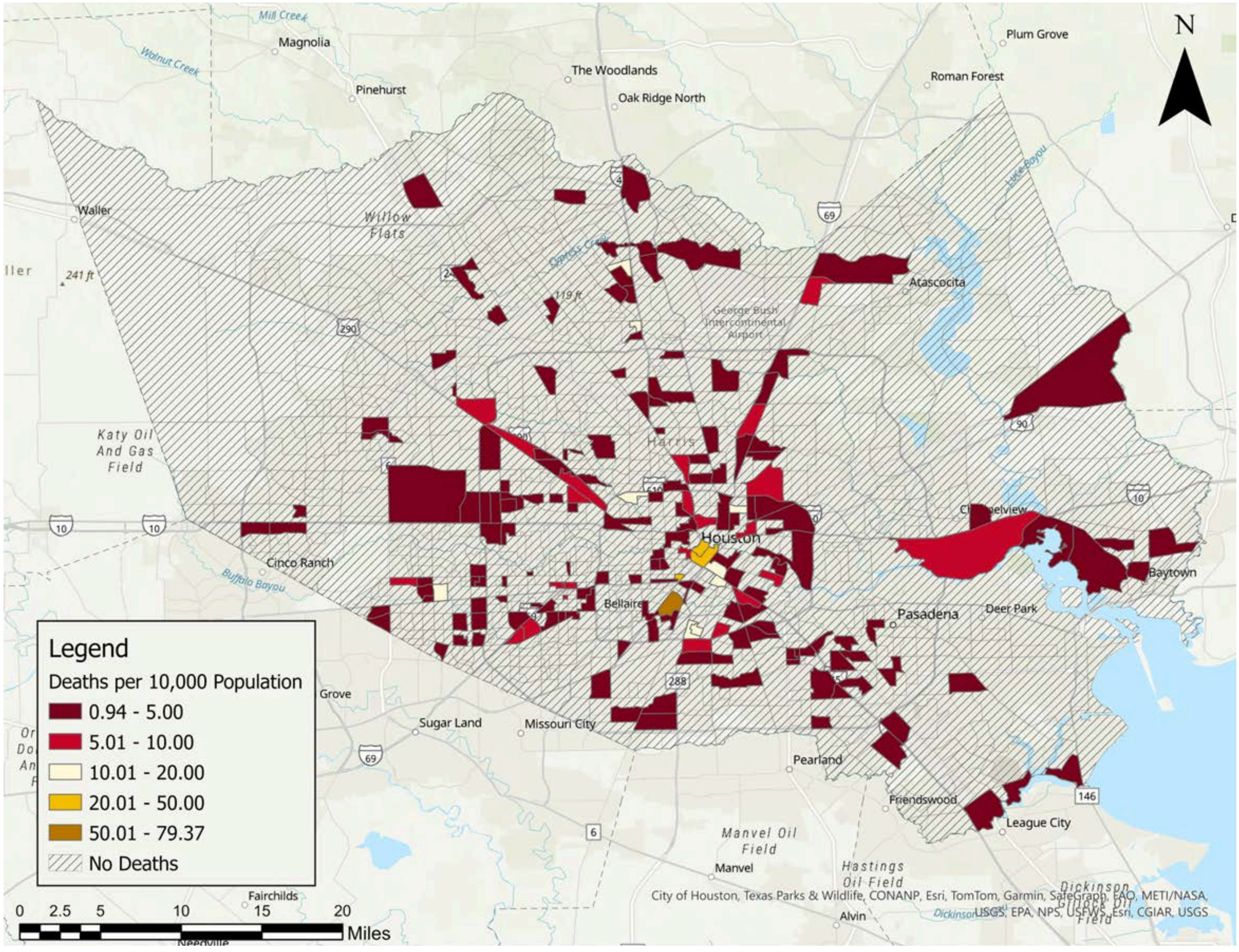
Figure 28 presents the monthly distribution of all deaths among people experiencing homelessness in 2024, alongside deaths attributed to acute toxicity. Both overall mortality and toxicity-related mortality followed a similar seasonal pattern, suggesting that substance-involved deaths contribute substantially to the overall temporal variation in deaths during the year. In both series, a pronounced peak is visible during the summer months (July–August), followed by a smaller increase in October.

In contrast, the total death count shows additional peaks in January and December that are not reflected in toxicity deaths, indicating that other causes contributed to heightened mortality during those months. The elevated deaths in January may reflect environmental exposures associated with the hard freeze and record low temperatures that occurred early in the year [14, 15]. December's increase, however, occurred during a period of atypically warm weather and may reflect different factors [15].

It is also notable that 2024 was the hottest year on record in Houston, with prolonged periods of extreme heat [16]. Prior research has shown that stimulants can elevate body temperature and cardiovascular strain and have been associated with increased vulnerability to heat-related toxicity [17, 18]. Given the prominent role of stimulants in deaths among people experiencing homelessness in Harris County, these extreme heat conditions may have contributed to seasonal increases in toxicity deaths, though further investigation is needed to better understand these associations.

Maps

Figure 29. Geographic Distribution of Deaths in Homelessness per 10,000 Harris County Residents



n = 295

Note: Some cases were excluded because address information was incomplete or could not be successfully geocoded for spatial analysis.

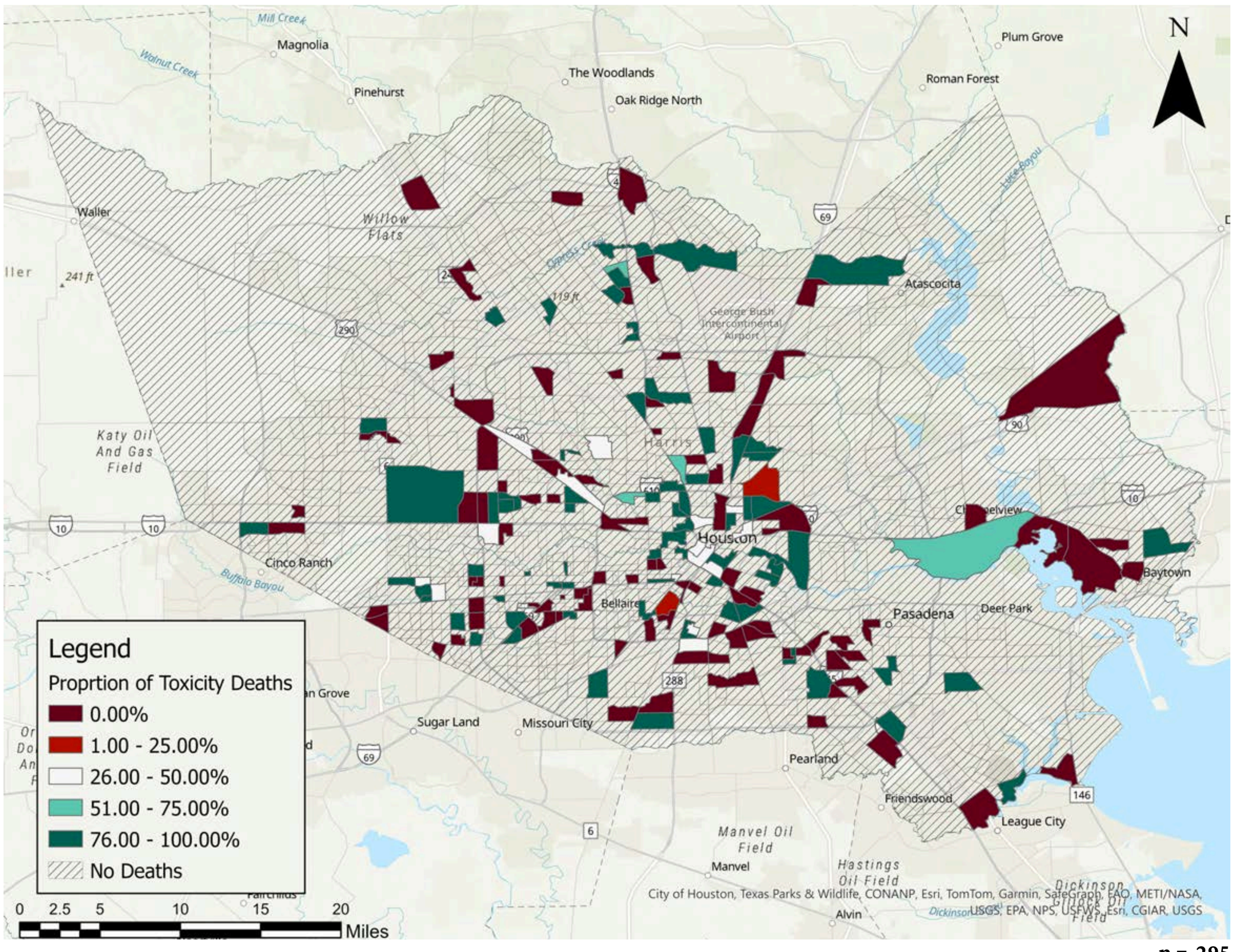
The figure above displays the geographic distribution of deaths among individuals who died while experiencing homelessness by census tract in Harris County, expressed as deaths per 10,000 Harris County residents. Harris County is home to approximately 5,009,302 residents and is the third most populous county in the United States, highlighting the scale and complexity of homeless mortality in the region [8, 19].

Mortality in homelessness is geographically widespread, with 186 census tracts recording at least one death. The highest mortality rates (20.01–79.37 deaths per 10,000 population) are concentrated in central areas of the county, including downtown Houston and the Texas Medical Center. Elevated rates in these areas may reflect the concentration of major hospitals, which could increase the visibility and reporting of deaths, as well as greater proximity to healthcare services utilized by individuals experiencing homelessness. These areas also have a high density of homeless service providers, including day centers, overnight shelters, and food distribution sites, which may further contribute to the observed clustering of deaths.

Figure 30 highlights the distribution of acute toxicity deaths among individuals experiencing homelessness in Harris County, displaying the proportion of total homeless mortality attributable to drug and alcohol toxicity by census tract. Overall, there does not appear to be a distinct pattern in the distribution of toxicity-related deaths. Many tracts reported either no toxicity deaths (0%) or a high proportion of deaths due to toxicity (76–100%), with 95 and 70 tracts falling into these categories, respectively, which is likely driven by the small number of total deaths in many of these tracts. Central regions of the county, which also experience higher overall homeless mortality, tended to show a more even distribution, with 26–50% of deaths attributed to toxicity. However, the Texas Medical Center area had a lower proportion of deaths due to toxicity (1–25%), which is not unexpected given the concentration of hospitals in this region and the likelihood of a higher number of deaths attributed to natural causes.

Consistent with prior years, many tracts (200) across the county show partial proportions of deaths due to toxicity, emphasizing the widespread impact of problematic substance use and the broad availability of high-risk substances. However, modest shifts were observed in which regions reported at least one toxicity-related death compared to 2023, with some tracts no longer recording drug-related deaths in 2024. These fluctuations likely reflect small numbers and year-to-year variability rather than meaningful geographic change, highlighting the dynamic nature of toxicity risk, the challenge of identifying stable geographic targets for intervention, and the necessity for flexible, decentralized prevention efforts that can reach individuals across all areas of need.

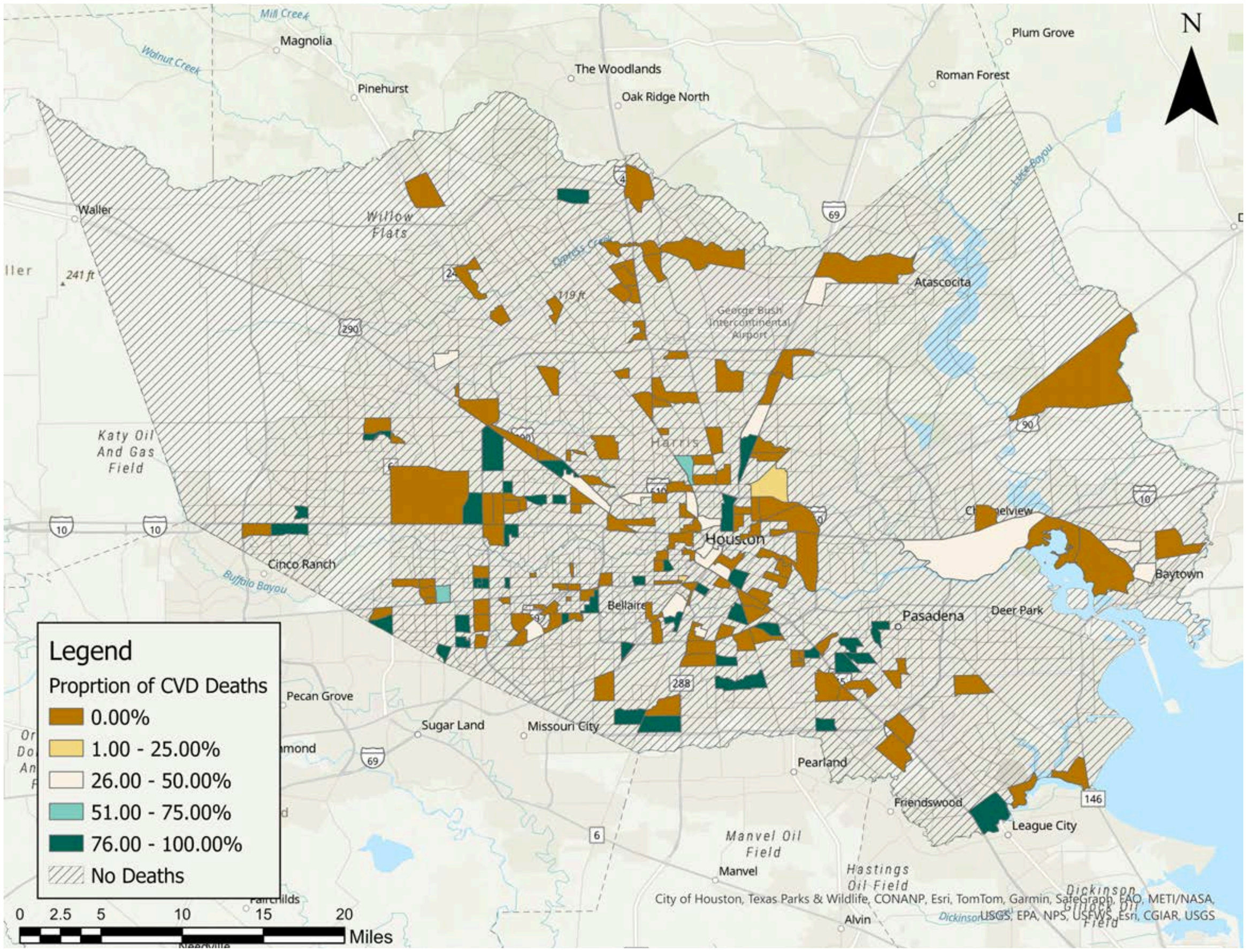
Figure 30. Geographic Distribution of Toxicity Deaths in Homelessness in Harris County



n = 295

Note: Some cases were excluded because address information was incomplete or could not be successfully geocoded for spatial analysis.

Figure 31. Geographic Distribution of CVD Deaths in Homelessness in Harris County



n = 295

Note: Some cases were excluded because address information was incomplete or could not be successfully geocoded for spatial analysis.

The figure above depicts the geographic distribution of CVD deaths among individuals experiencing homelessness in Harris County, displaying the percentage of total homeless mortality attributable to CVD by census tract. Like toxicity, CVD-related deaths were prevalent throughout the county, with 43 census tracts reporting that more than 50% of their recorded deaths in homelessness were attributed to CVD, and 170 tracts reporting at least one CVD death. In areas with higher overall mortality counts, the proportion of deaths due to CVD generally ranged from 26 to 50%, reinforcing the substantial contribution of CVD to mortality among people experiencing homelessness.

Geographically, CVD deaths appear to be somewhat more concentrated in the southwestern regions of the county compared to 2023, which showed a more even distribution. However, this shift does not indicate a clear or consistent spatial pattern and is likely driven by year-to-year variability. Continued monitoring of these trends is warranted, as emerging geographic concentrations may help identify areas of greater need for CVD prevention and response efforts for this population.

Appendix

Substance Groups

Fentanyl and Analogs: fentanyl, acetyl fentanyl, fluorofentanyl, para-fluorofentanyl.

Other Opioids: codeine, morphine, hydrocodone, methadone, tramadol, hydromorphone, and opiates (unspecified).

Inhalants: toluene, 1,1-difluoroethane, hydrogen sulfide, methylene chloride, isopropanol, and nitrous oxide.

Hallucinogens: phencyclidine, ketamine, psilocybin, synthetic cannabinoids, kratom, and methorphan.

Sedatives/Muscle Relaxants: diphenhydramine, hydroxyzine, chlorpheniramine, promethazine, carisoprodol, meprobamate, cyclobenzaprine, xylazine, gabapentin, lamotrigine, buprenorphine, and barbiturates.

Antidepressants/Antipsychotics: fluoxetine, citalopram, bupropion, mirtazapine, amitriptyline, nortriptyline, doxepin, sertraline, venlafaxine, trazodone, quetiapine, olanzapine, and haloperidol.

Benzodiazepines: alprazolam, flurazepam, oxazepam, temazepam, clonazepam, chlordiazepoxide, diazepam, lorazepam, and nordiazepam.

Other: benztropine, amlodipine, amphetamine, acetaminophen, ibuprofen, salicylate, MDMA, and mephedrone.

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