



Artwork by Jeremy Beebe

Alameda County 2021 Homeless Mortality Report

Alameda County Health Care Services Agency
Health Care for the Homeless Program
Community Assessment, Planning, and Evaluation



Alameda County
Health Care Services Agency



Alameda County
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This report is available online at <https://www.achch.org/alameda-county-homeless-mortality.html>

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Executive Summary

A responsible and just community must work to be closely aware of the deaths of all its members, strive to learn from those deaths, implement policies and practices to reduce preventable deaths, and work to reduce the harm that preventable deaths create for families, friends, caregivers, and the community. A just community will look at the places and moments of death and ensure that people who die do not die alone and experience death in as peaceful a manner as possible.

The Alameda County Health Care Services Agency’s Health Care for the Homeless (HCH) program and Public Health Department Community Assessment, Planning, and Evaluation (CAPE) unit carried out Alameda County’s first-ever homeless mortality report in 2020 and are striving to carry out this report on an annual basis.

This report is based on identification of homeless deaths through data matching across homeless services utilization lists, community reporters and California Comprehensive Death File (CCDF) records in the California Vital Records Business Information System.

Because of the methods used, Alameda County’s homeless death numbers will appear higher than those of other localities that rely solely on Medical Examiner/Coroner’s reports of homeless deaths.

Key Findings in the 2021 Alameda County Homeless Mortality Report

The number of annual homeless deaths grew considerably larger between 2018 and 2020 and remained at a very high level in 2021. Between 2018 and 2021, 1,157 Alameda County residents died while experiencing homelessness.

Housing Status at Time of Death

Year	Known to be homeless at time of death	Homeless within 5 years of death, but housed at time of death	Homeless within 5 years of death, but unknown housing status at death
2018	195	57	189
2019	246	91	198
2020	368	102	211
2021	346	167	146
Total	1,157	417	744

Mortality rate: The age-adjusted mortality rate for people experiencing homelessness in Alameda County in 2021 was 5.8 times that of the general population of Alameda County. For all causes of death, mortality rates are many times higher for people experiencing homelessness than the general population.

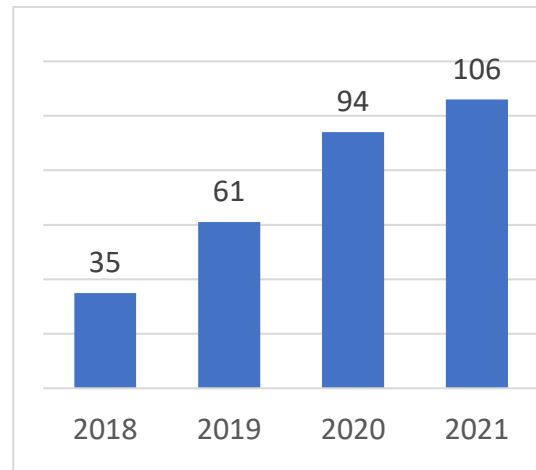
Unattended deaths: Sixty-six percent (229 out of 346) of all homeless deaths took place outside of a medical setting (i.e., hospital or nursing facility), occurring on streets/sidewalks, outdoors, in vehicles, encampments, shelters, other’s residences and other locations. Half of homeless acute/chronic disease-related deaths (77 out of 153) occurred in “unattended” settings.

Disparities by race/ethnicity and gender: African American/Black persons represent 41% of total homeless deaths, compared to 19% of general population deaths and 11% of the general population. Men represent 75.6% of homeless deaths, compared to 52.7% of general population deaths.

Characteristics of Homeless 2021 Deaths

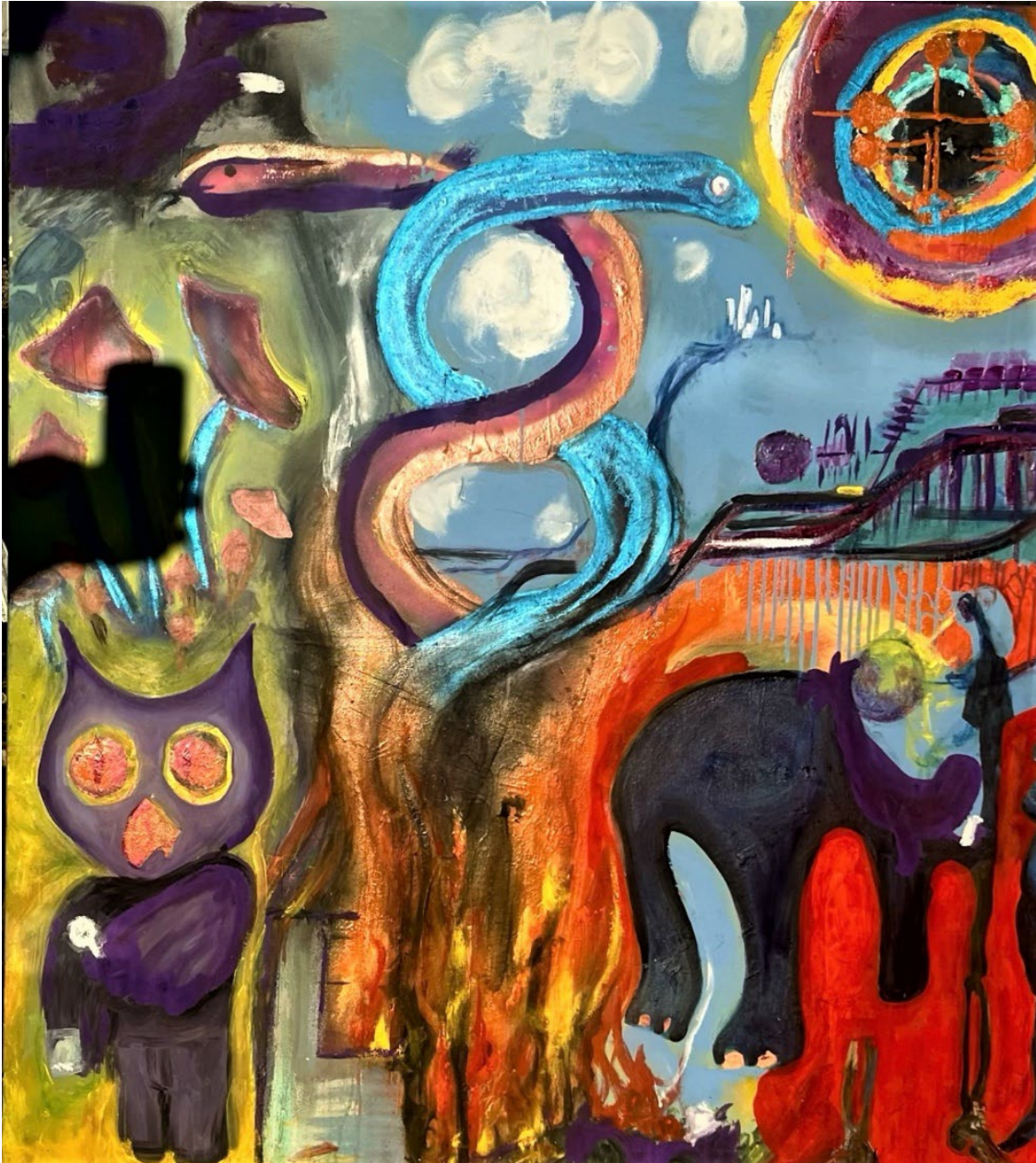
- **Drug overdose:** 30.6% of homeless deaths in 2021 (106) were directly due to drug overdoses of unintentional or undetermined intent (hereafter called drug overdose). The number of overdoses among people experiencing homelessness continued a sharp rise. Sixty-seven percent of drug overdose deaths took place in outdoor settings. People experiencing homelessness have 50 times the drug overdose death rate of the general population.
- **Acute/chronic medical conditions:** Forty-four percent of the homeless deaths in 2021 (153) were due to acute/chronic medical conditions, led by heart and cardiovascular disease, and followed by cancer, COVID-19, liver disease, cerebrovascular disease, respiratory disease, and others. Half of acute/chronic disease-related deaths occurred outside of medical/clinical settings.
- **Accidental injuries** accounted for 31 (9%) homeless deaths, the large majority being pedestrians and cyclists hit by automobiles, followed by falls and struck by trains. Homeless pedestrians/bicyclists are 28 times more likely to be killed by cars than the general population.
- **Homicide** accounted for 22 (6%) deaths of people experiencing homelessness, mostly due to shootings and stabbings taking place in street and outdoors. The death rate for homicide among people experiencing homelessness is 23 times than that of the general population.
- **Suicide:** Nine people experiencing homelessness took their own lives in 2021, a rate ten times that of the general population.
- **Shelter residents:** At least 40 persons residing in homeless shelters died in 2021. Seventy-eight percent died of acute/chronic diseases, 17% of drug overdoses, and 5% by suicide or accident. The percentage of shelter overdoses declined from 25% to 17% in 2021.
- **Encampments:** At least 32 people died in homeless encampments in 2021. Sixty percent died of drug overdoses, 13% of acute/chronic diseases, 6% of homicide, and 6% died of other causes including fire and exposure, and 16% undetermined by coroner.
- **Vehicle dwellers:** Some 34 persons were reported as having died inside their vehicle of residence in 2021. This is in addition to those who might have died in facilities but lived in their vehicle. Half died of drug overdoses, and the other half by acute/chronic disease and one by suicide.
- **COVID-19:** COVID-19 was cause of death for nine persons experiencing homelessness in 2021. There were no shelter resident COVID-19 deaths in 2021. Still COVID-19 death rate for people experiencing homelessness was 2.6 times that of the general population. COVID-19 deaths took place primarily in hospitals among people staying place to place, living in motels and in an encampment.

**Homeless Drug Overdose Deaths
2018-2021**



Next Steps

This Alameda County homeless mortality report focuses on data and accurately enumerates deaths among our unhoused communities. To advance this work, the County of Alameda is convening a county-wide Homeless Mortality Review Team to further analyze these data, inform the development of future mortality reports, and make recommendations to reduce preventable deaths among people experiencing homelessness. If you or your organization are interested in learning more about the Homeless Mortality Review Team, please reach out to achch@acgov.org.



Artwork by Jeremy Beebe "Caduceus of Wood Street " 2022

Introduction

The experience of homelessness has well-documented, long-term consequences on people's health and well-being.

A responsible and just community must work to be closely aware of the deaths of all its members, strive to learn from those deaths, implement policies and practices to reduce preventable deaths, and work to reduce the harm that preventable deaths create for families, friends, caregivers, and the community. A just community will look at the places and moments of death and ensure that people who die do not die alone and experience death in as peaceful a manner as possible.

This review marks the second Alameda County effort to report and review of the deaths of County residents experiencing homelessness. This initiative is joint work by the Alameda County Health Care Services Agency's Health Care for the Homeless program the Public Health Department's Community Assessment, Planning, and Evaluation program. It also reflects collaboration and partnership with numerous community, city, and County partners.

This CY2021 annual report builds on a retrospective [2018-2020 Homeless Mortality Report](#) and will be followed by regular mortality reports and review processes that can grow to include the multiple agencies, as well as the community of providers and residents who support the health and wellbeing of people experiencing homelessness.

Alameda County is working to convene a countywide [Homeless Mortality Review Team](#) to work on an ongoing basis to further analyze mortality data, inform the development of future mortality reports, and make recommendations to reduce preventable deaths among people experiencing homelessness

Across the country, localities are increasingly working to carry out homeless mortality reporting and review, to bring attention and analysis on a national level to the impacts of homelessness on health and mortality and improve health care interventions as well as end-of-life services for the most vulnerable in our society.

We are proud to be part of the National Health Care for the Homeless Council and the Homeless Mortality Working Group which has been instrumental in this effort, and you can review national efforts at www.nhchc.org/homeless-mortality.

Methods

All local health jurisdictions across the country have systems for review and determination of death, generally reporting death data to their state health department. Generally, a county or local jurisdiction will have one of two structures for evaluating deaths.

1. **Medical examiner:** County-appointed office led by a physician, carrying out a variety of mortality-related services including analysis and review of deaths in a community.
2. **Coroner:** Law enforcement-based office, carrying out investigation of suspicious or unattended deaths under supervision of Sheriff, a position held or appointed by an elected coroner/sheriff, with no medical training requirements.

Alameda County has a Coroner's office, with the coroner appointed and supervised by the Alameda County Sheriff's Office. The Coroner's office generally only investigates and reports deaths that are either unattended (taking place outside of a hospital or other clinical setting such as nursing facility) or suspicious in nature. Additionally, the Coroner may not have access to the records of homeless deaths by "natural" causes taking place in a hospital or medical facility. Most communities that carry out a homeless mortality review do so with death data provided through cooperation and efforts of their local Coroner or Medical Examiner. See the Appendix for a list of recent homeless mortality reports from neighboring jurisdictions.

Alameda County HCSA's approach to identifying homeless deaths utilizes a comprehensive range of data sources traditionally not used for mortality reviews. We used the state's California Comprehensive Death Files from the Vital Records Business Information System (VRBIS) alongside multiple countywide sources of homelessness-related data and mortality reports to arrive at an accurate and comprehensive accounting of the deaths of county residents who have died in homelessness. By applying this approach, a greater number of homeless deaths are identified.

Our method of determining homeless deaths was based on cross-systems data matching to determine homelessness at time of death, evaluating cause of death, and comparing mortality rates across the Alameda County general population and people dying in homelessness. In the following pages, we break out total homeless deaths by geography and place, decedent demographics, and underlying health conditions and cause of death.

Determining Homelessness at Time of Death

- **Data matching:** We used local homeless services utilization data to build a master list of people known to have experienced homelessness in the past five years.
 - **Alameda County Social Health Information Exchange (SHIE):** 15,741 names of persons who were provided homeless or safety net health care services. This includes persons in the Homeless Management Information System who were provided with homeless/housing support services.
 - **Health Care for the Homeless utilization:** 28,529 utilizers of HCH services between 2017 and 2021.
 - We compared these lists of people known to be experiencing homelessness against the California Comprehensive Death Files to find matches.
- **California Comprehensive Deaths Files (CCDF) review:** Staff carefully reviewed all state death records data for Alameda County deaths, for information on homeless status inputted by physicians, medical examiners/coroner, or funeral home staff. For example, the words "homeless,"

“encampment,” “transient,” etc., may indicate homelessness. We have led efforts at the California Department of Public Health to include homelessness status as a field in death records.

- **Community reporters:** We received reports of homeless deaths from:
 - Coroner’s office: 155 names of decedents labeled as transient (not all homeless).
 - UCSF HOPE/HOME study: 21 deaths in 2021 registered in an [ongoing study](#) of aging Oaklanders experiencing homelessness.
 - Community reporters: 32 deaths reported to ACHCH in 2021 through community reports and the [ACHCH Homeless Mortality Reporting](#) form.
 - Lists of known homeless deaths reported to us by ACHCH contracted Street Health, Lifelong Trust Clinic, and other health care providers.
 - Review of media reports of homeless deaths.
- **Determining homeless status:** ACHCH and CAPE staff carried out close analysis of each possible homeless death, including review of HMIS notes and records where possible, and used the HUD definition of “literally homeless” to determine housing status at time of death, producing the following categories.
 - **Homeless at time of death**
 - We used the [HUD definition of homelessness](#), and included persons known to be experiencing homelessness but who were hospitalized or in a nursing facility at time of death.
 - **Recent (less than five years) history of homelessness, but housed at time of death**
 - This includes persons with recent history of homelessness but known to be housed in permanent supportive housing or in other permanent housing at time of death.
 - **Recent (less than five years) history of homelessness, unknown housing status at time of death**
 - This includes persons who may have been doubled-up, precariously housed or permanently housed or even literally homeless at time of death, but for whom not enough information was available to determine homeless status.

Evaluating Cause of Death

- **Underlying cause of death**
 - Staff reviewed the ICD-10 codes, the underlying cause of death diagnosis code, in the underlying cause of death field in the CCDF and categorized them.
- **Location of death**
 - Staff evaluated the CCDF information for location of injury or location of death and determined location of death for people experiencing homelessness, such as streets, encampment, hospital, nursing facility, vehicle, another’s residence, shelter, or outdoors, based on CCDF information.
- **City of last known residence**
 - Staff evaluated CCDF, SHIE, and HCH data to determine the city where decedent was last known to be living, as in CCDF city of death is often attributed to a hospital or nursing facility.
- **Contributing causes of death**
 - Staff reviewed CCDF data to analyze the contributing causes of death (such as alcohol, drug use, or mental illness) which may or may not have been input into the records via the state’s Electronic Death Registration System as reflected in the CCDF.

Death and Mortality Rates

For this homeless mortality report, we used the same categories of underlying cause of death to calculate mortality rates among both those experiencing homelessness and the full Alameda County population. To accurately calculate the age-adjusted mortality rate, the population-years at risk is needed as a denominator. The mortality rate for persons experiencing homelessness is based on a denominator of 9,490 people on average experiencing homelessness in Alameda County per day in 2021. This number was arrived at through linear regression of three [Point In Time Counts](#) carried out in Alameda County in 2017, 2019 and 2022. This estimated number of people experiencing homelessness on an average day in 2021 – 9,490 persons – was used to generate overall and cause-specific mortality rates among people experiencing homelessness and to directly compare to the general population of Alameda County during that period. A mortality rate ratio divides and compares the two age-adjusted rates.

What Could Help Refine this Report?

By using more data matching in future efforts, we can get a better idea of who is and isn't utilizing systems and learn more about mortality among certain segments of the population.

- **Additional Coroner's data:** We were not able to systematically access some Alameda County Coroner's Office data and notes (for example toxicology reports on overdoses) for deaths investigated by that office.
- **Additional homeless services utilization data:** It is critical to review utilization of various homelessness services to get a better idea of circumstances leading to death, and opportunities to prevent death. Examples of utilization data sources we want to incorporate in the future are itemized in Chapter 10.
- **More accuracy in determining homeless/housing status:** We will work to develop better data-matching in HMIS data to more accurately determine last-known housing status.

Our goal is to continue to work to bring together the above providers and data systems to enable better homeless mortality reporting and utilization analysis in the future.

All Deaths: Characteristics of Deaths

In 2021, 346 people died while experiencing homelessness in Alameda County. An additional 146 persons known to be housed after the recent experience of homelessness died during this period. The analysis also revealed that some 167 persons with recent experience of homelessness, but with unknown housing status at the time of death, died.

Homeless Deaths Housing Status at Time of Death, 2021

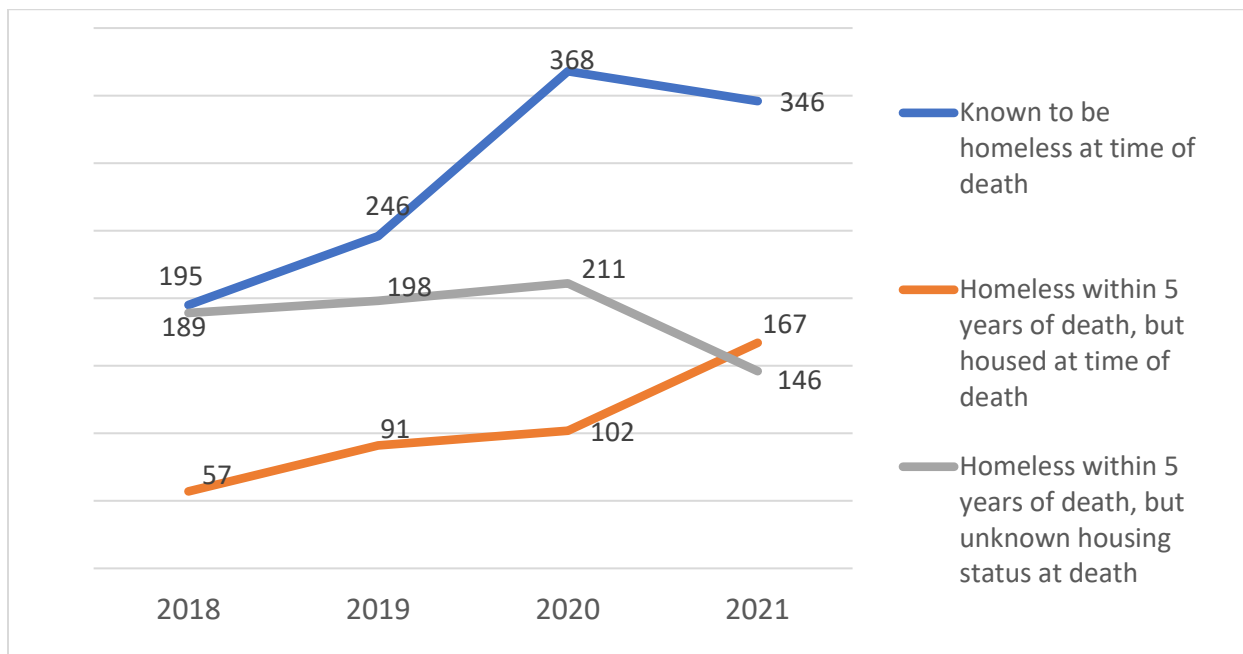
Determination	Count
People determined to have died while experiencing literal homelessness	346
People with recent (<5 year) experience of homelessness but determined to be housed at the time of death	146
Persons with recent (<5 year) experience of homelessness but with unknown housing status at time of death	167
Total	659

Most of the following analysis of homeless causes of death will be focused on the 346 persons who were determined to have died in homelessness in Alameda County in 2021.

The 346 deaths of Alameda County residents experiencing homelessness equal an age-adjusted homeless death rate of 3,366.2 per 100,000, compared to the general population of Alameda County (572.1/100,000). This means that persons experiencing homelessness have an age-adjusted **mortality rate ratio 5.8 times that of the general population.**

The number of homeless deaths increased by 88.7% from 2018 to 2021.

Homeless Deaths by Housing Status, Alameda County, 2018-2021



Homeless Deaths by Region of Last Residence

Year	Berkeley/ Albany	Oakland/ Emeryville	Mid-County: Hayward, Alameda, San Leandro, San Lorenzo, Castro Valley	South County: Fremont, Newark, Union City	Tri-Valley: Dublin, Pleasanton, Livermore
2018	19	102	49	16	9
2019	18	141	55	18	14
2020	25	215	84	26	17
2021	24	208	55	31	15
Total	86	666	243	91	55

Homeless Deaths by City of Last Residence

In addition to the 346 Alameda County homeless deaths, 15 Alameda County residents experiencing homelessness died in California counties outside of Alameda County. These deaths are evaluated in the Deaths by Region section of this report.

Homeless Deaths by City of Last Known Residence

City/Place	Count	Percentage
Oakland	204	59.0%
Hayward	35	10.1%
Berkeley	24	6.9%
Fremont	19	5.5%
Unknown	13	3.8%
Livermore	9	2.6%
San Leandro	8	2.3%
Alameda	8	2.3%
Union City	6	1.7%
Newark	6	1.7%
Pleasanton	5	1.4%
Emeryville	4	1.2%
Castro Valley	2	0.6%
San Lorenzo	2	0.6%
Dublin	1	0.3%
Total	346	100.0%

Homeless Deaths Outside of Alameda County

City	Count
San Francisco	3
San Jose	2
Santa Barbara	1
Pittsburg	1
Palo Alto	1
San Rafael	1
Modesto	1
Los Angeles	1
Lancaster	1
Fairfield	1
Walnut Creek	1
Richmond	1
Total	15

Categories of Causes of Death

Below are the general causes of death for the 346 persons who passed away while experiencing homelessness in Alameda County in 2021. Each of these categories of death will be discussed in further detail in later chapters.

Categories of Causes of Death, 2018-2021

Category	2018	2019	2020	2021	2018-2021	Percentage
Acute/chronic disease	95	114	178	153	540	46.8%
Drug overdose/substance abuse	49	76	104	111	340	29.4%
Accidental injury	21	27	34	31	113	9.8%
Homicide	16	15	28	22	81	7.0%
Suicide	10	9	16	9	44	3.8%
Unknown (R99)	4	5	8	20	37	3.2%
Total	195	246	368	346	1,155	100.0%

Underlying Causes of Death

Underlying cause of death is a manner of classifying the specific cause of death type, including categories of disease and accident type. Below is the underlying cause of death for the 809 persons who passed away in homelessness 2018-2021. Note that R99 is an ICD-10 mortality code meaning an “ill-defined and unknown cause of mortality”; we designate this as *Unknown (R99)* throughout the text.

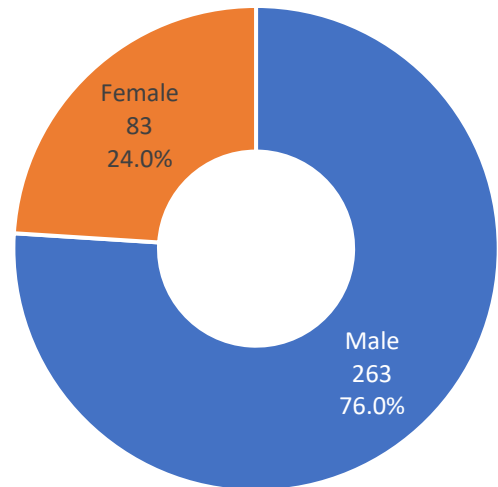
Underlying Causes of Death, 2018-2021

Cause	2018	2019	2020	2021	2018-2021	Percentage
Unintentional overdose	35	61	95	104	295	25.5%
Heart disease	40	34	42	54	170	14.7%
All other diseases	17	24	43	35	119	10.3%
Homicide	16	15	28	22	81	7.0%
Cancer (malignant neoplasms)	15	18	16	16	65	5.6%
Chronic liver disease/cirrhosis	11	13	23	8	55	4.8%
All other unintentional injuries	9	11	14	17	51	4.4%
Suicide	10	9	16	9	44	3.8%
Pedestrian or bike crash	7	11	15	9	42	3.6%
Unknown (R99)	4	5	8	20	37	3.2%
Cerebrovascular disease	4	7	13	4	28	2.4%
CLRD (chronic lower respiratory disease)	2	9	10	7	28	2.4%
Sequelae of drug abuse & dependence	5	8	5	5	23	2.0%
Other communicable diseases	1	4	11	4	20	1.7%
Struck by train	4	4	4	4	16	1.4%
Diabetes, metabolic	3	1	7	4	15	1.3%
COVID-19	0	0	6	9	15	1.3%
Hypertensive renal disease/essential hypertension	1	3	3	6	13	1.1%
Alcohol overdose	5	4	3	0	12	1.0%
Sequelae of alcohol abuse/dependence	4	3	2	2	11	1.0%
HIV	1	1	3	5	10	0.9%
Exposure	1	1	1	1	4	0.3%
Alzheimer’s, Parkinson’s, and other dementias	0	0	0	1	1	0.1%
Total	195	246	368	346	1,155	100.0%

Demographics of Homeless Deaths

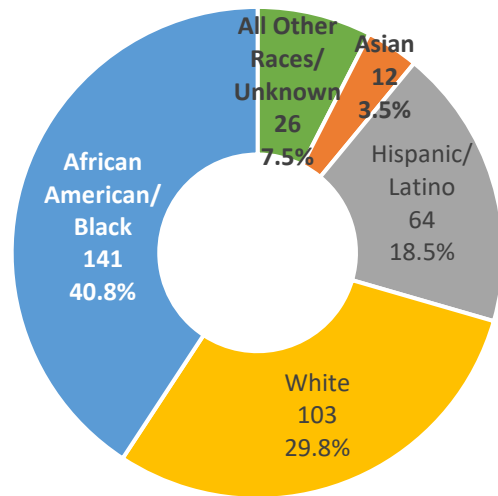
Sex of Homeless Deaths

- The county population is 49% male and 51% female (2021). County general population deaths in 2021 were 52.7% male, 47.3% female.
- The population of people experiencing homelessness is estimated to be 62% male and 37% female and 1% transgender (2022 PITC). Homeless 2021 deaths were 76% male and 24% female.
- We were unable to categorize homeless deaths by sexual orientation or gender identity as this information is unavailable in death records.



Race/Ethnicity of Homeless Deaths

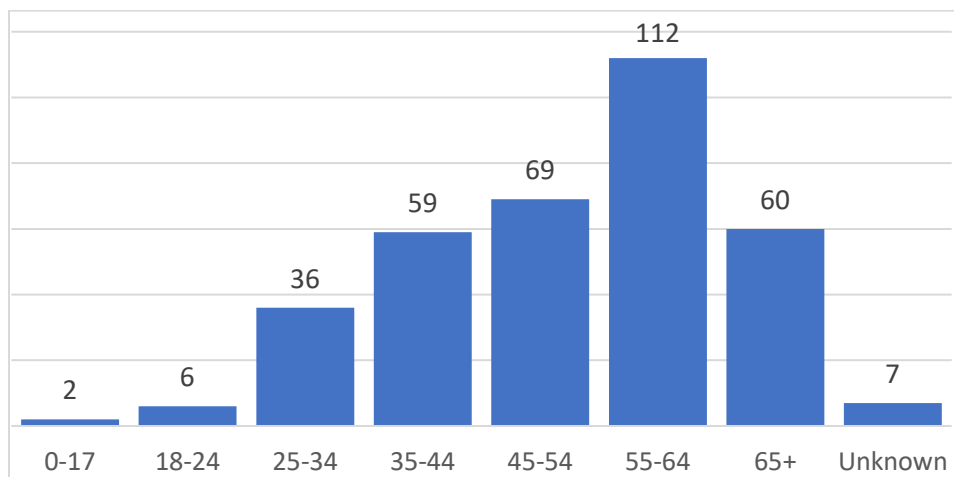
- The county population is 10% African American/Black; 39% White; 32% Asian; 23% Hispanic/Latino; and 19% all other. 2021 county population deaths were 19% African American/Black; 43% White; 21% Asian; 14% Hispanic/Latino; 3% all other or unknown.
- The population of people experiencing homelessness is 43% African American/Black; 39% White; 25% Hispanic/Latino; 5% Asian, and 14% all other (2022 PITC). Homeless deaths by race are in the chart.



Age of Homeless Deaths

The average age of death of people experiencing homelessness in 2021 was 51.7 years; the Alameda County general population average age of death of was 72.7 years. Average age of death includes babies and youth, who would normally not be homeless, and pulls down the general population average age of death.

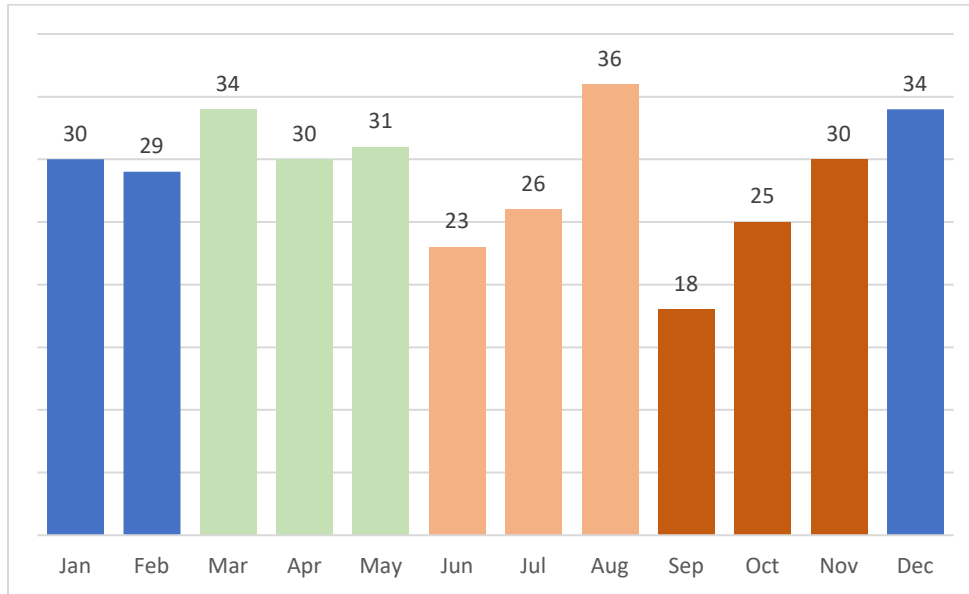
Age Group of Homeless Deaths, Alameda County, 2021



Deaths by Month and Season

Although between 2018-2020 there was no clear correlation in deaths by month, in 2021 there were more deaths in colder months from November to April (54%) than warmer months from May to October (46%), but with a peak of deaths in August.

Month of Homeless Deaths, Alameda County, 2021



Unattended Deaths

Of the 346 deaths of people experiencing homelessness in Alameda County in 2021, 117 people (33.6%) died in a hospital or nursing facility. This means that overall, 229 homeless deaths (66.2%) occurred either unattended or with first responders in the case of traumatic death (accident, homicide, suicide, overdose). Below are unattended homeless deaths by cause of death.

Cause of Death, Unattended Homeless Deaths, 2021

Cause	Count	Percentage
Drug overdose	94	41.0%
Heart disease	33	14.4%
All other diseases	18	7.9%
Unknown (R99)	16	7.0%
Homicide	15	6.6%
Pedestrian or bike crash, unintentional or undetermined intent	7	3.1%
All other injuries	7	3.1%
Suicide	6	2.6%
Cancer (malignant neoplasms)	6	2.6%
Diabetes mellitus	4	1.7%
CLRD	4	1.7%
Hypertensive renal disease/essential hypertension	4	1.7%
Unintentional or undetermined intent pedestrian struck by train	4	1.7%
Cerebrovascular disease	2	0.9%

COVID-19	2	0.9%
Sequelae of drug and alcohol abuse & dependence	2	0.9%
HIV	2	0.9%
Chronic liver disease and cirrhosis	1	0.4%
Other communicable diseases	1	0.4%
Exposure	1	0.4%
Total	229	100.0%

Note: The above chart includes deaths by injury, homicide/suicide, or overdose that occurred in the field, but were pronounced dead at emergency departments or hospitals.

Location of Unattended Homeless Deaths by Category of Cause of Death 2021

Death Location Type	Count	Percentage	Substance Abuse and Overdose	Acute/Chronic Disease	Accident	Homicide	Suicide	Unknown (R99)
<i>Percentage of all deaths</i>			42%	34%	8%	7%	2%	7%
Street/sidewalk	62	27%	29%	16%	16%	80%	20%	38%
Vehicle	34	15%	18%	20%	0%	0%	20%	6%
Other's residence	28	12%	13%	18%	0%	7%	20%	0%
Encampment	27	12%	17%	5%	11%	7%	0%	25%
Outdoors	25	11%	11%	4%	26%	7%	0%	31%
Shelter	23	10%	6%	22%	0%	0%	0%	0%
Motel	19	8%	6%	14%	5%	0%	20%	0%
Road accident	9	4%	0%	0%	42%	0%	20%	0%
Total	227	100%	100%	100%	100%	100%	100%	100%

Unattended Homeless Deaths by Various Demographics, 2021

		Count	Percentage
Total		227	100.0%
Region of county	Oakland/Emeryville	144	63.4%
	Mid-County	36	15.9%
	Berkeley /Albany	18	7.9%
	South County	18	7.9%
	Tri-Valley	11	4.8%
Sex	Female	44	19.4%
	Male	183	80.6%
Race/ethnicity	African American/Black	91	40.1%
	White	72	31.7%
	Hispanic/Latino	42	18.5%
	All other races/unknown	13	5.7%
	Asian	9	4.0%
Age	0-17	1	0.4%
	18-24	4	1.8%
	25-34	27	11.9%
	35-44	41	18.1%
	45-54	48	21.1%
	55-64	66	29.1%
	65+	35	15.4%
	Unknown	5	2.2%
	<i>Average age at death</i>	<i>52.0</i>	
Services noted in HMIS	Had utilized	21	67.7%
	Had not utilized	10	32.3%

Homeless Deaths by Region of Alameda County

Homeless Deaths Outside of Alameda County

By comparing homeless services utilization data from Alameda County against the CCDF data, we reviewed deaths of 14 people experiencing homelessness who were known to be Alameda County residents, but who died in homelessness in other California counties in 2021. For example, a person known to be an Alameda County resident experiencing homelessness was found dead in San Francisco on the end of the BART line.

Berkeley/Albany

In 2021, 24 people experiencing homelessness died with their last known residence in Berkeley and Albany.

Homeless Berkeley-Albany Deaths by Year

Year	Count
2018	19
2019	18
2020	25
2021	24

Homeless Berkeley-Albany Deaths by Various Demographics, 2021

		Count	Percentage
Total		24	
City/place	Berkeley	24	60.0%
	Emeryville	0	33.3%
Sex	Female	4	16.7%
	Male	20	83.3%
Race/ethnicity	African American/Black	14	58.3%
	White	8	33.3%
	Hispanic/Latino	1	4.2%
	All other races/unknown	1	4.2%
Cause of death	Acute/chronic disease	12	50.0%
	Substance abuse and overdose	7	29.2%
	Unknown (R99)	3	12.5%
	Accidental injury	2	8.3%
Unattended deaths	Hospital/SNF	6	25.0%
	Unattended	18	75.0%
Location of death/injury	Vehicle	4	16.7%
	Street/sidewalk	4	16.7%
	Encampment	4	16.7%
	Hospital	3	12.5%
	Nursing facility/SNF	3	12.5%
	Outdoors	3	12.5%
	Other's residence	1	4.2%
	Road accident	1	4.2%
	Motel	1	4.2%

Oakland/Emeryville

In 2021, 208 people experiencing homelessness died with their last known residence in Oakland or Emeryville.

Homeless Oakland-Emeryville Deaths by Year

Year	Count
2018	102
2019	141
2020	216
2021	208

Homeless Oakland-Emeryville Deaths by Various Demographics, 2021

		Count	Percentage
Total		208	100.0%
City/place	Oakland	208	100.0%
	Emeryville	0	0.0%
Sex	Female	47	22.6%
	Male	161	77.4%
Race/ethnicity	African American/Black	103	49.5%
	White	44	21.2%
	Hispanic/Latino	37	17.8%
	All other races/unknown	18	8.7%
	Asian	6	2.9%
Cause of death	Acute/chronic disease	83	39.9%
	Substance abuse and overdose	78	37.5%
	Homicide	19	9.1%
	Accidental injury	13	6.3%
	Unknown (R99)	11	5.3%
	Suicide	4	1.9%
Unattended deaths	Hospital/SNF	64	30.8%
	Unattended	144	69.2%
Location of death/ injury	Hospital	58	27.9%
	Street/sidewalk	44	21.2%
	Vehicle	22	10.6%
	Shelter	20	9.6%
	Other's residence	19	9.1%
	Encampment	18	8.7%
	Outdoors	10	4.8%
	Motel	7	3.4%
	Nursing facility/SNF	6	2.9%
	Road accident	4	1.9%

Mid-County (Hayward, Alameda, San Leandro, San Lorenzo, Castro Valley)

In 2021, 55 people experiencing homelessness died with their last known residence in Hayward, Alameda, San Leandro, San Lorenzo, or Castro Valley.

Homeless Mid-County Deaths by Year

Year	Count
2018	49
2019	55
2020	84
2021	55

Homeless Mid County Deaths by Various Demographics, 2021

		Count	Percentage
Total		55	100.0%
City/place	Hayward	35	63.6%
	San Leandro	8	14.5%
	Alameda	8	14.5%
	San Lorenzo	2	3.6%
	Castro Valley	2	3.6%
Sex	Female	15	27.3%
	Male	40	72.7%
Race/ethnicity	White	23	41.8%
	Hispanic/Latino	15	27.3%
	African American/Black	14	25.5%
	Asian	2	3.6%
	All other races/unknown	1	1.8%
Cause of death	Acute/chronic disease	26	47.3%
	Substance abuse and overdose	17	30.9%
	Accidental injury	6	10.9%
	Unknown (R99)	3	5.5%
	Homicide	2	3.6%
	Suicide	1	1.8%
Unattended deaths	Hospital/SNF	19	34.5%
	Unattended	36	65.5%
Location of death/injury	Hospital	16	29.1%
	Street/sidewalk	9	16.4%
	Outdoors	8	14.5%
	Other's residence	6	10.9%
	Vehicle	4	7.3%
	Encampment	3	5.5%
	Motel	3	5.5%
	Nursing facility/SNF	3	5.5%
	Shelter	2	3.6%
	Road accident	1	1.8%

South County (Fremont, Newark, Union City)

In 2021, 31 people experiencing homelessness died with their city of last known residence in Fremont, Newark, or Union City.

Homeless South County Deaths by Year

Year	Count
2018	16
2019	18
2020	26
2021	31

Homeless South County Deaths by Various Demographics, 2021

		Count	Percentage
Total		31	100.0%
City/place	Fremont	19	61.3%
	Newark	6	19.4%
	Union City	6	19.4%
Sex	Female	7	22.6%
	Male	24	77.4%
Race/ethnicity	White	15	48.4%
	Hispanic/Latino	8	25.8%
	African American/Black	4	12.9%
	Asian	2	6.5%
	All other races/unknown	2	6.5%
Cause of death	Acute/chronic disease	15	48.4%
	Accidental injury	8	25.8%
	Substance abuse and overdose	3	9.7%
	Suicide	2	6.5%
	Unknown (R99)	2	6.5%
	Homicide	1	3.2%
Unattended deaths	Hospital/SNF	13	41.9%
	Unattended	18	58.1%
Location of death/injury	Hospital	11	35.5%
	Street/sidewalk	5	16.1%
	Road accident	3	9.7%
	Motel	3	9.7%
	Outdoors	3	9.7%
	Vehicle	2	6.5%
	Nursing facility/SNF	2	6.5%
	Other's residence	1	3.2%
	Encampment	1	3.2%

Tri-Valley (Livermore, Pleasanton, Dublin)

In 2021, 15 people experiencing homelessness died with a city of last known residence of Livermore, Pleasanton, or Dublin.

Homeless Tri-Valley Deaths by Year

Year	Count
2018	9
2019	14
2020	17
2021	15

Homeless Deaths in Tri-Valley by Various Demographics, 2021

		Count	Percentage
Total		15	100.0%
City/place	Livermore	9	60.0%
	Pleasanton	5	33.3%
	Dublin	1	6.7%
Sex	Female	5	33.3%
	Male	10	66.7%
Race/ethnicity	White	7	46.7%
	African American/Black	3	20.0%
	Hispanic/Latino	3	20.0%
	Asian	2	13.3%
Cause of death	Acute/chronic disease	9	60.0%
	Substance abuse and overdose	3	20.0%
	Accidental injury	2	13.3%
	Suicide	1	6.7%
Unattended deaths	Hospital/SNF	4	26.7%
	Unattended	11	73.3%
Location of death/injury	Jail	14	70.0%
	Outdoors	8	20.0%
	Encampment	4	10.0%
	Nursing facility/SNF	3	7.5%
	Street/sidewalk	3	7.5%
	Hospital	2	5.0%
	Other's residence	2	5.0%
	Public transit	1	2.5%
	Railroad	1	2.5%
	Vehicle	1	2.5%
	Unknown	1	2.5%

Shelter and Encampment Deaths

Shelter Residents

Analysis of CCDF records, HMIS notes, and community reports determined that in 2021, 40 persons known to be living in homeless shelters or programs died in Alameda County. 25 (62.5%) of these deaths occurred in Project Roomkey/Safer Ground housing which housed medically fragile and aging people experiencing homelessness. There were no shelter resident deaths due to COVID-19. 53% of shelter deaths occurred on site, 37% in medical facilities and the remainder in motel, vehicle or outside.

Homeless Shelter Resident Deaths by Year

Year	Count
2018	12
2019	23
2020	37
2021	40

Homeless Shelter Resident Deaths by Various Demographics, 2021

		Count	Percentage
Total		40	100.0%
City/place	Oakland	34	85.0%
	Livermore	2	5.0%
	One each: San Leandro, Fremont Alameda, Hayward	4	10.0%
Sex	Female	10	25.0%
	Male	30	75.0%
Race/ethnicity	African American/Black	16	40.0%
	White	15	37.5%
	All other races/unknown	5	12.5%
	Hispanic/Latino	4	10.0%
Cause of death	Acute/chronic disease	31	77.5%
	Substance abuse and overdose	7	17.5%
	Unknown (R99)	1	2.5%
	Suicide	1	2.5%
Unattended deaths	Hospital/SNF	15	37.5%
	Unattended	25	62.5%
Location of death/injury	shelter	21	52.5%
	Hospital	13	32.5%
	Vehicle	2	5.0%
	Nursing facility/SNF	2	5.0%
	Motel	1	2.5%
	Street/sidewalk	1	2.5%

Encampment Resident Deaths

We were not able to accurately determine mortality outcomes among those who were living in unsheltered/encampment settings as it was frequently not feasible to determine people’s exact homeless location at time of death. In CCDF notes, descriptors for unsheltered settings such as camp, tents, streets were used interchangeably, and encampments were infrequently entered as a decedent’s home address. However, we reviewed the deaths of 27 Alameda County residents who were specified in CCDF as having died at an encampment setting in 2021.

Homeless Encampment Resident Deaths by Year

Year	Count
2018	12
2019	12
2020	25
2021	27

Homeless Encampment Resident Deaths by Various Demographics, 2021

		Count	Percentage
Total		27	100.0%
City/place	Oakland	18	66.7%
	Berkeley	4	14.8%
	Hayward	2	7.4%
	One each: San Leandro, Union City, Livermore	3	11.1%
Sex	Female	6	22.2%
	Male	21	77.8%
Race/ethnicity	African American/Black	13	48.1%
	White	6	22.2%
	Hispanic/Latino	4	14.8%
	All other races	2	7.4%
Cause of death	Substance abuse and overdose	16	59.3%
	Unknown/undetermined	4	14.8%
	Acute/chronic disease	4	14.8%
	Accidental injury	2	7.4%
	Homicide	1	3.7%
Unattended deaths	Unattended	27	100%
Location of death/injury	Encampment	27	100%

Vehicle Dweller Deaths

Through review of CCDF records, HMIS notes, and community reports we determined that in 2021, 34 persons died in vehicles in which they were sheltered at time of death. This number is only of those who were found in a vehicle and does not include those who died elsewhere and who had been living in a vehicle. All vehicle dweller deaths were found in their vehicles, and as such were all unattended deaths.

Demographics		Count	Percentage
Total		104	
Region of county	Oakland/Emeryville	22	64.7%
	Berkeley /Albany	4	11.8%
	Mid-County	4	11.8%
	Tri-Valley	2	5.9%
	South County	2	5.9%
Sex	Female	2	5.9%
	Male	32	94.1%
Race/ethnicity	White	13	38.2%
	Hispanic/Latino	10	29.4%
	African American/Black	8	23.5%
	All Other Race	2	5.9%
	Asian	1	2.9%
Age	55-64	11	32.4%
	35-44	7	20.6%
	65+	6	17.6%
	45-54	6	17.6%
	25-34	3	8.8%
	Unknown	1	2.9%
	<i>Average age of death</i>	<i>52.6</i>	
Services noted in HMIS	Had utilized	16	47.1%
	Had not utilized	18	52.9%

Causes of Death of People Experiencing Homelessness in Alameda County

In the following section we will review the categories of death among people experiencing homelessness who died in 2021. Categories of death is the large grouping of deaths by categories, including Acute or Chronic Diseases, Substance Use and Overdose, Accidental Death, Homicide, Suicide and Ill-defined or Unknown. Within some of these categories, coroner or doctors can further classify death by determine Underlying Cause of Death, for example, heart disease, unintentional drug overdose, suicide, liver cancer, etc.

Categories of Death among People Experiencing Homeless in Alameda County, 2018-2021

Category	2018	2019	2020	2021	2018-2021	Percentage 2021	Percentage 2018-2021
Acute/chronic disease	99	119	186	153	557	44.2%	48.2%
Substance abuse and overdose	49	76	104	111	340	32.1%	29.4%
Unintentional injury	21	27	34	31	113	9.0%	9.8%
Homicide	16	15	28	22	81	6.4%	7.0%
Suicide	10	9	16	9	44	2.6%	3.8%
Unknown (R99)	0	0	0	20	20	5.8%	1.7%
Total	195	246	368	346	1,155	100.0%	100.0%

In the following pages, we will more closely review deaths of people experiencing homelessness by underlying cause of death:

Underlying Cause of Death: Drug Overdose

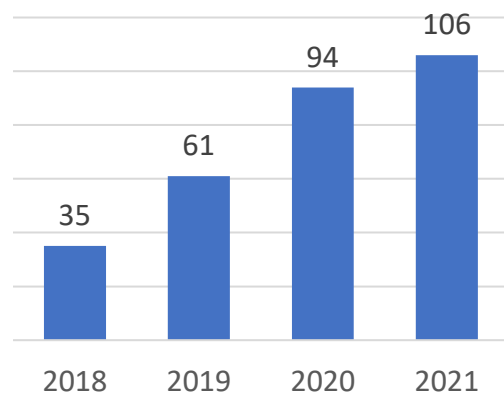
Drug overdose killed 106 homeless persons in 2021. It is the single leading cause of death among people experiencing homelessness in Alameda County. Drug overdose is the single leading cause of homeless death between 2018 and 2021 and homeless drug overdose deaths have tripled in that time.

What is drug overdose? Drug overdose is one of the fastest-growing causes of death in the country and in Alameda County. Drug overdose deaths are most frequently due to opiates (mainly synthetic opiates such as fentanyl and fentanyl compounds), heroin, and increasingly due to psychostimulants such as methamphetamine. Many persons are not aware of the presence of fentanyl-laced compound drugs in their drug supply or the powerful potency of fentanyl.

Most drug overdoses can be reversed and death prevented by rapid action by nearby persons calling 911 and/or administering naloxone (Narcan) before death occurs. Reach out to the [ACHCH program](#) to access naloxone and training.

You can learn more about statewide analysis of overdose deaths in a [2022 California Overdose Crisis Policy Brief](#) from the State of California.

Homeless Drug Overdose Deaths 2018-2021



Drug Overdose and Homeless Mortality

In 2021, 106 homeless Alameda County residents died of drug overdose. Homeless overdose deaths continue to increase between 2018 and 2021, and since 2018, 297 persons experiencing homelessness have died from drug overdose. Overdoses represented 30.6% of all 2021 homeless deaths. These deaths represent an age-adjusted death rate of 888.1/100,000, a rate of drug overdose death 50.1 times that of the general population.

In 2021 in Alameda County as a whole, drug overdose claimed 358 lives. In 2021, people with recent experience of homelessness (146) comprised 40.6% of all Alameda County drug overdose deaths.

Each homeless drug overdose death represents a premature death by an average of 45.0 years of life lost, or a total of 4,680 years of life lost in 2021 in Alameda County.

The following analysis includes the 104 deaths attributed to accidental drug overdose in death certificate records AND two deaths classified as R99 Undetermined but containing direct references to presumed unintentional overdose.

Homeless Deaths Due to Overdose by Housing Status at Time of Death

	Literally homeless at time of death	Recently homeless but housed at death	Recently homeless; unknown housing status at death
2018	35	5	12
2019	61	11	12
2020	95	11	10
2021	106	18	21
Total	297	45	55

Location of Overdose Deaths

Overdose deaths almost always took place in an unattended setting; ten deaths were pronounced at a hospital after transport from unknown locations.

City/Place of Overdose Death

	Count	Percentage
Oakland	71	68.3%
Hayward	9	8.7%
Berkeley	7	6.7%
San Leandro	4	3.8%
Emeryville	3	2.9%
Alameda	2	1.9%
Unknown	2	1.9%
Fremont	2	1.9%
Livermore	2	1.9%
Castro Valley	1	1.0%
Newark	1	1.0%
Total	106	100.0%

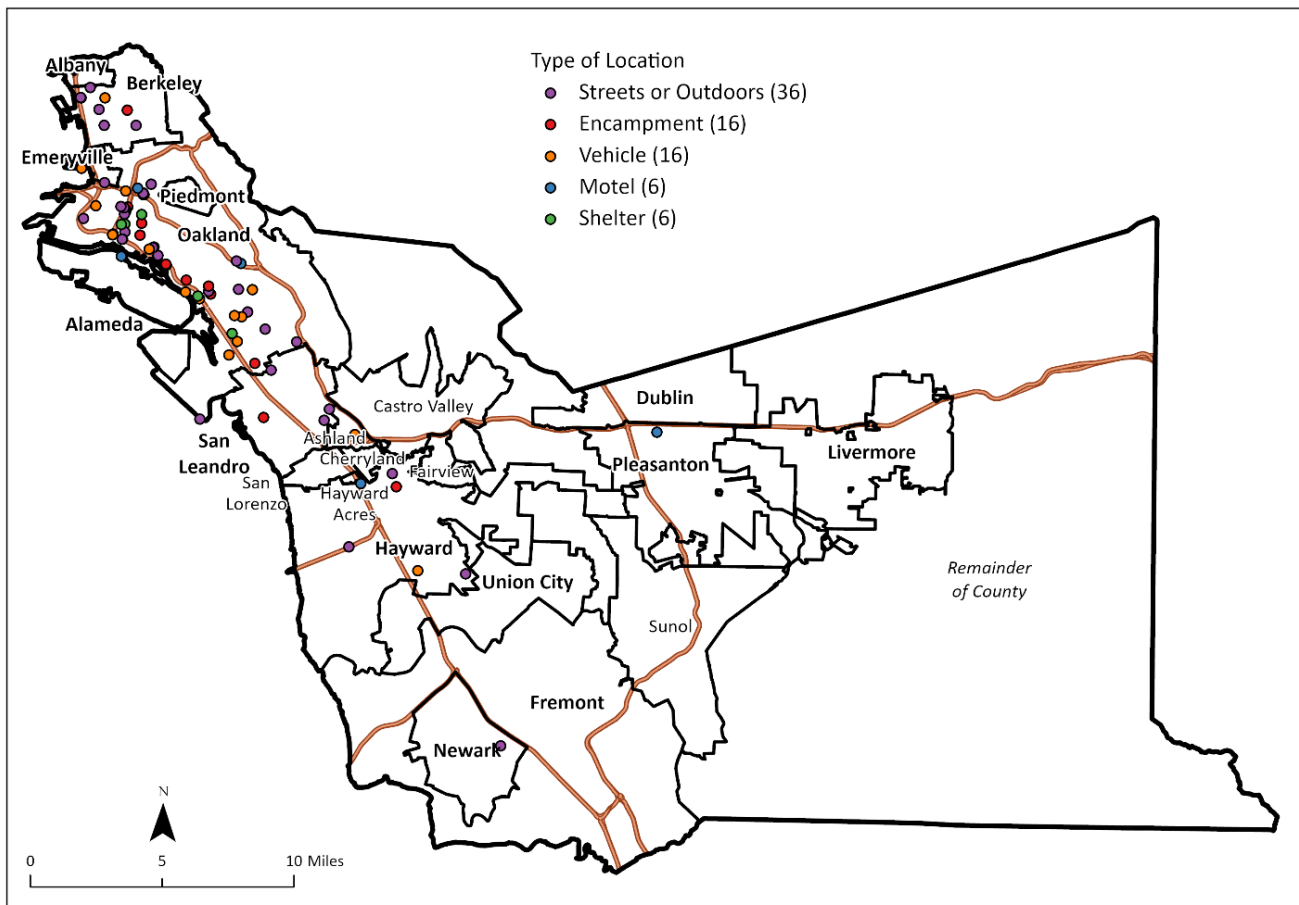
Location of Homeless Drug Overdose Deaths

	Count	Percentage
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Street/sidewalk	27	26.0%
Vehicle	16	15.4%
Encampment	16	15.4%
Other's residence	12	11.5%
Outdoors	11	10.6%
Hospital (overdose location unknown)	10	9.6%
Motel	6	5.8%
Shelter	6	5.8%
Total	106	100.0%

This is a mapping of location of 80 of the 106 known homeless overdoses in Alameda County in 2021. Not included in this map are 10 hospital deaths where the location of overdose was unknown, 12 overdoses which took place at another person's private residence and four accidental drug overdoses which took place outside of Alameda County.

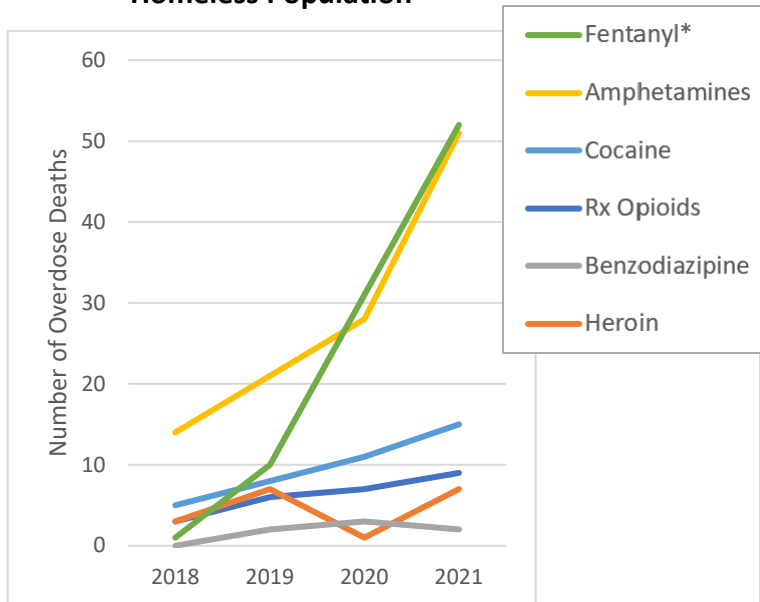
Drug Overdose Locations



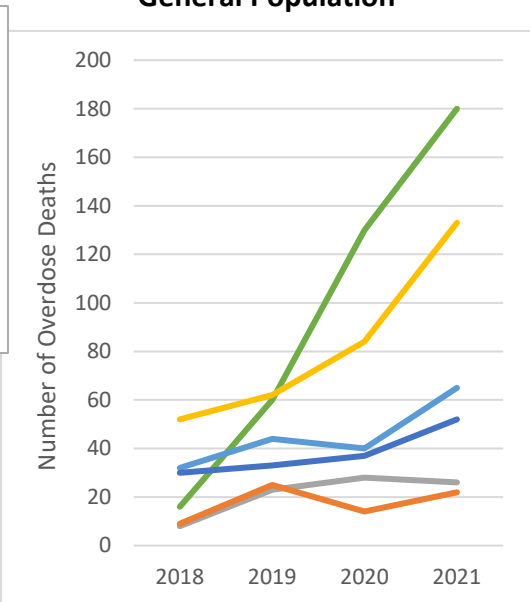
Homeless Drug Overdose Deaths by Various Demographics, 2021

		Count	Percentage
Total		106	
Region of county; last known residence	Oakland/Emeryville	75	71.2%
	Mid-County	16	15.4%
	Berkeley /Albany	7	6.7%
	South County	3	2.9%
	Unknown	3	1.9%
	Tri-Valley	2	1.9%
Sex	Female	20	19.2%
	Male	86	80.8%
Race/ethnicity	African American/Black	41	45.2%
	White	32	30.8%
	Hispanic/Latino	19	18.3%
	All Other Race	5	3.8%
	Asian	2	1.9%
Age	55-64	32	29.8%
	45-54	25	24.0%
	35-44	25	23.1%
	25-34	15	14.4%
	65+	6	5.8%
	18-24	3	2.9%
	<i>Average age of death</i>	<i>47.4</i>	
Services noted in HMIS	Had utilized	59	55.8%
	Had not utilized	47	44.2%

Drug Overdose Deaths by Substance Type, 2018-2021: Homeless Population



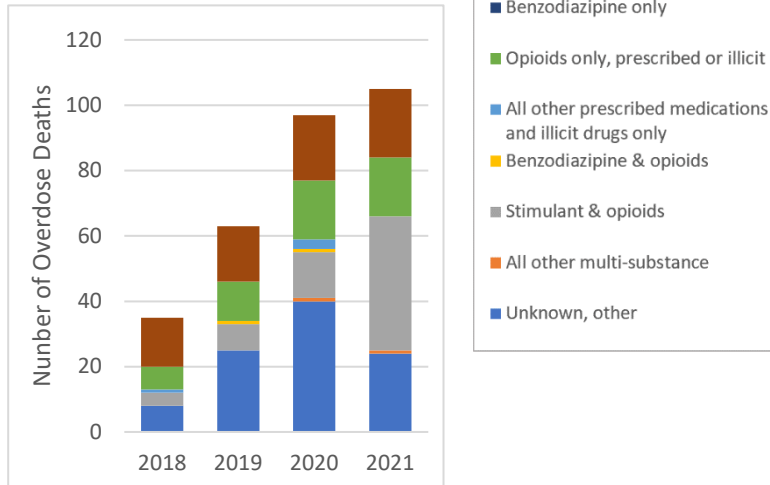
Drug Overdose Deaths by Substance Type, 2018-2021: General Population



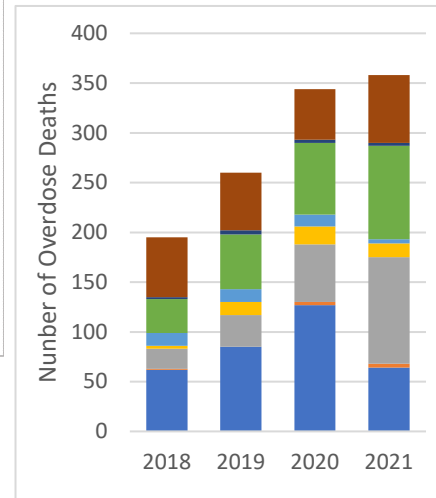
* These are "other prescription and illicit opioids." A text search revealed that almost all referred to fentanyl.
 Note: A decedent may be represented in multiple lines due to multiple substance types involved in one overdose.

In overdose deaths, many are due to a single substance or more commonly a combination of different substances, such as heroin/fentanyl/methamphetamine. Due to a lack of detailed toxicology data, we are not able to further break down some multi-substance use-related deaths. The following charts show overdose deaths by substance types noted in death records.

Drug Overdose Deaths by Mutually Exclusive Substance Type(s), 2018-2021: Homeless Population



Drug Overdose Deaths by Mutually Exclusive Substance Type(s), 2018-2021: General Population



Note: In these graphs, a decedent is represented in only one category.

Co-factors in Overdose Deaths

We were not able to view or analyze toxicology reports from the Coroner’s office. Examination of toxicology reports should enable a better ability to track fentanyl- and methamphetamine-involved fatal overdoses.

In ten cases, we were unable to precisely map the exact locations where fatal overdoses occurred, through death records we were not able to analyze if/when naloxone was administered, nor determine if an overdose was alone or with other persons. All of these are important in analyzing overdose fatalities.

Recommendations

- Expand and improve street- and field-based harm reduction-based substance use and treatment services:** Expand funding and support of field-based multidisciplinary teams to provide harm reduction services, reduce barriers to medication-assisted treatment, implement contingency management programs, increase peer support and engagement. Expand community-based harm reduction services include syringe distribution, naloxone and test strip distribution, and screening and referral for SUD and physical/mental health needs. Include harm reduction supplies in county and city-funded homeless outreach provider teams. Build on existing example of links between AHS Bridge Clinic and harm reduction and homeless and housing providers.
- Expand naloxone distribution in street, shelter/housing and reentry settings:** Overwhelming numbers of homeless drug overdose deaths take place outdoors, in vehicles or in public spaces. Develop more approaches to get naloxone and OD response training to these locations. ACHCH Street Health Teams currently distribute naloxone kits at street encampment sites; the ACHCH Shelter

Health program is installing naloxone distribution boxes at homeless shelters and services centers and [providing overdose training to all staff and outreach providers](#). Ensure that people experiencing homelessness are provided with naloxone, education, and referrals before release from jail. Better track naloxone use and effectiveness through consolidating both distribution and tracking of reversals.



Artwork by Jeremy Beebe "Jeremy Terrance and Rip Enjoy the Day" 2022

- **Expand and improve SUD services for people experiencing homelessness:**

Expand capability to provide low-barrier accessible interim or transitional housing to all people experiencing homelessness. Integrate SUD services into homeless shelter and outreach projects, expand and enhance homeless services providers training on SUD interventions for both permanent supportive housing, shelter/interim housing, and outreach programs. Expand

low barrier outpatient services to increase access to Medication Assisted Treatment in clinics and sites (example: AHS Bridge Clinic), with peer-supported support, behavioral health, contingency management programs, with coordination between SUD services and housing providers. Increase access to low-barrier inpatient SUD detox and recovery services with peer-support and behavioral health focus; increase numbers of inpatient SUD beds, reduce wait time for inpatient beds and reduce barriers for people interested in accessing inpatient recovery and detox services.

- **Community-based drug checking:** Initiate low-barrier, accessible testing of actual samples of the drugs used by Alameda County residents who use drugs through use of FT/infrared spectrography directly provided by trusted harm reduction practitioners at street-based locations. This is a way for people who use drugs to directly know what is in the substances they are using and change behaviors accordingly, and for countywide surveillance and response to contaminants entering the supply of drugs used.
- **Safer consumption sites:** Safer consumption sites are supportive locations providing observation and treatment of people who inject drugs, preventing fatal overdose, effectively connecting high-risk individuals with treatment, reduce stigma and isolation among injection drug users, and provide access to harm reduction and lifesaving resources. [Boston Health Care for the Homeless](#) has an outstanding example of safe injection sites for people experiencing homelessness.
- **Coroner toxicology data:** We need timely data from the Alameda County Coroner's Office regarding toxicology testing results for drug overdose deaths. Rapid review and dissemination of Coroner's data is one of the main ways that localities can be informed about rises/surges in xylazine and other dangerous contaminants in drug supply.

Category of Death: Acute and Chronic Medical Conditions

In Alameda County between 2018 and 2020, 403 deaths (or 50%) of people experiencing homelessness were due to acute or chronic medical conditions, also known as *natural causes*. Epidemiologists categorize these deaths into categories by the Underlying Cause of Death diagnosis code (ICD-10 code) determined by the coroner, pathologist or treating physician. These are the following categories of underlying cause of death for people experiencing homelessness who died between 2018 and 2021.

Homeless Deaths Due to Acute/Chronic Disease, 2018-2021

Cause	2018	2019	2020	2021	2018-2021	Percentage 2021	Percentage 2018-2021
Heart disease	40	34	42	54	170	36.2%	31.8%
All other diseases	17	24	43	35	119	23.5%	22.2%
Cancer (malignant neoplasms)	15	18	16	16	65	10.7%	12.1%
Chronic liver disease/cirrhosis	11	13	23	8	55	5.4%	10.3%
Cerebrovascular disease	4	7	13	4	28	2.7%	5.2%
CLRD (chronic lower respiratory disease)	2	9	10	7	28	4.7%	5.2%
Other communicable diseases	1	4	11	4	20	2.7%	3.7%
Diabetes, metabolic	3	1	7	4	15	2.7%	2.8%
Hypertensive renal disease/essential hypertension	1	3	3	6	13	4.0%	2.4%
COVID-19			6	9	15	4.0%	2.2%
HIV	1	1	3	5	10	3.4%	1.9%
Total	95	114	177	153	535	100.0%	100.0%

Homeless Deaths Due to Acute/Chronic Disease by Housing Status at Time of Death

	Literally homeless at time of death	Recently homeless but housed at death	Recently homeless; unknown housing status at death
2018	95	49	166
2019	114	72	167
2020	177	83	181
2021	153	108	114
Total	535	312	628

Homeless Deaths Due to Acute/Chronic Disease by Various Demographics, 2021

		Count	Percentage
Total		153	
Region of county	Oakland/Emeryville	83	54.2%
	Mid-County	26	17.0%
	South County	15	9.8%
	Berkeley /Albany	12	7.8%
	Tri-Valley	9	5.9%
	Unknown	8	5.2%

Unattended deaths	Hospital-SNF	77	50.3%
	Unattended	76	49.7%
Sex	Female	42	27.5%
	Male	111	72.5%
Race/ethnicity	African American/Black	57	37.3%
	White	47	30.7%
	Hispanic/Latino	27	17.6%
	All other races/unknown	15	9.8%
	Asian	7	4.6%
Age	0-17	1	0.7%
	25-34	4	2.6%
	35-44	16	10.5%
	45-54	26	17.0%
	55-64	60	39.2%
	65+	43	28.1%
	Unknown	3	2.0%
	<i>Average age at death</i>	<i>57.6</i>	
Services noted in HMIS	Had utilized	91	59.5%
	Had not utilized	62	40.5%

Category of Death: Accidental Death

Accidental Deaths and Homeless Mortality

In Alameda County in 2021, 31 persons experiencing homelessness died by traumatic accidental death. This number does not include accidental drug or alcohol overdose. Included in the category of accidental deaths are the following causes of death.

Homeless Deaths Due to Accidental Causes

	2018	2019	2020	2021	2018-2021	Percentage 2021	Percentage 2018-2021
Pedestrian or bicyclist hit by vehicle	9	11	13	9	42	29.0%	40.2%
Struck by train	4	4	4	4	16	12.9%	14.6%
Passenger or driver of vehicle in crash	1	3	9	3	16	9.7%	15.9%
Fall	1	3	2	7	13	22.6%	7.3%
Drowning	2	3	0	1	6	3.2%	6.1%
Fire or smoke inhalation	1	2	1	1	5	3.2%	4.9%
Ill-defined or unknown cause of injury	1	2	1	5	9	16.1%	4.9%
Hypothermia	2	1	0	1	4	3.2%	3.7%
Carbon monoxide poisoning in tent/car	0	0	2	0	2	0.0%	2.4%
Total	21	29	32	31	113	100.0%	100.0%

In 2021, 9.0% of all homeless deaths were due to accidental death. By far, pedestrian deaths are the most frequent (non-drug overdose) accidental cause of death among people experiencing homelessness. In 2021, Alameda County people experiencing homelessness had a pedestrian death rate 27.6 times that of the general population, 110 times the rate of being struck by a train, and 11.8 times the rate of dying by other unintentional injuries.

Location of Accidental Deaths

Most accidental deaths do not take place in hospitals or facilities and as such are unattended except by emergency responders. Here are the locations in which people experiencing homelessness died by homicide as reported in CCDF.

Homeless Deaths Due to Accidental Causes Setting/Location of Injury

	Count	Percentage
Street/sidewalk	35	42.7%
Railroad	15	18.3%
Traffic accident	11	13.4%
Outdoors	9	11.0%
Vehicle	5	6.1%
Other's residence	2	2.4%
Encampment	2	2.4%
Jail	1	1.2%
Unknown	1	1.2%
Shelter	1	1.2%
Total	82	100.0%

Demographics

Homeless Deaths Due to Accidental Injuries by Housing Status at Time of Death

	Literally homeless at time of death	Recently homeless but housed at death	Recently homeless; unknown housing status at death
2018	21	0	5
2019	27	1	5
2020	34	5	6
2021	31	3	7
Total	113	9	23

Homeless Deaths Due to Accidental Injuries by Various Demographics, 2021

		Count	Percentage
Total		31	
Region of county	Oakland/Emeryville	13	41.9%
	South County	8	25.8%
	Mid-County	6	19.4%
	Berkeley /Albany	2	6.5%
	Tri-Valley	2	6.5%
Sex	Female	6	19.4%
	Male	25	80.6%
Race/ethnicity	African American/Black	13	41.9%
	Hispanic/Latino	8	25.8%
	White	7	22.6%
	Asian	2	6.5%
	All other races/unknown	1	3.2%
Unattended deaths	Hospital-SNF	12	38.7%

	Unattended	19	61.3%
Age	25-34	5	16.1%
	35-44	3	9.7%
	45-54	8	25.8%
	55-64	9	29.0%
	65+	6	19.4%
	<i>Average age at death</i>	<i>52.0</i>	
Services noted in HMIS	Had utilized	21	67.7%
	Had not utilized	10	32.3%

Underlying Cause of Death: Homicide

Homicide and Homeless Mortality

In Alameda County in 2021, 22 persons experiencing homelessness died by homicide. This represents 6.4% of all homeless deaths, and an age-adjusted death rate of 198.3/100,000, or 22.9 times that of the general population.

The average age of homicide death for homeless persons is 41 years, as compared to the average for the general population of 35 years.

Homicide deaths were most frequently due to gunshot (73%), stabbing, strangling, bludgeoning, and fire.

Location of Homicide Deaths

Here are the locations in which people experiencing homelessness died by homicide as reported in CCDF.

Homeless Deaths Due to Homicides Setting/Location of Injury

	Count	Percentage
Street/sidewalk	19	86.4%
Outdoors	1	4.5%
Encampment	1	4.5%
Other's residence	1	4.5%
Total	22	100.0%

Demographics

Homeless Deaths Due to Homicides by Housing Status at Time of Death

	Literally homeless at time of death	Recently homeless but housed at death	Recently homeless; unknown housing status at death
2018	16	2	2
2019	15	2	4
2020	28	1	11
2021	22	3	10
Total	81	8	27

Homeless Homicide Deaths by Various Demographics, 2021

		Count	Percentage
Total		22	
Region of county	Oakland/Emeryville	19	86.4%
	Mid-County	2	9.1%
	South County	1	4.5%
Sex	Female	7	31.8%
	Male	15	68.2%
Race/ethnicity	African American/Black	11	50.0%
	Hispanic/Latino	7	31.8%
	White	3	13.6%
	Asian	1	4.5%
Unattended Death	Unattended	15	68.2%
	Hospital Death	7	31.8%
Age	18-24	1	4.5%
	25-34	4	18.2%
	35-44	7	31.8%
	45-54	5	22.7%
	55-64	4	18.2%
	65+	1	4.5%
	<i>Average age at death</i>	<i>43.2</i>	
Services noted in HMIS	Had utilized	13	59.1%
	Had not utilized	9	40.9%

Underlying Cause of Death: Suicide

Suicide and Homeless Mortality

In Alameda County in 2021, 9 persons experiencing homelessness died by suicide. This represents 2.6% of all homeless deaths, and an age-adjusted death rate of 85.8/100,000, or 10.0 times that of the general population.

The most common method of suicide was hanging/suffocation, followed by jumping in front of traffic or train, gunshot, drug, and others.

Homeless Deaths Due to Suicide Setting/Location of Injury

	Count	Percentage
Struck by Train	3	33.3%
Jail	2	22.2%
Other's Residence	2	22.2%
Motel	1	11.1%
Vehicle	1	11.1%
Total	9	100.0%

Demographics

Homeless Deaths Due to Suicides by Housing Status at Time of Death

	Literally homeless at time of death	Recently homeless but housed at death	Recently homeless; unknown housing status at death
2018	10	0	1
2019	9	3	4
2020	16	1	0
2021	9	5	3
Total	44	9	8

Homeless Suicide Deaths by Various Demographics, 2021

		Count	Percentage
Total		9	
Region of county	Oakland/Emeryville	4	44.4%
	South County	2	22.2%
	Mid-County	1	11.1%
	Unknown	1	11.1%
	Tri-Valley	1	11.1%
Sex	Female	4	44.4%
	Male	5	55.6%
Race/ethnicity	African American/Black	4	44.4%
	White	4	44.4%
	Hispanic/Latino	1	11.1%
Age	18-24	1	11.1%
	25-34	4	44.4%
	35-44	4	44.4%
	<i>Average age at death</i>	<i>34.2</i>	
Services noted in HMIS	Had utilized	4	44.4%
	Had not utilized	5	55.6%

Underlying Cause of Death: R99 – Ill-Defined or Unknown Cause of Death

R99 In 2021, 20 homeless deaths were classified as ill-defined or unknown causes of death. 9 of these cases were still under investigation at time of analysis. This includes four persons found decomposed or skeletal for whom homicide was not suspected and a natural cause of death could not be determined. These also include cases of probable cause of death including two presumed drug overdoses, one HIV-related pneumonia, alcoholism, deaths being investigated as whether accidental or intentional. 16 of the 20 R99 deaths were persons who passed away outdoors in an unattended setting.

Mortality Rates, Premature Mortality Rates, and Comparisons to the General Population

With alignment between death records data of both people experiencing homelessness and the general population of Alameda County, we are able to compare general demographic data between housed and unhoused populations, and compare mortality rates between housed and unhoused populations, and compare premature mortality rates (YLL) comparing homeless mortality numbers and demographics with the Alameda County general population recorded deaths in 2021.

Deaths by Ethnicity Comparison between People Experiencing Homelessness and Alameda County General Population, 2021

Race/Ethnicity	Count		Percentage	
	Homeless	General Population	Homeless	General Population
White	103	4,842	29.8%	43.1%
African American/Black	141	2,138	40.8%	19.0%
Asian	12	2,315	3.5%	20.6%
Hispanic/Latino	64	1,528	18.5%	13/6%
All other races/unknown	26	403	7.5%	3.7%
Total	346	11,226	100.0%	100.0%

Deaths by Gender Comparison between People Experiencing Homelessness and Alameda County General Population, 2021

Gender	Count		Percentage	
	Homeless	General Population	Homeless	General Population
Male	263	5,911	76.0%	52.7%
Female	83	5315	24.0%	47.3%
Total	346	11,226	100.0%	100.0%

Mean Age of Death Comparison between People Experiencing Homelessness and Alameda County General Population 2021

Cause Category	Average Age at Death	
	Homeless	General Population
All Cause	51.7	72.7
Homicide	43.2	33.9
Suicide	34.2	47.2
Accidental injury	52.0	56.3
Acute/chronic disease	58.0	75.6
Substance abuse and overdose	48.0	46.8
Unknown/Undermined	41.1	37.6

Mortality Rates for the Alameda County General Population Compared to Persons Experiencing Homelessness

The overall age-adjusted mortality rate for people experiencing homelessness is 3,336.2 deaths per 100,000 persons. This is compared to the age-adjusted mortality rate for the Alameda County general population of 572.1 per 100,000 persons. The 2021 Mortality Rate Ratio (MRR) for persons experiencing homelessness is 5.8 meaning that in 2021, people experiencing homelessness in Alameda County died at a rate 5.8 times that of the general population.

The mortality rate for persons experiencing homelessness is based on a denominator of 9,490 people on average experiencing homelessness in Alameda County per day in 2021. This number was arrived at through linear regression of three Point-In-Time Counts (2017, 2019, 2022) to estimate the number of people experiencing homelessness on 7/1/2021.

A mortality rate ratio (MRR) of 1.0 indicates equal rates in the two groups. An MRR greater than 1.0 indicates an increased risk for the group in the numerator, and an MRR less than 1.0 indicates a decreased risk for the group in the numerator. For example, in 2018-2020, people experiencing homelessness died of unintentional drug overdoses at a rate 50.1 times that of the general Alameda County population.

Underlying Cause of Death	Deaths 2021		Age-Adjusted Mortality Rate		Mortality Rate Ratio
	Homeless	General Population	Homeless	General Population	
Total	346	11,226	3,336.2	572.1	5.8
Unintentional or undetermined intent overdose	104	316	888.1	17.7	50.1
Heart disease	54	2,093	577.7	105.2	5.5
All other diseases	35	1,560	321.4	79.1	4.1
Homicide	22	142	198.3	8.6	22.9
Cancer (malignant neoplasms)	16	2,293	178.5	115.0	1.6
All other injuries	17	268	167.4	14.2	11.8
Unknown (R99)	19	64	160.1	3.5	45.4
COVID-19	9	805	108.5	41.0	2.6
Chronic liver disease and cirrhosis	8	205	98.0	10.6	9.2
CLRD	7	359	95.5	17.8	5.4
Sequelae of drug and alcohol use & dependence	7	59	90.3	3.2	28.5
Suicide	9	151	85.8	8.6	10.0
Unintentional/undetermined intent pedestrian or bike crash	9	56	84.1	3.0	27.6
Hypertensive renal disease/essential hypertension	6	272	76.2	13.6	5.6
Cerebrovascular disease	4	802	51.8	40.5	1.3
HIV	5	23	42.7	1.2	34.3
Unintentional/undetermined intent pedestrian struck by train	4	5	30.0	0.3	110.3
Diabetes mellitus	4	369	27.1	18.4	1.5
Other communicable diseases	4	169	20.5	8.4	2.4
Exposure	1	2	19.3	0.1	208.3
Alzheimer's, Parkinson's, and other dementias	1	1,148	5.1	57.6	0.1

Pregnancy; perinatal; congenital malformations and chromosomal abnormalities	0	56	0.0	3.7	NA
Alcohol overdose	0	9	0.0	0.5	NA

Premature Mortality (Years of Life Lost)

Years of life lost (YLL) is a way of measuring the impact of deaths occurring prematurely. The YLL rate ranks the causes of death by the those causes leading to more cumulative premature years lost—dying at a younger age contributes more to the YLL than dying at an older age. The age of death matters greatly together with the number (or rate) of deaths. The YLL per death shows the average number of years of life which potentially could have remained for each person’s death by that cause. The rates are useful for comparing populations such as those experiencing homelessness vs. the general population; adjusting for age accounts for different age structures.¹

Underlying Cause of Death	Homeless Population			General Population			YLL Rate Ratio
	Deaths With Known Age	YLL per Death	Age-Ad-justed YLL Rate per 100,000 per Year	Deaths With Known Age	YLL per Death	Age-Ad-justed YLL Rate per 100,000 per Year	
Total	339	40.8	128,118.7	11,226	21.3	12,716.0	10.1
Unintentional or undetermined intent overdose	104	45.0	40,344.2	316	46.5	849.7	47.5
Heart disease	51	34.5	17,122.3	2,093	17.6	1,879.6	9.1
All other diseases	32	37.4	10,162.0	1,560	20.5	1,679.4	6.1
Homicide	22	49.1	9,782.0	142	57.0	498.4	19.6
All other injuries	17	37.5	5,793.6	268	33.5	503.5	11.5
Cancer (malignant neoplasms)	16	32.8	5,313.0	2,293	21.6	2,535.0	2.1
Suicide	9	57.9	4,930.6	151	44.2	395.6	12.5
Unintentional or undetermined intent pedestrian or bike crash	9	43.4	3,538.5	56	40.4	127.5	27.7
Chronic liver disease and cirrhosis	8	36.0	3,179.9	205	31.5	348.5	9.1
COVID-19	9	30.6	2,941.8	805	21.0	888.8	3.3
Sequelae of drug and alcohol abuse & dependence	7	36.4	2,882.4	59	33.5	111.0	26.0
CLRD	7	29.7	2,552.5	359	16.5	292.1	8.7
Hypertensive renal disease/essential hypertension	6	30.1	2,134.3	272	17.3	237.5	9.0

In reviewing the above “Total” line, we see that among the 339 homeless deaths with a known age the average death resulted in 40.8 years of potential life prematurely lost. This means an age-adjusted YLL rate of 128,118/100,000 for people experiencing homelessness, meaning that the average homeless death means 10 times higher loss of potential life years than the general population.

1. This version of years of life lost (YLL) is based on the [Global Burden of Disease’s](#) latest method. This method uses a 2050 frontier life expectancy—a life expectancy that is projected for the healthiest group in the world in 2050—for each year of age. In effect, there is no single cutoff for life expectancy, instead using a more typical life table approach where there is a life expectancy for each year of age. For instance, at birth the 2050 frontier life expectancy is 91.94 years, compared to 65 years when the 2050 frontier life expectancy is 27.86.

Reviewing YLL by underlying cause of death, we see people experiencing homelessness die at much earlier age (YLL per death) and at much higher rates than the general population (age-adjusted YLL rate) by all causes of death. Some details include:

- **Heart disease:** 51 homeless people who died of heart disease died an average of 34.5 years earlier than expected. This compares to the general population where the average heart disease death meant a potential loss of 17.6 years of life.
- **Drug overdose:** The average homeless overdose death meant a loss of 45.0 potential years of life per overdose. Within the general population, each overdose death meant a similar 46.5 years lost; however, the higher mortality rate of drug overdose deaths among people experiencing homelessness means that the YLL ratio is, incredibly, 47.5 times the rate for people experiencing homelessness than the general population.
- **Homicide:** The average homeless death by homicide represents a loss of 49.1 potential years of life. In the general population, homicide victims, generally younger than their unhoused counterparts, lost an average of 57.0 potential years of life. But again, the high mortality rate of homicide among people experiencing homelessness means they have a YLL ratio 19.6 times that of the general population.
- **Acute and chronic diseases:** The combination of a much earlier average age of death and much higher mortality rates for people experiencing homelessness meant that the YLL rate for people experiencing homelessness is in all cases much higher than that for the general population.

Services Utilization and Homeless Mortality

A key element of analyzing and learning from homeless mortality is to review the utilization of homeless, health care and other services among people experiencing homelessness who have died. Services used by people experiencing homelessness can include the following.

- Primary care clinics and providers
- Hospitalization and emergency department
- Housing services (emergency shelter and housing services)
- Outreach services
- Behavioral health services (mental health and substance use disorder)
- Harm reduction services
- Criminal justice system involvement
- Social services utilization
- Veteran status and services utilization
- Foster care system utilization

In this report, we were not able to fully “connect the pieces” between people experiencing homelessness and the services they utilized – or didn’t utilize – in the times leading to their deaths. This type of data analysis is a strong goal for future Alameda County homeless mortality efforts. A good example of services utilization reporting is carried out by San Francisco: <https://nhchc.org/wp-content/uploads/2020/12/San-Francisco-2019-Homeless-Mortality-Health-Commission.pdf>

Homeless Services Utilization: Homeless Management Information System (HMIS)

In this report, we were able to evaluate how many of the people experiencing homelessness who died in 2021 utilized Alameda County Homeless Management Information System (HMIS) which is the system used to track users of HUD-funded homeless shelter and services in Alameda County. We also

matched decedents to the Alameda County Health Care for the Homeless (ACHCH) program data of people who had received health care at ACHCH mobile or clinic sites.

Through this data matching, we found that, of the 346 persons deemed to be literally homeless at time of death in 2021:

- 57.8% had a history of services utilization with the HMIS system;
- 63.6% were locatable within the Alameda County Social Health Information Exchange (SHIE)
- 50.2% had had contact with the Alameda County Health Care for the Homeless health center program.

Of the 97 persons without history of HMIS, SHIE or ACHCH contact, 49 were deaths reported by the Coroner's Office as "transient".

We hope in future reports to evaluate much more closely utilization of homeless services and the above services to gain a better understanding of the relationships between homeless services and mortality.

Homelessness System Implications and Next Steps

This 2021 report is a data report for review and analysis, which will be useful in informing policy and practice across the homelessness system of care, including health care, government, and community partners.

Next steps for our County and partners include:

- **Regular homeless mortality reporting.** HCSA will regularly update and improve this report, ideally on an annual basis.
- Establishment of the **Alameda County Homeless Mortality Review Team.** In 2023, HCSA's homelessness programs will bring together leads from varied County and city departments and community organizations to meet regularly to review and analyze homeless mortality data, trends, cases, and best practices, and provide policy and practical recommendations and feedback to homeless health care and services providers. To learn more about this or apply to be part of the AC HMRT, go to www.achch.org/alameda-county-homeless-mortality.html
- **Continuous data quality improvement**
 - HCSA's team will continue to partner with the Alameda County Coroner's Office to access and integrate more robust data, especially regarding overdose data and associated toxicology reporting.
 - HCSA's team will continue to leverage service utilization data from touchpoints across the homelessness system of care, including housing, health clinics, hospitals, emergency room, behavioral health, social services, outreach, and criminal justice.
- **Provider-based mortality review** is the process by which health and services providers review the circumstances of deaths of individuals that they have treated or served, to explore root causes and identify interventions to prevent future deaths. When carried out systematically by providers such as health clinics, outreach providers and homeless shelters, mortality review can improve care and future health outcomes among people experiencing homelessness. A key element of provider mortality review also includes responding to the trauma and effects of mortality upon services

providers themselves. For more information about clinic or site-based mortality review, please go to: <https://nhchc.org/wp-content/uploads/2020/12/Section-4-Toolkit.pdf>

If you are interested in providing input or guidance to the Alameda County Health Care for the Homeless program around the issues of homeless mortality, please reach out to achch@acgov.org.

The Alameda County Health Care for the Homeless program also maintains a webpage with homeless mortality information and a form for submitting the names and some data around people known by community providers to have died in homelessness. These community reports help us carry out a more accurate and effective homeless mortality reporting.

<https://www.achch.org/alameda-county-homeless-mortality.html>

Appendix

Other California/Regional Homeless Mortality Reports

Location	Type of Report	Homeless Deaths	Notes/Links:
Los Angeles	Analysis of medical examiner reported deaths	1,988 deaths in 2022; 56% increase	Link ; LA County BOS-created Countywide Advisory Group to make recommendations.
Santa Clara	Medical examiner-produced report	1,394 since 2011; 254 in 2021	Link ; Mortality map project
San Francisco	Medical examiner-reported deaths	331 deaths between 3/2020 and 3/2021	Deaths only for literally homeless who died in streets or shelters. 2022 review link .
Sacramento	Coroner's office report	191 deaths 2022; 1,506 since 2002	Link ; produced by Sacramento Coalition to End Homelessness with help from coroner's office.
Santa Barbara	Coroner's death reports	160 deaths in 2019-2020	Link ; carried out by SB County Homeless Deaths Review Team led by PHD/HCH.

Please see <https://nhchc.org/homeless-mortality/> to access national homeless mortality information, toolkits, resources, and join the national Homeless Mortality Working Group.