

## 2022

# LEADING CAUSES OF DEATH

Fresno County Department of Public Health Epidemiology, Surveillance, and Data Management



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### 2022

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### LEADING CAUSES OF DEATH

### 2022

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### **Technical Notes**

#### Acronyms

- AIAN = American Indian/Alaska Native
- Cal-IVRS = California Integrated Vital Records System
- CCDF = California Comprehensive Death File
- HwPI = Hawaiian/Pacific Islander
- ICD-10 = International Classification of Diseases, Tenth Revision
- YPLL = Years of Potential Life Lost

#### Definitions

#### 1. Leading Causes of Death:

LEADING CAUSES OF DEATH are defined as the underlying cause of death as categorized by ICD-10 groupings, such as Heart Diseases, Malignant Neoplasms, Accidents, etc., that usually account for large numbers of deaths within a specified population group and time period.

#### 2. Calculation:

Counts of cause of death sorted in rank order from high to low.

#### 3. Cause of Death Ranking:

The leading causes of death are grouped into standard categories based on the underlying cause of death code assigned to each death. Currently, there are seven standard lists of cause of death that are used for ranking under the *International Classification of Diseases, Tenth Revision*. These seven lists are used for ranking deaths in specific situations, as follows:

- I. List of 358 Selected Causes of Death Causes that comply with the World Health Organization (WHO) Tabulation Regulations
- **II.** List of 113 Selected Causes of Death Data tabulation and analysis of general mortality and ranking leading causes of death
- **III.** List of 130 Selected Causes of Infant Death Data tabulation and analysis of infant mortality and ranking leading causes of infant death
- IV. List of 39 Selected Causes of Death Tabulations by smaller geographic areas
- V. List of 124 Selected Causes of Fetal Death Data tabulation and analysis of fetal mortality
- VI. List of Motor Vehicle Accident Deaths Tabulations comparable with ICD-10 categories
- VII. List of Injury, Poisoning and Certain Other Consequences of External Causes Crosstabulations of external causes and nature of injury

These lists organize ICD-10 cause of death codes into specific groupings. The lists identify groupings that are "rankable" as a leading cause of death. Categories that include signs and symptoms or that are a residual category, as in the category "Other unspecified infectious and parasitic diseases" are not considered rankable. Deaths due to a more detailed cause of death would not be considered during ranking when included within a broader ranked cause of death category. For example, hypertensive heart disease would not be considered as a possible leading cause of death because it is included within the ranked category "Heart Disease".

For details on these classifications see: http://www.cdc.gov/nchs/data/dvs/im9\_2002.pdf.pdf

#### 4. Death Certificates:

Death certificates made it possible for the reporting of medical conditions that medical certifiers attribute as cause or contributing factors to death. A death record is designed to allow the certifying physician to record multiple causes of death for a decedent and to arrange them so that the causal or etiological relationship of the medical conditions that led to the death are recorded.

To evaluate the reported mortality information, conditions listed by the medical certifier are coded using standard cause of death classifications developed by the World Health Organization. The cause of death coding system currently used in the United States is described in the *International Classification of Diseases, Tenth Revision* (ICD-10).

From the information provided on the death certificate by the medical certifier, an underlying cause of death is selected using accepted international rules for determining the underlying cause of death. The underlying cause of death codes are arranged into groupings in order to develop meaningful, uniform and relevant information on mortality.

Ranking mortality data based purely on the underlying cause of death code assigned would be very difficult to interpret. The need for standardized cause of death categories when determining leading causes of death branches from details to which deaths are classified. With over 8,000 underlying cause of death codes under the current classification system, some agreement on the appropriate grouping of these cause codes is essential to compare leading cause of death between regions and over time.

While useful as an indicator of health status, leading causes of death should be considered a supplement to more traditional death statistics. There are other measures that can be used to gauge the relative importance of specific causes of death. These include age-adjusted death rates, cause-eliminated life tables and cause-associated years of productive life lost. Measures such as these are useful in monitoring health status over time, across geographic area or between population subgroups.

#### 5. Years of Potential Life Lost (YPLL) and Premature Deaths:

Years of potential life lost involves the years lost to all persons who died prior to age 75. Therefore, persons who died younger than age 75 were considered to have died prematurely. For instance, a person who died at age 50 would said to have lost 25 years of expected life while someone who died at age 80 would have lost no additional years of expected life. In this report, years of potential life lost is calculated for all who died before age 75 during the specified year. All years of potential life lost from each cause were added together to attain the total years lost for the specified category. Premature deaths are also defined as those who died prior to reaching age 75.

#### 6. Excess Deaths:

Excess deaths are defined as the difference between the observed numbers of deaths in the specified period and the expected numbers of deaths for that period. For this report, an average of deaths from the five years prior to the specified year was taken as the expected deaths for the specified period. Rate of death was calculated by dividing the number of deaths by the population multiplied by 100,000. A comparison is then made to determine whether the number of deaths in the specified period is higher than expected.

### **Leading Causes of Death**

Determining and monitoring the leading causes of death is considered a primary and important indicator of a geographic area's (country, state, county) overall health status or quality of life. Cause-of-death ranking is a metric used for comparing the relative burden of cause-specific mortality across jurisdictions. For this purpose, rankings are based on the most frequently occurring causes of death eligible to be ranked nationwide and may not denote the causes of death of greatest public health importance within each locality. The data in this report were based on information from death certificates filed in the State of California and the causes of death were defined by the *International Classification of Diseases, Tenth Revision* (ICD-10). Rankings in this report were made in accordance with the number of deaths assigned to rankable causes, consistent with procedures used by the National Center for Health Statistics.

### **Deaths among Fresno County Residents**

In 2022, there were 8,543 deaths among Fresno County residents (Table 1). The death rate was 841.5 deaths per 100,000 population, a decrease of 8.2% from the prior year when the COVID-19 pandemic was in full swing. In 2021, the peak year of the COVID-19 pandemic, there were 9,303 deaths among Fresno County residents, an increase of 589 deaths from 2020's total. The 2021 death rate was 917.8, an increase in rate of 6.2% from the 2020 rate of 863.9.

	2018	2019	2020	2021	2022
Deaths	7,068	6,991	8,714	9,303	8,543
Rate per 100,000	710.8	699.7	863.9	917.8	841.5
Men	3,745	3,742	4,698	5,139	4,582
Women	3,323	3,249	4,016	4,164	3,961
Men Death Rate	755.1	749.6	936.9	1,011.3	896.9
Women Death Rate	666.7	649.9	791.8	823.9	785.4
Mean Age, Men	68.6	68.4	68.3	67.1	68.6
Mean Age, Women	75.1	75.8	75.5	74.3	75.2

### Table 1. Deaths by Year, County of Fresno, 2018-2022

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey, ACS 1-Year Estimates Subject Tables, TableID: S0101, Accessed 11 July 2023

There were 4,582 deaths among men and 3,961 deaths among women in 2022. In 2021, men accounted for 5,139 deaths compared with 4,164 for women. Overall, more men died each year and at a younger age than women. The mean (average) age at death was 69 years for men compared with more than 75 years for women, a difference of about 6 years. Similarly, the overall annual death rate was 897 per 100,000 for men compared with 785 per 100,000 for women (Table 1). The higher number of deaths among both men and women in 2021 were likely due to COVID-19. Likewise, the mean age at death for either sex in 2021 were lower, suggesting that people died younger.

Among the predominant race/ethnicity groups in Fresno County (Table 2a), the lowest annual death rates were among Hispanic (494.3 per 100,000 population), followed by Asian (654.5 deaths per 100,000

population). The highest death rates were White (1,687.2 per 100,000 population) and Black (1,262.0 per 100,000 population). Except for White, rates among the predominate race/ethnicity groups decreased from 2021 but remained above pre-pandemic levels. Rates among non-predominant races/ethnicities such as American Indian/Alaska Native (AIAN), Hawaiian/Pacific Islander (HwPI), and other may not be stable due to low counts, resulting in extremely high, variable rates. The reduction in death rates among Black, Asian, and Hispanic in 2022 from 2021 were likely due to the reduction in deaths from COVID-19 among the respective groups. The constant trend in White deaths could mean that the pandemic had less of a controlling effect on White deaths compared to other race/ethnic groups.

		2018		2019		2020		2021		2022
	2018	Rate	2019	Rate	2020	Rate	2021	Rate	2022	Rate
White	3,903	1,357.6	3,800	1,332.1	4,338	1,595.5	4,401	1,648.6	4,431	1,687.2
Black	411	976.1	466	1,068.8	539	1,216.8	595	1,433.1	543	1,262.0
AIAN	62	1,098.7	47	751.9	87	1,432.3	84	2,305.8	70	1,521.1
Asian	534	528.9	491	485.4	666	607.3	780	727.3	709	654.5
HwPI	65	5,499.2	66	3,644.4	84	6,812.7	17	988.9	16	1,174.7
Other	6	23.7	9	37.8	12	34.5	11	29.1	15	40.5
Hispanic	2,087	392.5	2,112	393.2	2,988	552.6	3,415	615.7	2,759	494.3
Total	7,068	710.8	6,991	699.7	8,714	863.9	9,303	917.8	8,543	841.5
		1 8 1	4.0	0.000						

#### Table 2a. Deaths by Year by Race/Ethnicity, County of Fresno, 2018-2022

NOTE: Crude Rates are per 100,000 persons

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey, ACS 1-Year I

Subject Tables, TableID: S0101, Accessed 11 July 2023

### Table 2b. Age-Adjusted Death Rate by Year by Race/Ethnicity, County of Fresno,2001-2021



Data and Figure Source: State of California, California Department of Public Health, California Community Burden of Disease Engine, Accessed at https://skylab.cdph.ca.gov/communityBurden/ on 14 December 2023

Whereas Table 2a shows the crude death rates among the various race/ethnicity groups, Table 2b illustrates the age-adjusted death rate of each group. When adjusted for age, Black seemed to die at a higher rate than other groups.

In 2022, a total of 8,543 people died in the county, which translates to an \*average of more than 23 deaths per day, with heart disease as the top cause at nearly 5 per day, 4 from cancer, 2 from Alzheimer, and the rest being other causes (Table 3). Comparatively, in 2021, there were 9,303 deaths in the county, translating to an average of 25 deaths per day, including 5 from heart disease, 4 COVID-19, 4 from cancer and 1 from Alzheimer. Although COVID-19 is not rankable by international standard when tabulating leading causes of death, COVID-19 was the fifth leading cause of death in 2022 and the second leading cause of death for Fresno County in 2021.

<sup>\*</sup> These numbers represent a simple average and were calculated by dividing the total number of deaths from within each category by the number of days in the corresponding year. During 2022, there were 365 days. In actuality, the total number of deaths from each of these top conditions varied each day and is not literally represented by the average daily value.

Cause	2022	<sup>1</sup> Rank	Cause 2	2021	<sup>1</sup> Rank
All Causes	8,543		All Causes 9	9,303	
Heart Disease	1,821	1	Heart Disease 1	1,752	1
Cancer	1,354	2	COVID-19 <sup>2</sup> 1	1,399	2
Alzheimer	630	3	Cancer 1	1,337	3
Cerebrovascular	463	4	Alzheimer	525	4
COVID-19 <sup>2</sup>	452	5	Cerebrovascular	421	5
Diabetes	330	6	Diabetes	313	6
Chronic Lower Respiratory	324	7	Chronic Lower Respiratory	290	7
Bronchitis	279	8	Bronchitis	254	8
Drug Overdose <sup>2</sup>	216	9	Hypertension	229	9
Hypertension	197	10	Cirrhosis	222	10
Cirrhosis	196	11	Drug Overdose <sup>2</sup>	196	11
Unintentional Accidents	148	12	Nephritis	147	12
Nephritis	146	13	Unintentional Accidents	141	13
Influenza	125	14	Septicemia	138	14
Septicemia	123	15	Homicide	111	15
Opioid** <sup>2</sup>	121	16	Influenza	108	16
Parkinson	114	17	Parkinson	102	17
Suicide <sup>2</sup>	104	18	Opioid** <sup>2</sup>	94	18
Fentanyl** <sup>2</sup>	101	19	Suicide <sup>2</sup>	91	19
Homicide	92	20	Pneumonitis Solid	82	20
Pneumonitis Solid	86	21	Fentanyl** <sup>2</sup>	71	21

#### Table 3. Leading Causes of Death among Residents, County of Fresno

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest. Deaths in this report were analyzed using information found on death certificate data from Cal-IVRS. The death counts only included permanent residents of the county, regardless of where the death occurred, and excluded anyone who died in the county but was not a county resident. Prior to June/July 2022, COVID-19 associated deaths reported on COVID-19 specific reports and dashboards may differ from how the deaths were originally classified on the death certificate. Historical FCDPH dashboard counts 1) may not be based on permanent residence on death certificate, but on residence at time of infection and 2) may be classified by death certificate data in combination with additional clinical reviews by the local health department. This methodology does not allow for comparison among other causes and thus cannot be used in this report.

\*\*Opioid and Fentanyl deaths are not mutually exclusive of Drug Overdose, but they are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

Twenty-one percent, more than one out of every five deaths in 2022, were caused by heart disease, the leading cause of death; and the second leading cause of death – cancer – accounted for about 16% of all deaths (Table 3). By comparison, in 2021, 19% of all deaths were due to heart disease, followed by

COVID-19 at 15%, and cancer at more than 14%. There appears to be a 68% decrease in COVID-19 death in 2022 compared with 2021.

Alzheimer, which in year 2021 was pushed to fourth place due to Covid-19, retook its usual third spot among the leading causes of death.

The top ten leading causes of death accounted for more than 71% of all deaths in 2022 and 72% of all deaths in 2021.



#### Figure 1. A Comparison of the Leading Causes of Death, County of Fresno

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023

Figure 1 above illustrates the overall mortality and the leading causes of death in years 2021 and 2022. Although the total number of deaths from all causes were lower in 2022 compared to 2021, deaths due to some of the specific leading causes were higher in 2022. After the effective management of COVID-19 through vaccines and other pharmaceutical interventions in 2022, deaths resulting from the virus were reduced and mortality from the usual leading causes resumed their typical patterns.

### Table 4. Leading Causes of Death among Residents by Sex, County of Fresno,2022

Men	2022	<sup>1</sup> Rank
All Causes	4,582	
Heart Disease	1,023	1
Cancer	731	2
COVID-19 <sup>2</sup>	237	3
Cerebrovascular	221	4
Alzheimer	213	5
Diabetes	186	6
Chronic Lower Respiratory	171	7
Drug Overdose <sup>2</sup>	164	8
Bronchitis	162	9
Cirrhosis	120	10
Unintentional Accidents	106	11
Opioid** <sup>2</sup>	94	12
Hypertension	90	13
Fentanyl** <sup>2</sup>	82	14
Nephritis	81	15
Suicide <sup>2</sup>	80	16
Parkinson	79	17
Homicide	71	18
Septicemia	61	19
Influenza	52	20
Pneumonitis Solid	46	21
Perinatal	24	22
Pelvic Inflamation	21	23

Women	2022	<sup>1</sup> Rank
All Causes	3,961	
Heart Disease	798	1
Cancer	623	2
Alzheimer	417	3
Cerebrovascular	242	4
COVID-19 <sup>2</sup>	215	5
Chronic Lower Respiratory	153	6
Diabetes	144	7
Bronchitis	117	8
Hypertension	107	9
Cirrhosis	76	10
Influenza	73	11
Nephritis	65	12
Septicemia	62	13
Drug Overdose <sup>2</sup>	52	14
Unintentional Accidents	42	15
Pneumonitis Solid	40	16
Parkinson	35	17
Opioid** <sup>2</sup>	27	18
Nutritional Deficiencies	25	19
Suicide <sup>2</sup>	24	20
Homicide	21	21
Peptic Ulcer	19	22
Pelvic Inflamation	19	22

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

\*\* Opioid and fentanyl deaths are not mutually exclusive of Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

In 2022, the top two leading causes of death among both men and women were heart disease and cancer, respectively (Table 4). While COVID-19 was the third leading cause of death among men, among women, COVID-19 was the fifth leading cause. Alzheimer, which normally was the third leading cause of death among women prior to the pandemic, returned to its usual lineup in 2022.

Alzheimer accounted for nearly 5% of male deaths, making it the fifth leading cause of death among men. A disease that normally affects persons of advanced age, Alzheimer was responsible for more than 10% of female deaths. The observation that a higher number of women succumbed to Alzheimer's disease might partly account for the lower average age at death for men (Table 1). This implies that men

experienced mortality at a younger age from other causes, leaving fewer men to reach the age when Alzheimer's disease can cause death.

Cerebrovascular disease was the fourth leading cause of death among both men and women. Comparatively, a higher percentage of women (6%) died from the cause than men (5%). The reverse is true among those who died from heart disease, the leading cause of death, with 22.3% of male deaths and 20.1% of female deaths resulted from heart disease.

Drug overdose killed over 100 men more than women in 2022. While more women appeared to die of conditions related to advanced age, more men appeared to die of preventable causes and chronic conditions, such as unintentional accidents, diabetes, and cirrhosis.

Cause	White	<sup>1</sup> Rank	Black	<sup>1</sup> Rank	AIAN	<sup>1</sup> Rank	Asian	<sup>1</sup> Rank	HwPI	<sup>1</sup> Rank	Other	<sup>1</sup> Rank	Hispanic	<sup>1</sup> Rank	Total
All Causes	4,431		543		70		709		16		15		2,759		8,543
Other	470		63		13		102		<10		<10		420		1,077
Heart Disease	1,073	1	134	1	<10	1	144	1	<10	1	<10	3	459	1	1,821
Cancer	751	2	88	2	<10	5	94	2	<10	3	<10	8	415	2	1,354
Alzheimer	430	3	20	8	<10	12	40	5	<10	7	<10	8	138	6	630
Cerebrovascular	216	5	30	3	<10	8	65	3	<10	4	<10	8	148	4	463
COVID-19 <sup>2</sup>	203	6	15	9	<10	1	47	4	<10	4	<10	2	178	3	452
Diabetes	113	8	23	6	<10	3	40	5	<10	4	<10	3	147	5	330
Chronic Lower Respiratory	219	4	27	5	<10	8	15	9	<10	7	<10	8	60	12	324
Bronchitis	168	7	15	9	<10	12	23	7	<10	7	<10	8	71	10	279
Drug Overdose <sup>2</sup>	87	10	28	4	<10	5	13	11	<10	7	<10	3	83	8	216
Hypertension	104	9	12	13	<10	8	20	8	<10	2	<10	3	54	14	197
Cirrhosis	65	14	<10	18	<10	5	13	11	<10	7	<10	8	111	7	196
Unintentional Accidents	42	20	<10	14	<10	3	14	10	<10	7	<10	8	78	9	148
Nephritis	58	15	<10	14	<10	16	12	15	<10	7	<10	1	63	11	146
Influenza	66	13	<10	18	<10	16	<10	17	<10	7	<10	8	47	16	125
Septicemia	67	12	<10	17	<10	12	13	11	<10	7	<10	8	36	18	123
Opioid** <sup>2</sup>	50	17	15	9	<10	16	<10	20	<10	7	<10	3	50	15	121
Parkinson	74	11	<10	20	<10	19	<10	17	<10	7	<10	8	31	20	114
Suicide <sup>2</sup>	51	16	<10	16	<10	8	<10	16	<10	7	<10	8	33	19	104
Fentanyl** <sup>2</sup>	43	19	13	12	<10	19	<10	20	<10	7	<10	8	41	17	101
Homicide	<10	22	21	7	<10	19	<10	22	<10	7	<10	8	59	13	92
Pneumonitis Solid	45	18	<10	22	<10	12	13	11	<10	7	<10	8	26	21	86
Nutritional Deficiencies	27	21	<10	20	<10	19	<10	19	<10	7	<10	8	11	22	44

Table 5. Leading Causes of Death by Race/Ethnicity, County of Fresno, 2022

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

\*\*Opioid and fentanyl are included in Drug Overdose, but is shown here due to public interest

<10 data suppressed to preserve privacy

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

During 2022, heart disease and cancer, respectively, were the top two leading cause of death among the predominant race/ethnicity groups. Heart disease caused 24.2% of deaths among White; 24.7% among Black; 20.3% among Asian; and 16.6% among Hispanic. Cancer, the second leading cause, resulted in 16.9% of White deaths; 16.2% Black; 13.3% Asian; and 15.0% Hispanic.

COVID-19, the number one cause of death among Asian and Hispanic groups in 2021, dropped to lower rankings in 2022. Again, potentially thanks to better preventative measures against the virus and treatments. While the percentage of death attributed to COVID-19 were much higher among the predominant race/ethnicity groups in 2021, in 2022, COVID-19 accounted for 4.6% of White deaths; 2.8% of Black; 6.6% of Asian; and 6.5% of Hispanic.

After the second leading cause of death, the third leading cause onward among the different race/ethnicity groups appeared varied, indicating that factors causing death were different among the various groups. For White, the third leading cause of death was Alzheimer; for Black, cerebrovascular disease; for Hispanic, COVID-19; and for Asian, cerebrovascular disease (Table 5).

Cancer and Alzheimer normally affect older people and the data seem to agree that White, whose percentages of deaths were higher for those causes, died on average at an older age (77), compared with Black (age 63), Asian (age 72), and Hispanic (age 66).

Table 6.	Leading Causes of Death among Men by Race/Ethnicity, County of
Fresno,	022

Cause	White	<sup>1</sup> Rank	Black	<sup>1</sup> Rank	AIAN	<sup>1</sup> Rank	Asian	<sup>1</sup> Rank	HwPI	<sup>1</sup> Rank	Other	<sup>1</sup> Rank	Hispanic	<sup>1</sup> Rank	Total
All Ranked Causes	2,252		318		33		375		<10	-	12		1,586		4,582
Other Causes	205		23		<10		52		<10		<10		223		512
Heart Disease	591	1	79	1	<10	4	83	1	<10	1	<10	7	265	1	1,023
Cancer	406	2	56	2	<10	4	51	2	<10	5	<10	7	215	2	731
COVID-19 <sup>2</sup>	97	6	<10	10	<10	6	28	4	<10	2	<10	1	99	3	237
Cerebrovascular	95	7	16	6	<10	13	30	3	<10	2	<10	7	79	5	221
Alzheimer	148	3	<10	14	<10	13	<10	10	<10	5	<10	7	51	9	213
Diabetes	63	8	11	9	<10	1	21	5	<10	5	<10	3	86	4	186
Chronic Lower Respiratory	111	4	17	5	<10	13	<10	10	<10	5	<10	7	34	15	171
Drug Overdose <sup>2</sup>	59	9	22	3	<10	13	10	7	<10	5	<10	3	72	6	164
Bronchitis	103	5	<10	10	<10	6	13	6	<10	5	<10	7	36	13	162
Cirrhosis	31	14	<10	17	<10	1	10	7	<10	5	<10	7	72	6	120
Unintentional Accidents	30	16	<10	13	<10	1	10	7	<10	5	<10	7	56	8	106
Opioid** <sup>2</sup>	33	13	12	7	<10	13	<10	18	<10	5	<10	3	45	11	94
Hypertension	42	11	<10	16	<10	6	<10	10	<10	2	<10	3	31	16	90
Fentanyl** <sup>2</sup>	31	14	12	7	<10	13	<10	18	<10	5	<10	7	36	13	82
Nephritis	29	17	<10	17	<10	10	<10	13	<10	5	<10	1	38	12	81
Suicide <sup>2</sup>	36	12	<10	12	<10	10	<10	15	<10	5	<10	7	30	17	80
Parkinson	54	10	<10	20	<10	13	<10	16	<10	5	<10	7	19	19	79
Homicide	<10	21	18	4	<10	13	<10	21	<10	5	<10	7	46	10	71
Septicemia	28	18	<10	14	<10	6	<10	14	<10	5	<10	7	19	19	61
Influenza	28	18	<10	19	<10	13	<10	20	<10	5	<10	7	20	18	52
Pneumonitis Solid	26	20	<10	21	<10	10	<10	16	<10	5	<10	7	14	21	46

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

\*\*Opioid and fentanyl are included in Drug Overdose, but is shown here due to public interest

<10 data suppressed to preserve privacy

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

In year 2022, among men by race/ethnicity (Table 6), heart disease ranked as the top cause of death, followed by cancer as the number two cause.

While COVID-19 was the third leading cause of death among men in 2022, it ranked differently among the different race/ethnicity groups. For White men, COVID-19 was the sixth leading cause of death; for Black, the tenth; for Asian, the fourth; and for Hispanic, it was the third. Alzheimer resorted to its usual pre-pandemic third place among White men. For Black men, drug overdose was the third leading cause; and for Asian, cerebrovascular (Table 6).

Likewise, the fourth leading cause of death among the various group are uniquely dissimilar, with chronic lower respiratory disease for White; homicide for Black; diabetes for Hispanic; and COVID-19 for Asian.

## Table 7. Leading Causes of Death among Women by Race/Ethnicity, County ofFresno, 2022

Cause	White	<sup>1</sup> Rank	Black	<sup>1</sup> Rank	AIAN	<sup>1</sup> Rank	Asian	<sup>1</sup> Rank	HwPI	<sup>1</sup> Rank	Other	<sup>1</sup> Rank	Hispanic	<sup>1</sup> Rank	Total
All Causes	2,179		225		37		334		10		<10		1,173		3,961
Other Causes	268		38		<10		53		<10		<10		193		565
Heart Disease	482	1	55	1	<10	3	61	1	<10	1	<10	1	194	2	798
Cancer	345	2	32	2	<10	8	43	2	<10	1	<10	3	200	1	623
Alzheimer	282	3	15	3	<10	6	31	4	<10	5	<10	3	87	3	417
Cerebrovascular	121	4	14	4	<10	3	35	3	<10	5	<10	3	69	5	242
COVID-19 <sup>2</sup>	106	6	<10	8	<10	1	19	5	<10	5	<10	3	79	4	215
Chronic Lower Respiratory	108	5	10	6	<10	3	<10	10	<10	5	<10	3	26	10	153
Diabetes	50	9	12	5	<10	8	19	5	<10	4	<10	3	61	6	144
Bronchitis	65	7	<10	8	<10	15	10	8	<10	5	<10	3	35	8	117
Hypertension	62	8	<10	7	<10	8	11	7	<10	1	<10	3	23	12	107
Cirrhosis	34	12	<10	19	<10	15	<10	15	<10	5	<10	3	39	7	76
Influenza	38	11	<10	16	<10	8	<10	10	<10	5	<10	3	27	9	73
Nephritis	29	13	<10	10	<10	15	<10	13	<10	5	<10	1	25	11	65
Septicemia	39	10	<10	19	<10	15	<10	10	<10	5	<10	3	17	14	62
Drug Overdose <sup>2</sup>	28	14	<10	10	<10	1	<10	15	<10	5	<10	3	11	18	52
Unintentional Accidents	12	20	<10	12	<10	8	<10	13	<10	5	<10	3	22	13	42
Pneumonitis Solid	19	16	<10	19	<10	8	<10	9	<10	5	<10	3	12	16	40
Parkinson	20	15	<10	19	<10	15	<10	15	<10	5	<10	3	12	16	35
Opioid** <sup>2</sup>	17	17	<10	12	<10	8	<10	21	<10	5	<10	3	<10	22	27
Nutritional Deficiencies	17	17	<10	19	<10	15	<10	19	<10	5	<10	3	<10	20	25
Suicide <sup>2</sup>	15	19	<10	16	<10	6	<10	15	<10	5	<10	3	<10	23	24
Homicide	<10	23	<10	12	<10	15	<10	19	<10	5	<10	3	13	15	21
Peptic Ulcer	<10	22	<10	12	<10	15	<10	23	<10	5	<10	3	<10	19	19
Pelvic Inflamation	11	21	<10	16	<10	15	<10	21	<10	5	<10	3	<10	20	19

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

\*\*Opioid and fentanyl are included in Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

Among women (Table 7), heart disease ranked as the top cause for White, Black, and Asian, while cancer outranked other diseases as the top leading cause of death for Hispanic. Cancer was the second leading cause of death among White, Black, and Asian women while heart disease became the second leading cause among Hispanic women.

Alzheimer, the third leading cause of death among women in 2022, was the third leading cause of death among White, Black, and Hispanic women. Among Asian women, Alzheimer was fourth, overtaken by cerebrovascular as the third leading cause (Table 7).

### **Premature Deaths**

Any death occurring prior to age 75 results in years lost because such individuals are considered to have died prematurely. Table 8 compares the number of deaths with the number of premature deaths from 2017 through 2022. Each year, the number of deaths as well as the number of premature deaths increased (except from year 2021 to 2022 due to the dynamics of the COVID-19 pandemic). Since the population of Fresno County increased with time, a slight increase in the number of deaths should not be alarming. However, the percent of premature deaths would be expected to remain stable and/or even drop given the advancement in medical technology and care. From 2017 to 2022, the rate of premature death increased nearly 3 percent. Within the last decade, the rate of premature death within Fresno County did not significantly drop, suggesting that there is a need for better health access within Fresno County.

### Table 8. Number of Deaths and Premature Deaths among Residents by Year,County of Fresno

	2017	2018	2019	2020	2021	2022
All Deaths	7,015	7,068	6,991	8,714	9,303	8,543
Premature	3,347	3,438	3,369	4,288	4,848	4,191
% Premature Death	47.7	48.6	48.2	49.2	52.1	49.1

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey

### Years of Potential Life Lost

### Table 9. Number of Premature Deaths and Years of Potential Life Lost amongResidents by Race/Ethnicity, County of Fresno

Number of Premature Deaths										
	2017	7 2018 2019 2020 2021 2022								
White	1,530	1,596	1,428	1,675	1,748	1,700	23,413			
Black	297	275	319	355	408	387	7,881			
AIAN	28	43	35	56	55	49	1,030			
Asian	237	267	259	328	407	339	6,384			
HwPI	30	30	32	40	12	12	246			
Other	3	5	5	6	7	13	350			
Hispanic	1,222	1,222	1,291	1,828	2,211	1,691	37,162			
Total	3,347	3,438	3,369	4,288	4,848	4,191	76,466			

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey

In 2022, there were 4,191 people who died prematurely, resulting in 76,466 years of potential life lost (YPLL) in the County (Table 9). In 2021, the YPLL was 91,508 among 4,848 individuals. The increase in YPLL in 2021 was due partly to people dying of COVID-19 where there were 869 persons whose cause of premature death was due to the disease, resulting in YPLL of 14,265. In 2022, the YPLL attributed to COVID-19 was 3,256 from 229 deaths (Table 13).

### Table 10. Number of Premature Deaths and Years of Potential Life Lost amongResidents by Sex, County of Fresno

			Numberof	Dromotur	Deaths		2022			
	Number of Premature Deaths									
_	2017	2018	2019	2020	2021	2022	<75			
Women	1,306	1,352	1,251	1,599	1,779	1,616	27,485			
Men	2,041	2,086	2,118	2,689	3,069	2,575	48,981			
Unknown	0	0	0	0	0	0	0			
Total	3,347	3,438	3,369	4,288	4,848	4,191	76,466			

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey

Among those who died prematurely in 2022, more than 61% were men (2,575) and 39% were women (1,616), with YPLL among men at 48,981 compared to women with YPLL at 27,485 (Table 10).

### Table 11. Years of Potential Life Lost among Residents by Sex, County ofFresno, 2022

	YPLL Men	YPLL Women	YPLL Total
White	14,148	9,265	23,413
Black	5,150	2,731	7,881
AIAN	546	484	1,030
Asian	4,150	2,234	6,384
HwPI	134	112	246
Other	307	43	350
Hispanic	24,546	12,616	37,162
Total	48,981	27,485	76,466

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey

Table 11 above compares the YPLL among men and women as well as among the race/ethnicity groups. It is important to note that the higher YPLL in each category do not indicate that persons within the category lost more potential life. This is because the aggregate YPLL may come from a higher count of

deaths within the category.

	Average	Average	Average	
	YPLL	YPLL	YPLL	Median
	Men	Women	Total	Age
White	14.4	12.9	13.8	65
Black	21.1	19.1	20.4	60
AIAN	19.5	23.0	21.0	56
Asian	19.4	17.9	18.8	61
HwPI	22.3	18.7	20.5	50
Other	27.9	21.5	26.9	58
Hispanic	22.6	20.9	22.0	58
Total	19.0	17.0	18.2	62

## Table 12. Average Years of Potential Life Lost among Residents by Sex byRace/Ethnicity, County of Fresno, 2022

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey

Table 12 displays the average YPLL within the group and within each gender. This is an attempt to show how many years an average person within each category lost from dying prematurely. The median age is also indicated to mark the age at which half of those within each race/ethnicity died. The data within the table illustrates that, on average, women had the least YPLL compared to men and that White had the least YPLL among the predominant racial/ethnic groups, suggesting that White died at an older age than other groups, with Hispanic dying earliest among county residents.

## Table 13. Leading Causes of Premature Death and Years of Potential Life Lostamong Residents, County of Fresno, 2022

	Number			
	of			
	Premature		YPLL <75	Median
Cause	Deaths	<sup>1</sup> Rank	(N=4,191)	Age
All Causes	4,191		76,466	62
Other	547		15,674	
Cancer	789	1	10,564	64
Heart Disease	695	2	7,559	65
COVID-19 <sup>2</sup>	229	3	3,256	63
Drug Overdose <sup>2</sup>	213	4	3,151	44
Cerebrovascular	208	5	2,917	64
Diabetes	204	6	2,541	64
Cirrhosis	157	7	2,794	60
Unintentional Accidents	138	8	4,469	43
Opioid** <sup>2</sup>	121	9	3,151	40
Chronic Lower Respiratory	107	10	1,076	68
Bronchitis	105	11	1,111	67
Fentanyl**2	101	12	3,151	38
Suicide <sup>2</sup>	94	13	2,846	38
Homicide	90	14	3,744	31
Nephritis	80	15	777	63
Hypertension	77	16	903	64
Septicemia	63	17	921	61
Influenza	56	18	866	63
Alzheimer	43	19	227	71
Perinatal	38	20	2,850	0
<b>Congenital Malformation</b>	36	21	1,918	0

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

\*\*Opioid and fentanyl are included in Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

Among those who died prematurely in 2022, cancer was the leading cause of death resulting in 789 premature deaths (19%) and a YPLL of 10,564. A high YPLL indicates that many people died prior to the age of 75 (Table 13).

Heart disease, the second leading cause of premature death, killed 695 people (17%) prematurely, with a YPLL of 7,559. COVID-19, the third leading cause of premature deaths, killed 229 people (5%), resulting in a YPLL of 3,256.

The median age column tracks the age when a half of the people died from the attributed cause. From looking at the column, those who died from homicide (median age 31), suicide (median age 38) and fentanyl (median age 38) were fairly young. Also young were people who died of opioid (age 40), unintentional accidents (age 43), and drug overdose (age 44).

Men	2022	<sup>1</sup> Rank	YPLL <75 (N=2,575)	Women	2022	<sup>1</sup> Rank	YPLL <75 (N=1,161)
All Causes	2,575		48,981	All Causes	1,616		27,485
Other	271		4,460	Other	242		4,595
Heart Disease	469	1	6,040	Cancer	369	1	4,963
Cancer	420	2	5,601	Heart Disease	226	2	2,657
Drug Overdose <sup>2</sup>	163	3	4,916	COVID-19 <sup>2</sup>	100	3	1,446
COVID-19 <sup>2</sup>	129	4	1,810	Cerebrovascular	85	4	1,134
Diabetes	125	5	1,494	Diabetes	79	5	1,047
Cerebrovascular	123	6	1,783	Cirrhosis	55	6	925
Unintentional Accidents	102	7	3,188	Drug Overdose <sup>2</sup>	50	7	1,419
Cirrhosis	102	7	1,869	Chronic Lower Respiratory	47	8	499
Opioid** <sup>2</sup>	94	9	3,099	Bronchitis	42	9	476
Fentanyl**2	82	10	2,865	Unintentional Accidents	36	10	1,281
Suicide <sup>2</sup>	70	11	2,317	Hypertension	35	11	442
Homicide	70	11	2,854	Septicemia	33	12	433
Bronchitis	63	13	635	Nephritis	32	13	397
Chronic Lower Respiratory	60	14	577	Influenza	30	14	441
Nephritis	48	15	694	Opioid** <sup>2</sup>	27	15	906
Hypertension	42	16	461	Suicide <sup>2</sup>	24	16	709
Septicemia	30	17	488	Alzheimer	23	17	119
Influenza	26	18	425	Homicide	20	18	890
Perinatal	24	19	1,800	Fentanyl** <sup>2</sup>	19	19	673
Pneumonitis Solid	23	20	388	<b>Congenital Malformation</b>	17	20	809
Alzheimer	20	21	108	Perinatal	14	21	1,050
<b>Congenital Malformation</b>	19	22	1,109	Peptic Ulcer	11	22	174

## Table 14. Leading Causes of Premature Death and Years of Potential Life Lostamong Residents by Sex, County of Fresno, 2022

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

\*\*Opioid and fentanyl are included in Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023

Table 14 shows that heart disease was the leading premature killer of men (YPLL of 6,040) while cancer was the leading premature killer for women (YPLL of 4,963). Cancer and drug overdose, respectively, were the second and third causes that killed men prematurely. Comparatively, the second and third leading causes of premature death for women were heart disease and COVID-19, respectively. The top causes killed men at a higher rate than women. For instance, drug overdose killed over 100 men more than women.

### The following tables show various aspects of leading causes that resulted in premature deaths among race/ethnicity and sex.

### Table 15. Leading Causes of Premature Death among Residents byRace/Ethnicity, County of Fresno, 2022

Cause	White	<sup>1</sup> Rank	Black	<sup>1</sup> Rank	AIAN	<sup>1</sup> Rank	Asian	<sup>1</sup> Rank	HwPI	<sup>1</sup> Rank	Other	<sup>1</sup> Rank	Hispanic	<sup>1</sup> Rank	Total
All Causes	1,700		387		49		339		12		13		1,691		4,191
Other Causes	181		36		11		50		<10		<10		262		547
Cancer	385	1	64	2	<10	2	54	1	<10	2	<10	8	280	1	789
Heart Disease	351	2	92	1	<10	8	48	2	<10	1	<10	8	199	2	695
COVID-19 <sup>2</sup>	74	4	11	10	<10	2	25	4	<10	4	<10	2	113	3	229
Drug Overdose <sup>2</sup>	85	3	28	3	<10	5	13	6	<10	6	<10	2	83	6	213
Cerebrovascular	68	5	17	6	<10	8	39	3	<10	4	<10	8	81	7	208
Diabetes	63	7	19	5	<10	5	20	5	<10	6	<10	2	98	4	204
Cirrhosis	48	10	<10	17	<10	2	<10	8	<10	6	<10	8	93	5	157
Unintentional Accidents	36	13	<10	12	<10	1	13	6	<10	6	<10	8	75	8	138
Opioid**2	50	9	15	8	<10	12	<10	15	<10	6	<10	2	50	10	121
Chronic Lower Respiratory	64	6	17	6	<10	12	<10	15	<10	6	<10	8	21	19	107
Bronchitis	58	8	11	10	<10	12	<10	8	<10	6	<10	8	26	16	105
Fentanyl** <sup>2</sup>	43	11	13	9	<10	16	<10	15	<10	6	<10	8	41	12	101
Suicide <sup>2</sup>	43	11	<10	13	<10	5	<10	10	<10	6	<10	8	33	13	94
Homicide	<10	20	20	4	<10	16	<10	18	<10	6	<10	8	59	9	90
Nephritis	20	18	<10	14	<10	12	<10	10	<10	6	<10	1	42	11	80
Hypertension	28	14	<10	14	<10	8	<10	13	<10	2	<10	2	32	14	77
Septicemia	27	15	<10	17	<10	8	<10	10	<10	6	<10	8	23	18	63
Influenza	27	15	<10	20	<10	16	<10	18	<10	6	<10	8	25	17	56
Alzheimer	27	15	<10	14	<10	16	<10	18	<10	6	<10	8	<10	21	43
Perinatal	<10	21	<10	19	<10	16	<10	14	<10	6	<10	2	27	15	38
Congenital Malformation	11	19	<10	20	<10	16	<10	18	<10	6	<10	8	21	19	36

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

<10 counts are suppressed to preserve privacy

\*\*Opioid and fentanyl are included in Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

## Table 16. Leading Causes of Premature Death among Men by Race/Ethnicity,County of Fresno, 2022

Cause	White	<sup>1</sup> Rank	Black	<sup>1</sup> Rank	AIAN	<sup>1</sup> Rank	Asian	<sup>1</sup> Rank	HwPI	<sup>1</sup> Rank	Other	<sup>1</sup> Rank	Hispanic	<sup>1</sup> Rank	Total
All Causes	984		244		28		214		<10		11		1,088		2,575
Other Causes	107		70		<10		30		<10		<10		147		290
Heart Disease	227	1	62	1	<10	4	39	1	<10	1	<10	8	137	2	469
Cancer	201	2	38	2	<10	3	26	2	<10	5	<10	8	152	1	420
Drug Overdose <sup>2</sup>	58	3	22	3	<10	12	10	6	<10	5	<10	2	72	3	163
COVID-19 <sup>2</sup>	40	4	<10	10	<10	4	14	4	<10	2	<10	2	64	5	129
Diabetes	40	4	<10	8	<10	4	13	5	<10	5	<10	2	60	6	125
Cerebrovascular	40	4	<10	9	<10	12	22	3	<10	2	<10	8	52	8	123
Unintentional Accidents	28	11	<10	12	<10	1	<10	7	<10	5	<10	8	55	7	102
Cirrhosis	22	13	<10	14	<10	1	<10	9	<10	5	<10	8	66	4	102
Opioid** <sup>2</sup>	33	8	12	5	<10	12	<10	14	<10	5	<10	2	45	10	94
Fentanyl** <sup>2</sup>	31	10	12	5	<10	12	<10	14	<10	5	<10	8	36	11	82
Suicide <sup>2</sup>	28	11	<10	12	<10	8	<10	11	<10	5	<10	8	30	12	70
Homicide	<10	20	17	4	<10	12	<10	19	<10	5	<10	8	46	9	70
Bronchitis	33	8	<10	10	<10	8	<10	8	<10	5	<10	8	14	16	63
Chronic Lower Respiratory	36	7	11	7	<10	12	<10	17	<10	5	<10	8	11	19	60
Nephritis	10	18	<10	16	<10	8	<10	10	<10	5	<10	1	27	13	48
Hypertension	15	14	<10	19	<10	8	<10	14	<10	2	<10	2	20	14	42
Septicemia	<10	19	<10	14	<10	4	<10	11	<10	5	<10	8	12	18	30
Influenza	11	17	<10	19	<10	12	<10	19	<10	5	<10	8	13	17	26
Perinatal	<10	21	<10	16	<10	12	<10	19	<10	5	<10	2	18	15	24
Pneumonitis Solid	12	15	<10	21	<10	12	<10	13	<10	5	<10	8	<10	20	23
Alzheimer	12	15	<10	16	<10	12	<10	17	<10	5	<10	8	<10	21	20

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.

<10 counts are suppressed to preserve privacy

\*\*Opioid and fentanyl are included in Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

### Table 17. Leading Causes of Premature Death among women by Race/Ethnicity,County of Fresno, 2022

Cause	White	<sup>1</sup> Rank	Black	<sup>1</sup> Rank	AIAN	<sup>1</sup> Rank	Asian	<sup>1</sup> Rank	HwPI	<sup>1</sup> Rank	Other	<sup>1</sup> Rank	Hispanic	<sup>1</sup> Rank	Total
All Causes	716		143		21		125		<10		<10		603		1,616
Other Causes	82		23		<10		18		<10		<10		121		253
Cancer	184	1	26	2	<10	5	28	1	<10	1	<10	2	128	1	369
Heart Disease	124	2	30	1	<10	11	<10	4	<10	2	<10	2	62	2	226
COVID-19 <sup>2</sup>	34	3	<10	8	<10	2	11	3	<10	4	<10	2	49	3	100
Cerebrovascular	28	4	<10	4	<10	2	17	2	<10	4	<10	2	29	5	85
Diabetes	23	9	10	3	<10	5	<10	5	<10	4	<10	2	38	4	79
Cirrhosis	26	7	<10	18	<10	11	<10	12	<10	4	<10	2	27	6	55
Drug Overdose <sup>2</sup>	27	6	<10	5	<10	1	<10	8	<10	4	<10	2	11	13	50
Chronic Lower Respiratory	28	4	<10	5	<10	5	<10	12	<10	4	<10	2	10	15	47
Bronchitis	25	8	<10	8	<10	11	<10	17	<10	4	<10	2	12	10	42
Unintentional Accidents	<10	18	<10	12	<10	5	<10	6	<10	4	<10	2	20	7	36
Hypertension	13	15	<10	7	<10	5	<10	8	<10	2	<10	2	12	10	35
Septicemia	19	10	<10	18	<10	11	<10	8	<10	4	<10	2	11	13	33
Nephritis	10	17	<10	8	<10	11	<10	12	<10	4	<10	1	15	8	32
Influenza	16	12	<10	18	<10	11	<10	12	<10	4	<10	2	12	10	30
Opioid** <sup>2</sup>	17	11	<10	12	<10	5	<10	17	<10	4	<10	2	<10	18	27
Suicide <sup>2</sup>	15	13	<10	15	<10	2	<10	8	<10	4	<10	2	<10	20	24
Alzheimer	15	13	<10	8	<10	11	<10	17	<10	4	<10	2	<10	20	23
Homicide	<10	20	<10	12	<10	11	<10	12	<10	4	<10	2	13	9	20
Fentanyl** <sup>2</sup>	12	16	<10	15	<10	11	<10	17	<10	4	<10	2	<10	18	19
Congenital Malformation	<10	19	<10	15	<10	11	<10	17	<10	4	<10	2	<10	17	17
Perinatal	<10	21	<10	18	<10	11	<10	6	<10	4	<10	2	<10	16	14

<sup>1</sup>Rank based on number of total deaths.

<sup>2</sup>Not rankable by international standard but shown here due to public interest.
<10 counts are suppressed to preserve privacy</li>
\*\*Opioid and fentanyl are included in Drug Overdose, but are shown here due to public interest

Data Source: State of California, California Department of Public Health, Cal-IVRS

California Comprehensive Death File, Accessed 11 July 2023

### Figure 2. A Comparison of Premature Deaths and Annual Deaths among Residents, County of Fresno, 2022



Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, Accessed 11 July 2023

Figure 2 illustrates the distribution of premature deaths by race/ethnicity. In 2022, a lower percentage of premature deaths is evident among the White population (38.4%) in comparison to other racial/ethnic groups. Among the major race/ethnicity categories, Black has the highest proportion of premature deaths (71.3%), followed by Hispanic (61.3%) and Asian (47.8%). When contrasted with the county as a whole (49.1%), both White and Asian populations had lower proportions of premature deaths than Black and Hispanic populations. This underscores the significant issue of premature mortality within minority groups.

### Figure 3. Years of Potential Life Lost among Residents, County of Fresno, 2022



Figure 3 highlights the years of potential life lost by residents by location within the metropolitan areas of Fresno and Clovis.

#### **Excess Deaths**

For this report, excess death is the difference between the observed number of deaths and the expected numbers of deaths. The observed numbers of deaths were the deaths occurring in year 2022. The expected numbers of deaths were the average of deaths from the preceding five years.

Table 18 displays the numbers of expected deaths and observed numbers of deaths for year 2022.

In 2022, the excess deaths were 725, an increase of 9.3% from the deaths expected. When accounting for the population difference, the rate of death (per 100,000 population) increased was 7.7%.

	Expected 2017-2021			
	Average	Observed	Excess	% Increase
Deaths	7,818	8,543	725	9.3
Rate per 100,000	781.0	841.5	60.5	7.7

#### Table 18. Expected and Observed Deaths, County of Fresno

### Table 19. Rate per 100,000 population of Expected and Observed Deaths byRace/Ethnicity, County of Fresno

	Expected			
	2017-2021	Observed		
_	Average	2022	Excess	% Increase
White	1454.2	1687.2	233.0	16.0
Black	1132.5	1262.0	129.5	11.4
AIAN	1276.0	1521.1	245.1	19.2
Asian	567.9	654.5	86.6	15.3
HwPI	4015.5	1174.7	-2,840.8	-70.7
Other	31.0	40.5	9.5	30.8
Hispanic	470.2	494.3	24.1	5.1
Total	781.0	841.5	60.5	7.7

Data Source: State of California, California Department of Public Health, Cal-IVRS California Comprehensive Death File, 2017-2022, Accessed 11 July 2023 Population obtained from www.data.census.gov, American Community Survey, ACS 1-Year Estimates Subject Tables, TableID: S0101, Accessed 11 July 2023

Table 19 illustrates the rates of death by race/ethnicity in 2022. The rate of excess death among White was 16%; among Black, more than 11%; Asian, more than 15%; and Hispanic, more than 5%. Because the high number of deaths in 2021 from the pandemic was factored into the expected average, the increases observed may actually be higher than calculated. The continual trend in excess death may require health authorities to reevaluate healthcare delivery strategies in the county.

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