October 20, 2022; Updated November 10, 2022

Patterns in Mortality Among Los Angeles County Residents from January 1 – June 30 of 2019, 2020, 2021, and 2022

All tables in this document present information on mortality among Los Angeles County residents for the six-month period of January 1 through June 30 for each of the following years: 2019, 2020, 2021, 2022. Mortality rates are presented as the number of deaths per 100,000 population. Tables 1, 2, and 3 present mortality rates by age group and are therefore not age-adjusted. Tables 4 and 5 present mortality rates that are age-adjusted to the 2000 United States standard population.[1] Note: Data for 2020, 2021, and 2022 are still provisional and therefore subject to change.

All-Cause Mortality by Age Group

Table 1. All-Cause Mortality Rates (Deaths per 100,000) by Age Group, Los Angeles County, January 1 - June 30, 2019 - 2022

	Year			
Age Group (years)	**2019**	**2020**	**2021**	**2022**
0 - 17	15.6	16.0	14.5	15.3
18 - 29	33.4	40.0	52.2	43.2
30 - 49	72.8	89.4	117.7	99.1
50 - 64	273.0	308.1	410.2	305.8
65 - 79	910.5	1,024.9	1,303.6	1,045.1
80 and Older	4,351.9	4,807.3	5,151.0	4,635.3
Total Population	*324.5*	*373.2*	*444.4*	*372.0*

Note: Rates presented are not age-adjusted

- Except for the youngest group (0-to-17-year-olds), all age groups experienced higher mortality rates for deaths from all causes in the first six months of 2022 compared to the first six months of 2019.
    - The percentage increases in rates of deaths from all causes in the first six months of 2022 versus 2019 was highest among 30-to-49-year-olds (36% increase), followed by 18-to-29-year-olds (29% increase).
- For all groups except the youngest, all-cause mortality rates were highest during the first six months of 2021.

Leading Causes of Death by Age Group

- COVID-19 has been a major leading cause of death in Los Angeles County since the pandemic began, having significantly impacted all age groups; it was the top leading cause of death among Los Angeles County residents during the first six months of 2021 and the second leading cause of death during the first six months of 2020 and 2022.
- Unintentional drug overdose was also a leading cause of death during the first six months of all four years for several age groups under 65 years.
    - It emerged as a leading cause of death for the first time in 2020 for 0-to-17-year-olds and in 2021 for 50-to-64-year-olds.
    - Between 2019 and 2021, there was a more than two-fold increase in mortality rates from this cause of death among 18-to-29-year-olds (6.6 to 14.7 per 100,000) and among 30-to-49-year-olds (7.9 to 17.3 per 100,000).
    - In 2022, however, the rate decreased to below 2019 levels for the population under 50 years of age.
- Among 18-to-49-year-olds, homicide rates increased markedly during the first six months of 2020 and 2021 compared to the first six months of 2019.
    - During this period, rates increased by 66% for 18-to-29-year-olds (4.7 to 7.8 per 100,000) and 54% for 30-to-49-year-olds (3.9 to 6.0 per 100,000) during this same period.
    - In 2022, however, the rates appeared to be decreasing towards 2019 levels for both groups.

Table 2. Leading Causes of Death and Mortality Rates (per 100,000) by Age Group, Los Angeles County, January 1 - June 30, 2019 - 2022

0 - 17 Years

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	MVC	20	0.9	Homicide	15	0.7	Drug Overdose**	16	0.8	MVC	23	1.1
2	Homicide	18	0.8	Drug Overdose**	14	0.7	MVC	16	0.8	Homicide	13	0.6
3	Suicide	12	0.6	MVC	14	0.7	Accidental Drowning/Submersion	12	0.6	Brain Cancer*	11	0.5
4	Brain Cancer*	<11	--	Suicide	11	0.5	Homicide	12	0.6	COVID-19	<11	--
5	Leukemia	<11	--	Brain Cancer*	<11	--	Suicide	12	0.6	Suicide	<11	--

18 - 29 Years

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	Drug Overdose**	117	6.6	Drug Overdose**	191	10.9	Drug Overdose**	257	14.7	MVC	133	7.6
2	MVC	96	5.4	Homicide	107	6.1	MVC	145	8.3	Homicide	100	5.7
3	Homicide	84	4.7	MVC	88	5.0	Homicide	136	7.8	Drug Overdose**	92	5.3
4	Suicide	83	4.7	Suicide	68	3.9	Suicide	95	5.4	Suicide	70	4.0
5	Liver Disease***	12	0.7	Pneumonia/Influenza	12	0.7	COVID-19	55	3.2	COVID-19	23	1.3

30 - 49 Years

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	Drug Overdose**	231	7.9	Drug Overdose**	357	12.4	COVID-19	725	25.2	Drug Overdose**	216	7.5
2	Liver Disease***	139	4.8	COVID-19	205	7.1	Drug Overdose**	496	17.3	COVID-19	191	6.7
3	CHD	136	4.7	CHD	167	5.8	Liver Disease***	202	7.0	Liver Disease***	178	6.2
4	Suicide	130	4.5	Liver Disease***	153	5.3	Homicide	173	6.0	MVC	165	5.7
5	Homicide	112	3.9	Homicide	121	4.2	MVC	171	6.0	Homicide	154	5.4

50 - 64 Years

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	CHD	1,045	52.2	CHD	1,069	53.3	COVID-19	2,544	126.9	CHD	894	44.6
2	Diabetes Mellitus	337	16.8	COVID-19	557	27.8	CHD	1,033	51.5	COVID-19	645	32.2
3	Liver Disease***	300	15.0	Diabetes Mellitus	353	17.6	Diabetes Mellitus	414	20.6	Diabetes Mellitus	352	17.6
4	Stroke	239	11.9	Liver Disease***	285	14.2	Liver Disease***	359	17.9	Liver Disease***	337	16.8
5	Lung Cancer	191	9.5	Stroke	236	11.8	Drug Overdose**	293	14.6	Stroke	265	13.2

Table 2. Continued

65 - 79 Years

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	CHD	1,690	166.1	CHD	1,859	174.3	COVID-19	4,124	386.7	CHD	1,787	167.6
2	Lung Cancer	585	57.5	COVID-19	1,006	94.3	CHD	1,825	171.1	COVID-19	1,162	109.0
3	Diabetes Mellitus	580	57.0	Diabetes Mellitus	634	59.5	Diabetes Mellitus	670	62.8	Diabetes Mellitus	694	65.1
4	COPD	512	50.3	Lung Cancer	556	52.1	Stroke	518	48.6	Lung Cancer	546	51.2
5	Stroke	491	48.3	Stroke	517	48.5	Lung Cancer	516	48.4	Stroke	523	49.0

80 Years and Older

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	CHD	2,939	824.8	CHD	2,989	831.9	COVID-19	3,515	978.3	CHD	2,647	736.7
2	Alzheimer's Disease	1,975	554.3	Alzheimer's Disease	2,092	582.2	CHD	2,854	794.3	Alzheimer's Disease	2,113	588.1
3	Stroke	1,115	312.9	COVID-19	1,446	402.4	Alzheimer's Disease	2,055	571.9	COVID-19	1,414	393.5
4	COPD	923	259.0	Stroke	1,144	318.4	Stroke	1,102	306.7	Stroke	1,122	312.3
5	Pneumonia/Influenza	634	177.9	COPD	885	246.3	COPD	698	194.3	COPD	672	187.0

All Ages

	2019			2020			2021			2022		
Rank	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**	**Cause of Death**	**Deaths**	**Rate**
1	CHD	5,816	56.7	CHD	6,086	59.3	COVID-19	10,968	107.8	CHD	5,467	53.7
2	Alzheimer’s Disease	2,282	22.2	COVID-19	3,224	31.4	CHD	5,886	57.8	COVID-19	3,444	33.8
3	Stroke	1,928	18.8	Alzheimer's Disease	2,433	23.7	Alzheimer's Disease	2,392	23.5	Alzheimer's Disease	2,466	24.2
4	COPD	1,591	15.5	Stroke	1,993	19.4	Stroke	1,988	19.5	Stroke	2,001	19.7
5	Diabetes Mellitus	1,551	15.1	Diabetes Mellitus	1,685	16.4	Diabetes Mellitus	1,844	18.1	Diabetes Mellitus	1,754	17.2

*Cancer of meninges, brain, and other parts of the central nervous system

**Unintentional drug overdose

***Liver disease/cirrhosis

Abbreviations: *MVC* motor vehicle crash; *CHD* coronary heart disease; *COPD* chronic obstructive pulmonary disease

Note: To protect the identity of decedents, the exact number of deaths was not provided if there were fewer than eleven deaths in a particular group. Rates presented are not age-adjusted. Rates based on a small number of deaths (<20) may be statistically unreliable and should be interpreted cautiously.

COVID-19 and Non-COVID-19 Mortality by Age Group

Table 3. COVID-19 and Non-COVID-19 Mortality Rates (Deaths per 100,000) by Age Group, Los Angeles County, January 1 - June 30, 2019 - 2022

	COVID-19				Non-COVID-19			
Age Group (years)	**2019**	**2020**	**2021**	**2022**	**2019**	**2020**	**2021**	**2022**
0 - 17	--	0.0	0.2	0.4	15.6	16.0	14.3	14.9
18 - 29	--	0.5	3.1	1.3	33.4	39.5	49.0	41.9
30 - 49	--	7.1	25.2	6.6	72.8	82.3	92.4	92.5
50 - 64	--	27.8	126.9	32.2	273.0	280.3	283.4	273.6
65 - 79	--	94.3	386.7	109.0	910.5	930.6	916.9	936.1
80 and Older	--	401.6	978.3	393.5	4,351.9	4,405.7	4,172.7	4,241.7
Total Population	--	*31.6*	*107.8*	*33.8*	*324.5*	*341.6*	*336.7*	*338.1*

Note: Rates presented are not age-adjusted

- For all age groups except 0-to-17-year-olds, mortality rates from COVID-19 declined between the first six months of 2021 and the first six months of 2022.
- Similar to the pattern observed for all-cause mortality rates, non-COVID-19 mortality rates also remained elevated for all groups except for the youngest and oldest in the first six months of 2022 compared to the first six months of 2019.
    - The percentage increases in non-COVID-19 mortality rates in the first six months of 2022 versus the first six months of 2019 was highest among 18-to-29-year-olds and among 30-to-49-year-olds (increases of 25% and 27%, respectively).

Mortality from All Causes, COVID-19, and Non-COVID-19 by Race and Ethnicity

Table 4. Age-Adjusted All-Cause, COVID-19, and non-COVID-19 Mortality Rates (Deaths per 100,000) by Race and Ethnicity, Los Angeles County, January 1 - June 30, 2019 - 2022

All Causes

Race and Ethnicity	**2019**	**2020**	**2021**	**2022**
White	322.3	343.0	361.3	335.4
African American	429.3	511.0	554.0	514.7
Latino	266.2	315.2	450.6	327.6
Asian	210.1	241.2	278.5	226.5
*Total Population**	*298.4*	*335.7*	*399.4*	*335.7*

COVID-19

Race and Ethnicity	**2019**	**2020**	**2021**	**2022**
White	--	17.3	48.2	23.4
African American	--	37.8	79.0	38.7
Latino	--	39.1	164.4	40.9
Asian	--	23.3	70.0	18.4
*Total Population**	--	*28.3*	*95.9*	*30.1*

Non-COVID-19

Race and Ethnicity	**2019**	**2020**	**2021**	**2022**
White	322.3	325.7	313.1	312.1
African American	429.3	473.3	475.0	476.0
Latino	266.2	276.0	286.2	286.7
Asian	210.1	217.9	208.5	208.1
*Total Population**	*298.4*	*307.5*	*303.5*	*305.5*

*Total population includes all races and ethnicities, not just the four listed in the table. Data for Native Hawaiians/Pacific Islanders and American Indians/Alaska Natives are not presented due to small numbers.

- All four racial and ethnic groups experienced higher all-cause mortality rates in the first six months of 2022 compared to the first six months of 2019.
- COVID-19-specific mortality rates in the first six months of 2022 were strikingly higher among Latino and African American residents in comparison to Asian and White residents.

Mortality for Selected Causes of Death

Table 5. Age-Adjusted Mortality Rates (Deaths per 100,000) for Selected Causes of Death, Los Angeles County, January 1 - June 30, 2019 - 2022

	Year			
Cause of Death	**2019**	**2020**	**2021**	**2022**
COVID-19	--	28.3	95.9	30.1
Coronary Heart Disease	51.2	52.7	51.0	47.5
Diabetes Mellitus	13.9	14.9	16.2	15.5
Pneumonia/Influenza	9.4	11.0	8.2	7.1

ICD-10 codes:
COVID-19: U07.1
Coronary Heart Disease: I20-I24, I25.0-I25.6, I25.8, I25.9
Diabetes Mellitus: E10-E14
Pneumonia/Influenza: J09-J18

- In 2021, the mortality rate for COVID-19 was the highest among the four selected causes of death; it was almost twice as high as the rate for coronary heart disease, almost six times higher than the rate for diabetes mellitus, and more than eleven times higher than the rate for pneumonia/influenza.
- The mortality rate for coronary heart disease remained relatively stable over the four-year period.
- The diabetes mortality rate increased in the first six months of 2020 and 2021 compared to 2019 but appeared to decrease again during the first six months of 2022, though not back down to its 2019 level.
- The mortality rate for pneumonia and influenza saw a significant increase in the first six months of 2020 but then decreased to below 2019 levels in the first six months of 2021 and 2022.

[1]Age-adjusted mortality rates control for the effect of differences in population age distributions. Adjusting to the same standard population, in this case, the 2000 US Standard Population, allows rates to be comparable across time and geographies. Reference: *Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. Healthy People Statistical Notes, no 20. Hyattsville, Maryland: National Center for Health Statistics, January 2001.*

Data sources:
Deaths: California Department of Public Health, Vital Records Business Intelligence System California Comprehensive Death Files (CCDF) Los Angeles County, Long Beach, and Pasadena, prepared by the Office of Health Assessment and Epidemiology, 2019 - 2022
Population estimates: July 1 Population Estimates, prepared by Hedderson Demographic Services for Los Angeles County Internal Services Department, 2019 – 2020