

California Suicide and Self-Harm Trends in 2020

The purpose of this data brief is to highlight trends in suicide and self-harm in California (CA) during 2020, which is when COVID-19 was officially declared a global pandemic. Differences in suicide and self-harm by age, sex, race/ethnicity, and mechanism of death/injury are examined. These trends are being shared to facilitate adaptation and implementation of data-driven strategies to prevent death and injury in groups that are identified as being at risk of suicide and self-harm.

Suicide data are compiled from information from death certificates in the Death Statistical Master Files and California Comprehensive Death Files produced by the California Department of Public Health (CDPH) Center for Health Statistics and Informatics. Self-harm data are obtained from Emergency Department (ED) data compiled by the Office of Statewide Health Planning and Development.

Suicide Trends

Figure 1 displays the number of suicide deaths that occurred in California over the past ten years.

- The number of suicide deaths that occurred in California peaked in 2018 and has been declining through the year 2020.
- Between 2019 and 2020, there was about a 9% decrease in the number of suicide deaths that occurred in California. Suicide deaths in 2020 were lower than anticipated based on projections from prior years.

Figure 1: Number of Suicide Deaths that Occurred in CA, 2011-2020

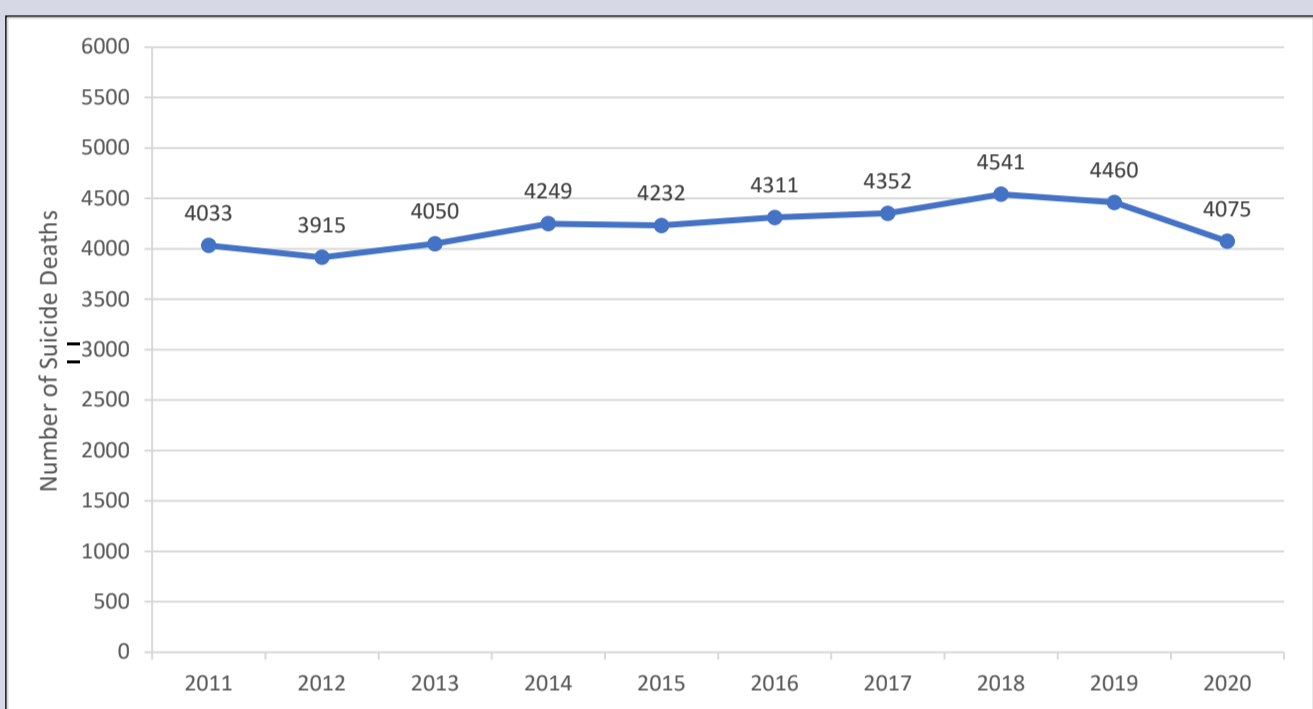


Table 1 displays the percent of suicide deaths that occurred in California, as well as suicide rates in California by sex, age, and race/ethnicity, for 2019 and 2020.

- Overall, males accounted for the largest percent of suicide deaths, whereas females accounted for less than a quarter of those deaths.
- Although males have higher rates of suicide compared to females, both males and females saw a decline in suicide rates from 2019 to 2020. However, males experienced a larger decline in suicide rates (9%) compared to females (6%).
- The 25-44 age group and 45-64 age group make up the largest percent of suicide deaths, whereas the 85 and older age group accounted for the least percentage of suicide deaths. However, the 85 and older age group has the highest rates of suicide compared to any other age group. This means that, although there is a small number of people 85 years of age and older who die by suicide, this group is at elevated risk of suicide.
- Almost all age groups saw a decline in suicide rates between 2019 and 2020, except for youth aged 10-18 years. This group saw an increase of 20% in suicide rates for 2020.
- People who are White make up the largest percent of suicide deaths, while people who are Native American make up the least percent of suicide deaths. However, people who are White and people who are Native American both have the highest rates for suicide. This means that, although there is a small number of people who are Native American who die by suicide, this group is at elevated risk of suicide along with people who are White.
- Almost all race/ethnicity groups saw a decline in suicide rates for 2020, except for people who are Asian/Pacific Islander. This group saw an increase of 4% in suicide rates for 2020.

Table 1: Demographic Characteristics of Suicide Deaths that Occurred in CA, 2019 - 2020

	Percent of Suicide Deaths		Suicide Rate per 100,000	
	2019	2020	2019	2020
Sex				
Male	78.6	78.2	17.7	16.1
Female	21.4	21.8	4.8	4.5
Age				
10 - 18	3.1	4.2	3.0	3.6
19 - 24	8.7	8.4	12.5	11.3
25 - 44	32.3	34.1	13.1	12.7
45 - 64	34.8	30.9	16.0	13.0
65 - 84	17.5	18.8	14.7	13.9
85+	3.5	3.7	18.4	16.5
Race/Ethnicity				
White	63.9	61.0	18.6	16.3
Black	5.0	5.3	9.7	9.4
Hispanic	21.4	22.7	6.1	5.9
Native American*	0.5	0.4	12.7	9.8
Asian/Pacific Islander	9.3	10.6	7.7	8.0

*Suicide rates for people who are Native American are unreliable due to small sample size.

Table 2 displays the percent of suicide deaths that occurred in California by mechanism of death, for 2019 and 2020. Mechanisms accounting for less than 5% of suicide deaths are not shown.

- The use of firearms is the most common mechanism for suicide followed by hanging and poisoning.
- Suicides by firearm had the largest increase in the year 2020 of about 5%, whereas suicides by hanging increased 0.6% and suicides by poisoning decreased 17%.

Table 2: Percent of Suicide Deaths that Occurred in CA by Mechanism, 2019-2020

	Percent of Suicide Deaths	
	2019	2020
Firearm	35.8	37.8
Hanging	35.3	35.8
Poisoning	14.3	11.9

Table 3 displays the percent of suicide deaths that occurred in California among youth, as well as suicide rates among youth between the ages of 10-24 by sex and race/ethnicity, for 2019 and 2020.

- Youth who are White and youth who are Hispanic make up the largest percent of suicide deaths.
- Youth who are White and youth who are Black have the highest rates of suicide.
- Youth who are Black and youth who are Hispanic experienced an increase in suicide rates for 2020. Youth who are Black experienced the largest increase in suicide rates of 28%, whereas suicide rates for youth who are Hispanic increased by only 2% in 2020.

Table 3: Demographic Characteristics of Suicide Deaths that occurred in CA among Youth (Ages 10-24), 2019-2020

	Percent of Suicide Deaths		Suicide Rate per 100,000	
	2019	2020	2019	2020
Sex				
Male	78.8	74.4	10.5	9.6
Female	21.2	25.6	2.9	3.5
Race/Ethnicity				
White	39.3	34.8	9.5	8.3
Black	7.8	10.0	9.7	12.3
Hispanic	40.6	42.5	5.5	5.6
Asian/Pacific Islander	11.7	11.7	7.1	7.1

Note: Suicide data for youth who are Native American are not shown due to extremely small sample size.

Self-Harm Trends

Figure 2 displays monthly self-harm emergency department (ED) visit rates among California residents, for 2019 and 2020. ED visit data for 2020 is not available for the full year and is only available from January - September of 2020.

- Self-harm ED visit rates for 2020 started off at the same level as 2019 for the months of January - February, began to decline in March, and remained low through June.
- Self-harm ED visits rates returned to 2019 levels by July 2020. This pattern could be explained by lockdowns that were established in March of 2020 due to the pandemic and associated concerns with risk of contracting COVID-19 within healthcare settings.

Figure 2: Monthly Self-Harm Emergency Department (ED) Visit Rates among CA Residents, 2019-2020

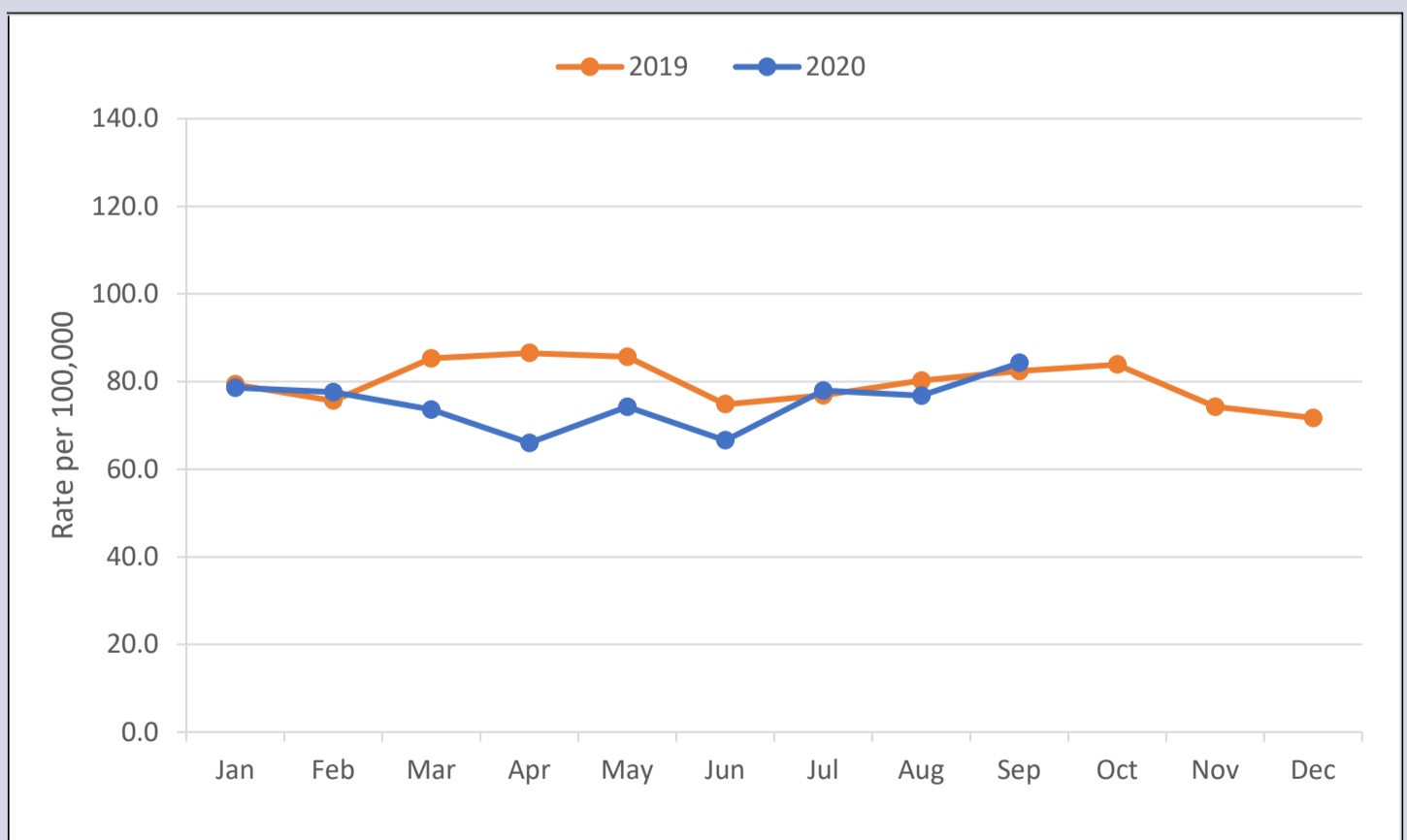


Table 4 displays percent of self-harm emergency ED visits and average monthly self-harm ED visit rates by sex, age, and race/ethnicity among California residents, for 2019 and 2020.

- Females account for the largest percent of self-harm ED visits and have higher average monthly rates of self-harm ED visits compared to males.
- Both males and females experienced a decrease in average monthly rates of self-harm ED visits in 2020. However, males experienced a larger decrease (7%) compared to females (5%).
- The 0-18 age group and the 25-44 age group account for the largest percent of self-harm ED Visits.
- The 0-18 age group and the 19-24 age group have the highest average monthly self-harm ED visit rates.
- All age groups saw a decline in the average monthly self-harm ED visit rate in 2020, except for the 0-18 age group. This group experienced an increase of 0.3% in 2020.
- People who are White and people who are Hispanic account for the largest percent of self-harm ED visits.
- People who are Black account for a small percent for self-harm ED visits, but have the highest average monthly self-harm ED visit rate compared to any other race/ethnicity group. This means that, although there is a small number of people who are Black that visit the ED for self-harm injury, this group is at elevated risk of self-harm ED visits.
- All race/ethnicity groups experienced a decline in the average monthly self-harm ED visit rate in 2020; however, people who are Black saw the largest decline of 14%. (Note: People who are Native American saw a decline of 27% in the average monthly self-harm ED visit rate in 2020; however, due to the small sample size of this population, the rates are unreliable. Therefore, the true fluctuation in rates for this population cannot be determined).

Table 4: Demographic Characteristics of Self-Harm Emergency Department (ED) Visits among CA Residents, 2019-2020

	Percent of Self-Harm ED Visits		Average Monthly Self-Harm ED Visit Rate per 100,000	
	2019	2020**	2019	2020**
Sex				
Male	39.0	38.3	62.2	57.6
Female	61.0	61.7	97.1	92.5
Age				
0-18	34.9	36.6	112.9	113.2
19-24	18.1	18.3	184.6	183.5
25-44	30.9	30.6	89.4	83.1
45-64	13.4	11.7	43.6	36.4
65+	2.7	2.9	14.0	13.2
Race/Ethnicity				
White	43.4	43.6	90.3	86.1
Black	9.4	8.7	130.8	113.1
Hispanic	34.0	34.8	68.9	66.0
Native American*	0.5	0.4	96.8	70.4
Asian/Pacific Islander	4.9	5.0	28.9	27.8

*Monthly self-harm ED visit rates for people who are Native American are unreliable due to small sample size.

**ED visit data for 2020 does not include the full year and only includes months January - September.

Table 5 displays the percent of self-harm ED visits by mechanism of injury among California residents, for 2019 and 2020. Mechanisms accounting for less than 5% of self-harm ED visits are not shown.

- Poisonings are the most common mechanism for self-harm ED visits followed by cuts and suicide attempts.
- Both cuts and suicide attempts experienced an increase in 2020. However, cuts experienced a larger increase of 5% compared to suicide attempts, which saw a 4% increase.

Table 5: Percent of Self-Harm Emergency Department (ED) Visits by Mechanism among CA Residents, 2019-2020.

	Percent of Self-Harm ED Visits	
	2019	2020**
Cut	30.5	32.0
Poisoning	55.0	54.4
Suicide Attempt	7.6	7.9

**ED visit data for 2020 does not include the full year and only includes months January - September.

Table 6 displays percent of self-harm emergency ED visits and monthly self-harm ED visit rates by sex and race/ethnicity among youth between the ages of 10-24 who are California residents, for 2019 and 2020.

- Female youth account for the largest percent of self-harm ED visits and have a higher average monthly rate of self-harm ED visits compared to male youth.
- Both male and female youth experienced a decrease in average monthly rates of self-harm ED visits in 2020. However, male youth experienced a larger decrease (3%) compared to female youth (1%).
- Youth who are White and youth who are Hispanic account for the largest percent of self-harm ED visits.
- Youth who are White and youth who are Black have the highest average monthly self-harm ED visit rates.
- All race/ethnicity groups among youth experienced a decline in the average monthly self-harm ED visit rate in 2020, except for youth who are White, who experienced an increase of 3%.

Table 6: Demographic Characteristics of Self-Harm Emergency Department (ED) Visits among Youth (Ages 10-24) who are CA residents, 2019-2020

	Percent of Self-Harm ED Visits		Average Monthly Self-Harm ED Visit Rate per 100,000	
	2019	2020**	2019	2020**
Sex				
Male	30.1	29.7	116.7	113.6
Female	69.9	70.3	289.2	286.4
Age				
White	37.5	39.3	263.5	272.7
Black	8.5	7.8	286.8	266.1
Hispanic	40.0	39.6	160.8	156.3
Asian/Pacific Islander	5.3	5.1	94.1	90.2

Note: Self-Harm ED visit data for youth who are Native American are not shown due to extremely small sample size.
 **ED visit data for 2020 does not include the full year and only includes months January - September.

Conclusion

There are differences in the demographic characteristics among individuals who die by suicide and those who visit the Emergency Department for self-harm related injuries. In terms of suicide, there are higher rates (elevated risk) among males, older adults who are 85+ years of age, and people who are White or Native American. In terms of injury from self-harm, there are higher rates (elevated risk) of such injuries among females, youth under 24 years of age, and people who are Black. When looking at youth between the ages of 10-24 specifically, higher rates (elevated risk) of suicide were found among male youth, whereas higher rates (elevated risk) of injury from self-harm were found among female youth. Youth who are Black and youth who are White have higher rates (elevated risk) for both suicide and self-harm injury. Overall, the most common mechanism of suicide was use of firearms, whereas the most common mechanism of self-harm injury was poisoning.

2020 was a difficult year for California given the COVID-19 pandemic and other catastrophic events (e.g., wildfires). Although we did not see increases in suicide or self-harm injury for the state overall in 2020, certain sub-populations experienced an increase in suicide and self-harm rates. From 2019 to 2020, youth between the ages of 10-18 and people who are Asian/Pacific Islander had an increase in suicide rates. Youth under 18 years of age had an increase in the average monthly self-harm injury rate in the same time period. When looking at youth between the ages of 10-24 specifically, female youth, youth who are Black, and youth who are Hispanic saw increases in suicide rates between 2019 to 2020, whereas youth who are White saw an increase in the average monthly self-harm injury rate in the same time period. Lastly, there was an increase in hanging and the use of firearms as mechanisms of suicide, while cuts and suicide attempts increased as mechanisms of self-harm injury between 2019 and 2020.

To effectively reduce the likelihood of suicide and injury from self-harm, prevention efforts should be focused on the aforementioned groups (those who have had elevated risk for suicide and self-harm injury or experienced an increase in suicide and self-harm injury rates in the past year). For ideas on evidence-based prevention strategies to implement with these groups, please refer to the technical package from the Centers for Disease Control and Prevention (CDC) on [Preventing Suicide](#).

Please encourage help-seeking by spreading the word about these suicide prevention hotlines:

- The National Suicide Prevention Lifeline provides free, confidential, 24/7 support by phone (1-800-273-8255) or [online chat](#).
- Crisis Text Line provides free, confidential, 24/7 support by text (text HOME to 741741 from anywhere in the U.S).

For any questions related to this data brief, please submit inquiries to suicide.prevention@cdph.ca.gov

Technical Notes

- Population denominator data for rate calculations are from the California Department of Finance (DOF) Table P-3: Complete State and County Projections Dataset.
- Suicide death data includes all suicide deaths that occurred within California even if the decedent was an out-of-state resident.
- Suicide rates per 100,000 were comprised of the following:
 - Numerator = All suicide deaths that occurred within California (also includes out-of-state residents).
 - Denominator = California resident population.
- Suicides are identified on the death certificate as an underlying cause of death with ICD-10 codes X60-X84, U03.0, or U03.9.
 - Mechanism of suicide is categorized by the following ICD-10 code groupings:
 - Cut/Pierce (X78)
 - Firearm (X72-X74)
 - Hanging/Suffocation (X70)
 - Jump (X80-X81)
 - Poisoning (X60-X69)
 - Other (U03.0, U03.9, X71, X75-X77, X79, X82-X84)
- Self-harm emergency department (ED) visits only include cases of intentional self-harm and are limited to “treat and release” visits. Visits that result in hospitalization or death are excluded.
- All self-harm ED visit data was limited to California residents in California facilities. Therefore, out-of-state residents treated for self-harm injuries in California facilities were excluded and California residents treated in out-of-state facilities were also excluded.
- Average monthly self-harm ED visit rates per 100,000 were comprised of the following:
 - Numerator = Average number of self-harm ED visits among California residents per month in a given year.
 - Denominator = Average California resident population per month in a given year.
- Self-harm ED visits are identified in the emergency department data files with ICD-10 CM diagnostic and external cause of injury codes. The [definition](#) developed by the Council of State and Territorial Epidemiologists (CSTE) was used to identify non-fatal intentional self-harm ED visits. Mechanisms of self-harm injury are also outlined in the document.