

Sobering Statistics: Acceleration of Alcohol-Attributable Deaths Across the United States During the COVID-19 Pandemic

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Summary

This brief examines the dramatic rise in alcohol-attributable death rates in the United States from 2019 to 2022 at a national level, state level, and by demographic groups during the height of the COVID-19 pandemic.

Related Data

Along with [Alcohol-Involved Deaths](#), SHADAC's State Health Compare tool houses data on related measures of alcohol use and abuse, including: [Adult Excessive Alcohol Consumption](#) and [Per Capita Alcohol Consumption](#).

INTRODUCTION

For many years, public health messaging around safe and responsible alcohol use has been muddled. While experts have long cautioned against excessive alcohol use, such as heavy or binge drinking, there have been times at which moderate levels of drinking were deemed safe, or even beneficial, for health (see Figures 1 and 2).

Having a glass of red wine – or two – was once touted for potentially beneficial effects on heart health.¹ Though not as universally known or discussed, beer, too, had a heyday as a type of alcohol that was advertised as providing multiple health benefits, such as reducing the risk for a range of diseases from cardiovascular to Alzheimer's to osteoporosis, and even potentially aiding in controlling blood sugar and cholesterol levels.² However, more recent studies have shown that even relatively small amounts of drinking any type of alcohol can have detrimental health effects, such as increased risks for high blood pressure, cardiovascular disease, and certain types of cancers like throat, liver, esophageal, and breast cancer, among others.^{3,4,5}

The increased risk of developing breast cancer is particularly notable considering the number of studies that have also shown an increase in alcohol use (and misuse) among women.^{6,7} Women already face higher risks when it comes to alcohol consumption compared to men, as female bodies absorb alcohol and metabolize it differently than male bodies.⁸ Due to this biological difference in processing alcohol, women carry an increased risk of death from alcohol-induced causes, as a smaller amount of alcohol consumption can have more pronounced negative effects on female health than for males.⁹

That is why many countries, including the United States, have different guidelines around the number of drinks that constitute different levels of alcohol consumption, such as 'moderate' and 'binge' or 'heavy' drinking for women as opposed to men.^{10,11}

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According to U.S. federal guidelines, moderate drinking is defined as the equivalent of one drink or less per day for women and two or less per day for men.

Figure 1. U.S. Moderate Drinking Guidelines for Women vs. Men Represented by Types of Standard Drinks



Those same guidelines define binge drinking as the equivalent of four drinks or more per occasion (at the same time or over two hours) for women, and five or more per occasion for men.

Together, binge drinking or alcohol consumption that exceeds moderate drinking levels (i.e., more than one drink per day for women and more than two drinks per day for men) are known as “excessive drinking.”

Figure 2. U.S. Binge and Heavy Drinking Guidelines for Women vs. Men Represented by Types of Standard Drinks



Measuring by these guidelines, excessive drinking was on the rise during the COVID-19 pandemic, especially for women. One survey found that excessive alcohol consumption episodes rose by 7% for men from 2019 to 2020, while women saw a 41% increase in these behaviors during the same time period.¹² Increased rates of excessive alcohol use such as these can in turn increase risks for developing chronic and acute conditions that are underlying causes of alcohol-attributable deaths.

Defining Alcohol-Attributable Deaths

Before moving into the analysis that will make up the main portion of the following brief, it is important to understand what exactly is meant by “alcohol-attributable deaths.” Alcohol use can directly and/or indirectly contribute to a broad range of acute conditions (such as alcohol poisoning) and chronic diseases (such as alcoholic liver disease) that affect many of the body’s internal organs and processes. It can, therefore, be difficult to accurately account for all deaths in which alcohol plays a role.

However, the U.S. Centers for Disease Control and Prevention (CDC) has identified and defined [a limited group of 13 causes or conditions](#) that the agency considers “100% alcohol-attributable,” such as alcoholic cardiomyopathy, gastritis, and alcohol-induced pancreatitis, amongst others.

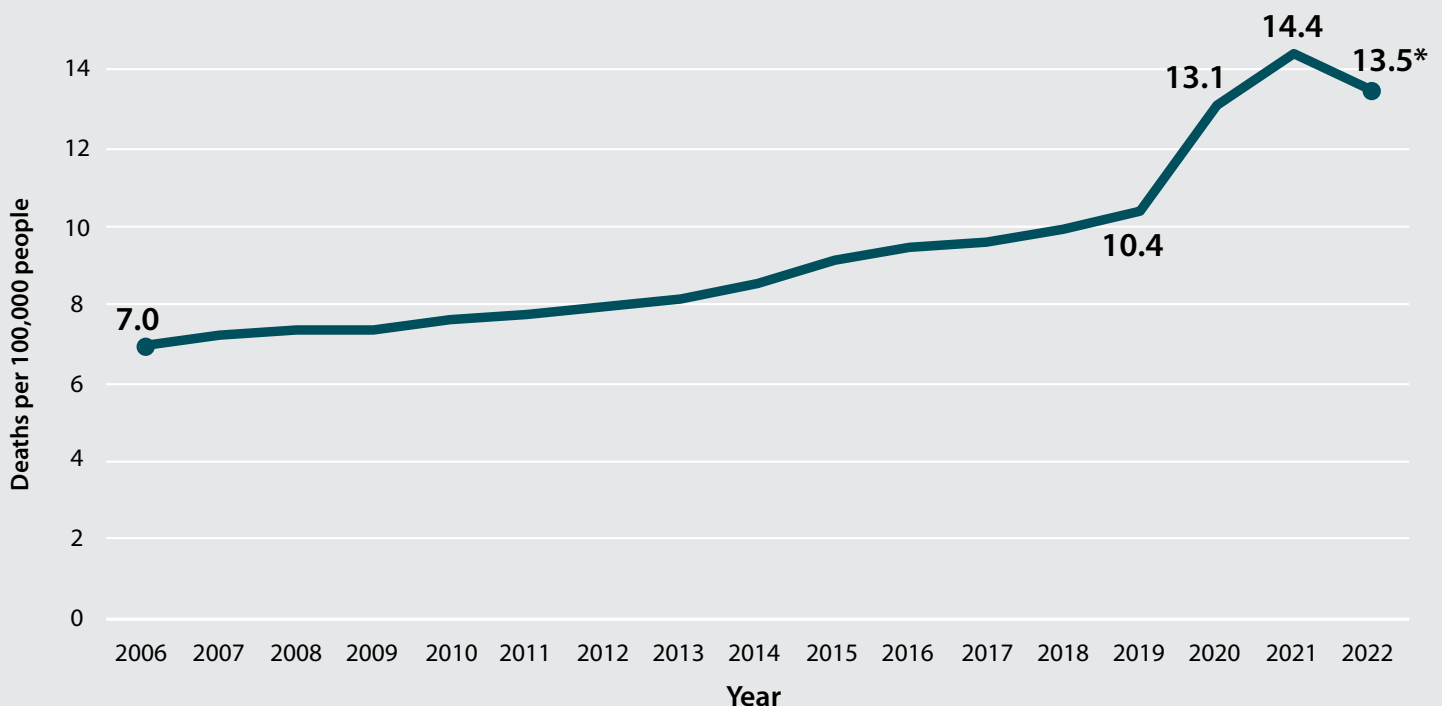
For this analysis, we used a narrow definition of “alcohol-attributable” deaths based on this CDC list of causes and conditions it considers to be 100% alcohol-attributable. Except in the section on alcohol-attributable death rates by age groups, our analysis uses age-adjusted rates.

The rest of this brief will examine trends in alcohol-attributable death rates at the national and state levels from 2019 to 2022, the years when the COVID-19 pandemic was officially designated as a public health emergency (PHE), as well as by demographic groups such as sex, race and ethnicity, age, and urbanization.

ALCOHOL DEATHS ACROSS THE NATION

Alcohol-attributable deaths in the U.S. continued a long-standing trend of significant growth during the COVID-19 pandemic period, rising by 30% from 10.4 per 100,000 people in 2019 to 13.5 per 100,000 people in 2022 (Figure 3).

Figure 3. National Alcohol-Attributable Death Rates per 100,000 People, 2006-2022



* Statistically significant change from 2019 rate at 95% level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

This rapid increase over such a short amount of time, as highlighted in Figure 3, represents a marked change from previous years and previous growth patterns. A prior SHADAC analysis found that alcohol-attributable death rates were stable between 2000 and 2006 (7.0 deaths per 100,000 people for both years) before experiencing a small increase between 2006 and 2008 (7.0 deaths per 100,000 people up to 7.4 per 100,000 people), and then underwent a sustained rise between 2008 and 2019 (7.4 per 100,000 people to 10.4 per 100,000 people).¹³ While it took over ten years for rates to rise from 7.4 per 100,000 to 10.4 per 100,000, it took only three years to jump from 10.4 per 100,000 to 13.5 per 100,000.

It is interesting to note that alcohol-attributable deaths did experience a slight, but statistically significant, decline from 2021 to 2022, falling by 6% from 14.4 deaths per 100,000 people in 2021 to a rate of 13.5 deaths per 100,000 people in 2022. However, given that this decline is the first in the near-two decades of data SHADAC tracked for this report, researchers and public health experts should approach this decrease in rate with a sense of caution—especially since the rate remained at a historic high, even after that decline. We do not yet know whether this decline represents the beginning of a more enduring trend, or whether it is simply a reversion to the pre-pandemic growth rate in alcohol-attributable deaths. Data from 2023 may provide better answers on whether this decrease may be an aberration or a welcome continuing trend.

ALCOHOL DEATHS ACROSS THE STATES

Moving away from the national picture to examine differences between states, the data – looking at trends both across time and in comparison to the U.S. average – shows an intensification of existing trends rather than any new large-scale changes.

State-Level Alcohol Deaths Over Time

From 2019 to 2022, alcohol-attributable death rates increased significantly in a vast majority (44) of states. While the majority of states saw these significant increases in alcohol deaths, the increase itself ranged greatly, from as low as an 8% increase in New Jersey (rising from 6.7 to 7.3 deaths per 100,000 people between 2019 and 2022) to as high as an 85% increase in Mississippi (rising from 7.0 to 13.0 deaths per 100,000 people between 2019 and 2022) and 63% increase in South Dakota (rising from 21.2 to 34.5 deaths per 100,000 people between 2019 and 2022).

Just six states – Arkansas, Hawaii, New Jersey, Vermont, West Virginia, and Wyoming – did not have rates in 2022 that were statistically different from 2019. No states saw significant decreases in alcohol-attributable death rates between 2019 and 2022.

Figure 4. States with the Highest and Lowest Alcohol-Attributable Death Rates per 100,000 People in 2022

FIVE STATES WITH THE HIGHEST RATES		FIVE STATES WITH THE LOWEST RATES	
States	Death Rate per 100,000 People	States	Death Rate per 100,000 People
New Mexico	42.7	Hawaii	7.1
Alaska	36.6	New Jersey	7.3
South Dakota	34.5	Maryland	8.6
Wyoming	31.1	New York	8.8
Montana	27.3	Alabama	8.9

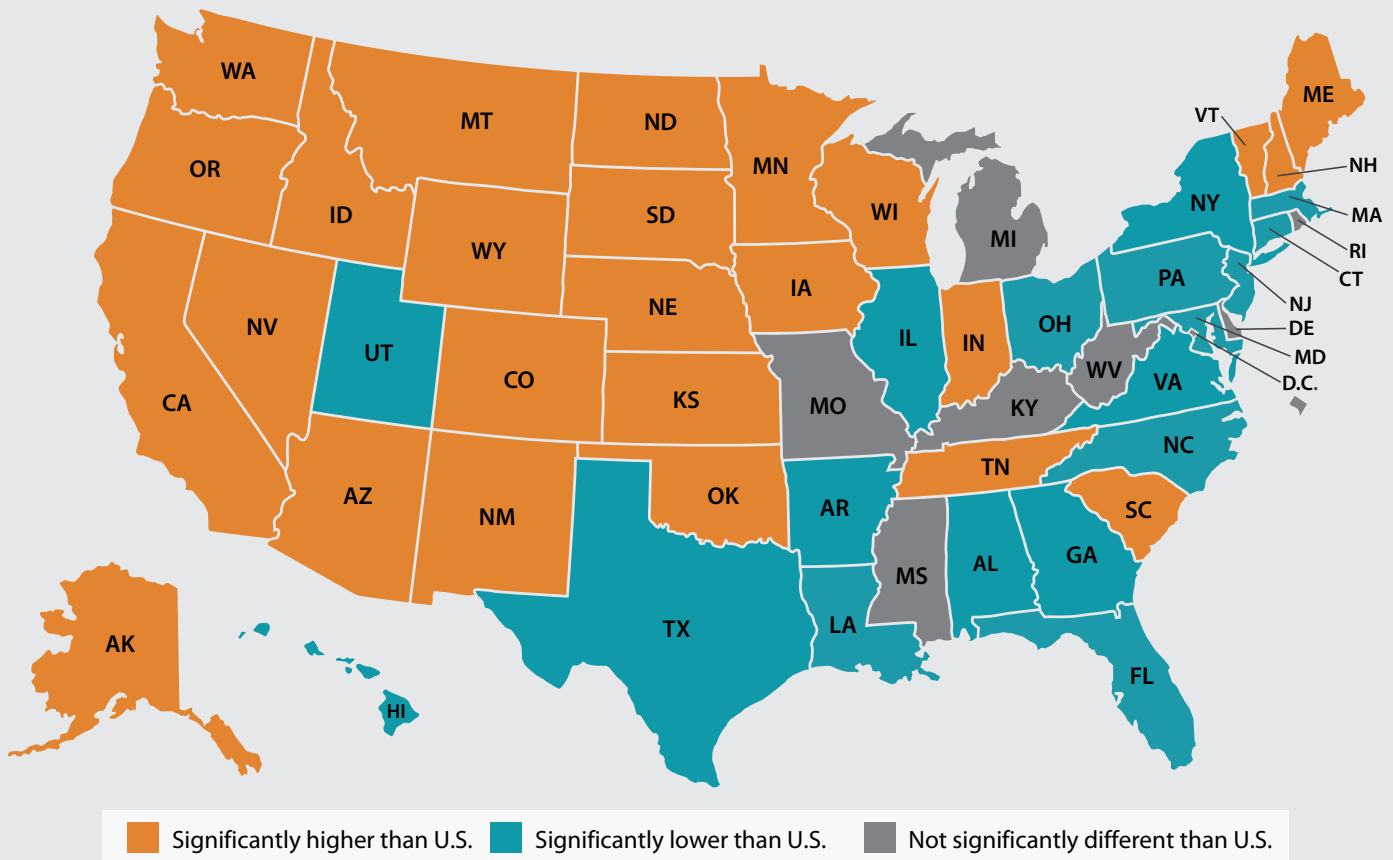
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

When examining states with the highest and lowest alcohol-attributable death rates, as in Figure 4, it is important to note that these rankings have remained almost virtually unchanged from 2019 – except for the state with fifth-lowest death rate, which shifted from Mississippi in 2019 to Alabama in 2022. This stability within state rankings seems to underscore the notion that the COVID-19 pandemic exacerbated existing trends in alcohol-attributable deaths, rather than changing the dynamics entirely.

State-Level Alcohol Deaths Compared to the National Average

Half of U.S. states (25) had alcohol-attributable death rates that were significantly higher than the national average (13.5 per 100,000 people) in 2022. Eighteen states had rates of alcohol-attributable deaths that were significantly lower than the U.S. rate in 2022, and seven states, plus the District of Columbia, had rates that were not statistically different from the national rate (Figure 5).

Figure 5. State Alcohol-Attributable Death Rates Compared to the U.S., 2022



Long description found in 'State-Level Alcohol Deaths Compared to the National Average' section of this publication.

When looking at differentiation in state rates from the U.S. rate, a 50-state map illustrates a geographic pattern: Despite a handful of exceptions, state rates of alcohol-attributable deaths were generally higher in the western U.S. Among the states west of the Mississippi River, all but six had rates of alcohol-attributable deaths that were significantly higher than the U.S. rate. Conversely, all but seven states east of the Mississippi had rates that were significantly lower or not significantly different from the U.S. rate.

Another pattern among the states is the greater level of variation in state rates of alcohol-attributable deaths on the higher end of the range as compared to the lower end. For instance, at 7.1 deaths per 100,000 people, Hawaii's rate of alcohol-attributable deaths was roughly half the U.S. rate of 13.5 deaths per 100,000 people. However, at 42.7 deaths per 100,000 people, New Mexico's rate was more than triple the U.S. rate.

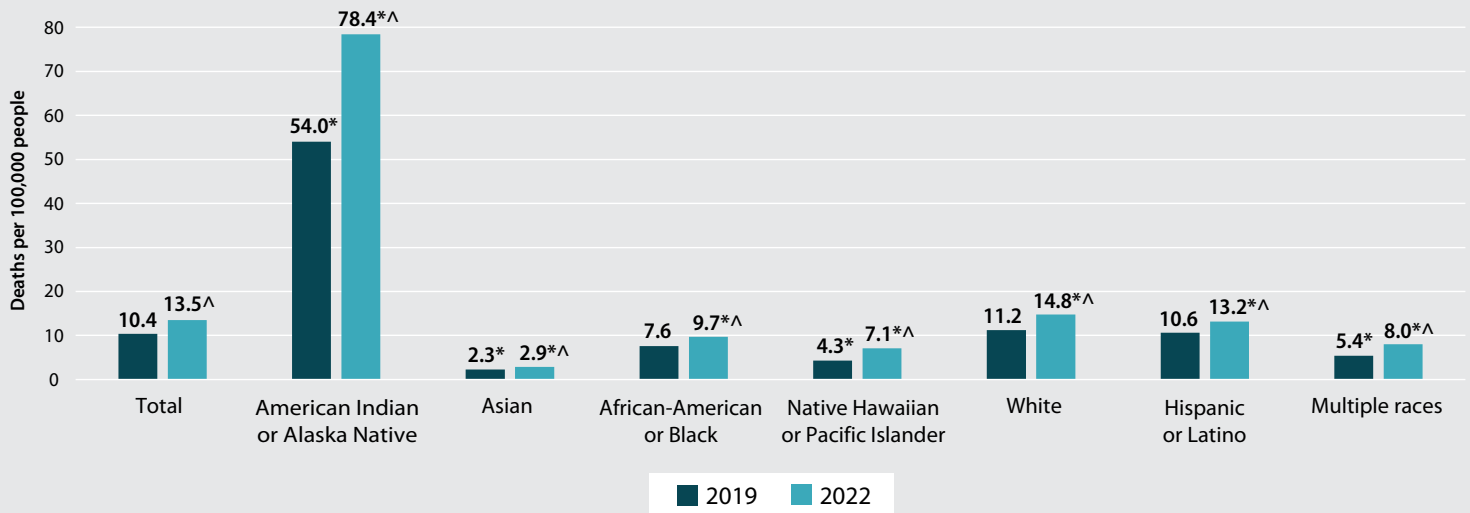
ALCOHOL DEATHS ACROSS DEMOGRAPHIC GROUPS

Breaking down the data by demographic categories shows significant differences between communities and groups.

Alcohol Deaths by Race and Ethnicity

Between 2019 and 2022, alcohol-attributable deaths rose significantly across all racial and ethnic groups we were able to measure in this analysis (Figure 6).¹⁴

Figure 6. Alcohol-Attributable Deaths by Race and Ethnicity per 100,000 People, 2019-2022



* Statistically significant difference from total rate at 95% level.

[^] Statistically significant increase from 2019 rate at 95% level.

Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Long description found in 'Alcohol Deaths by Race/Ethnicity' section of this publication.

Rates for American Indian and Alaska Native people – already significantly higher than other populations – surged during the pandemic, growing from 54.0 per 100,000 people in 2019 to 78.4 per 100,000 in 2022. This rate not only grew dramatically, but was also nearly six times higher than the U.S. rate (13.5 per 100,000 people). While American Indian and Alaska Native people had the highest death rate, the largest growth rate was seen by Native Hawaiian and Pacific Islander people, rising 65% to a rate of 7.1 per 100,000 people in 2022 from 4.3 per 100,000 people in 2019.

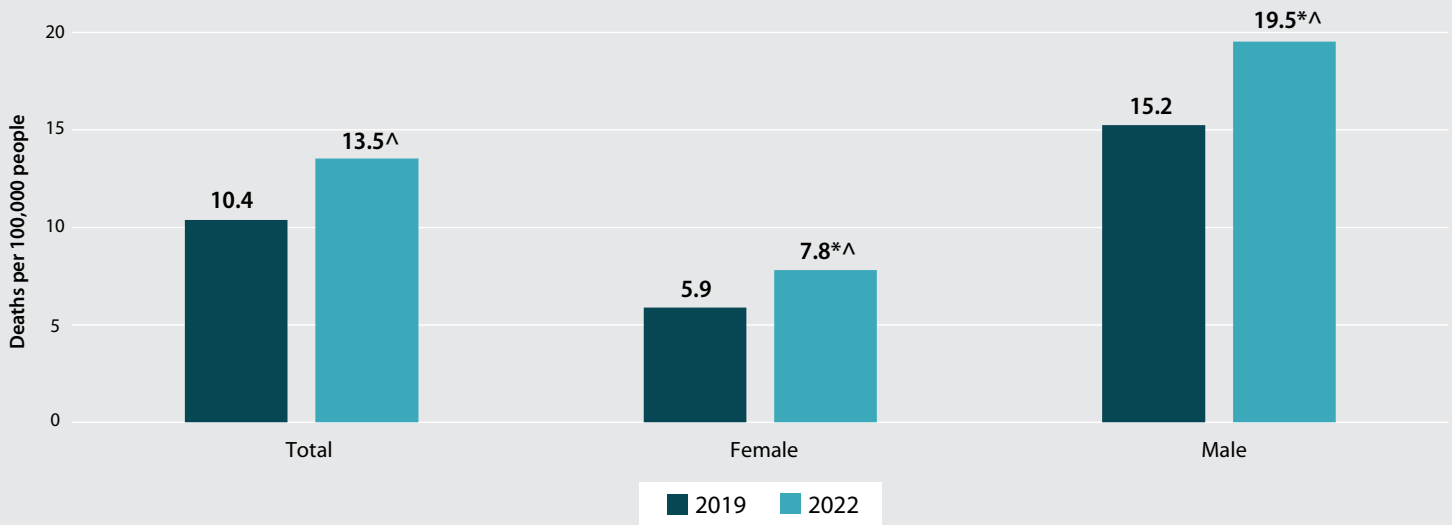
Among other racial and ethnic groups, White people saw an increase from 11.2 to 14.8 death per 100,000 people, the rate for Hispanic or Latino people rose from 10.6 to 13.2 per 100,000 people, and Black or African American people saw a rise from 7.6 to 9.7 deaths per 100,000 people.

Smaller, yet still statistically significant, growth was found in the rates of alcohol-attributable deaths for people reporting multiple or other races, which grew from 5.4 per 100,000 people in 2019 to 8.0 per 100,000 people in 2022. The rate of alcohol-attributable deaths for Asian people also increased, rising from 2.3 per 100,000 people in 2019 to 2.9 per 100,000 people in 2022.

Alcohol Deaths by Sex

Examining alcohol-attributable death rates by sex is especially important given both the trend of increased rates of alcohol use and the increased risk of alcohol's adverse effects on women's health specifically, as previously noted in this brief (see Introduction).

Figure 7. Alcohol-Attributable Deaths by Sex per 100,000 People, 2019-2022



* Statistically significant difference from total rate at 95% level.

[^] Statistically significant increase from 2019 rate at 95% level.

Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

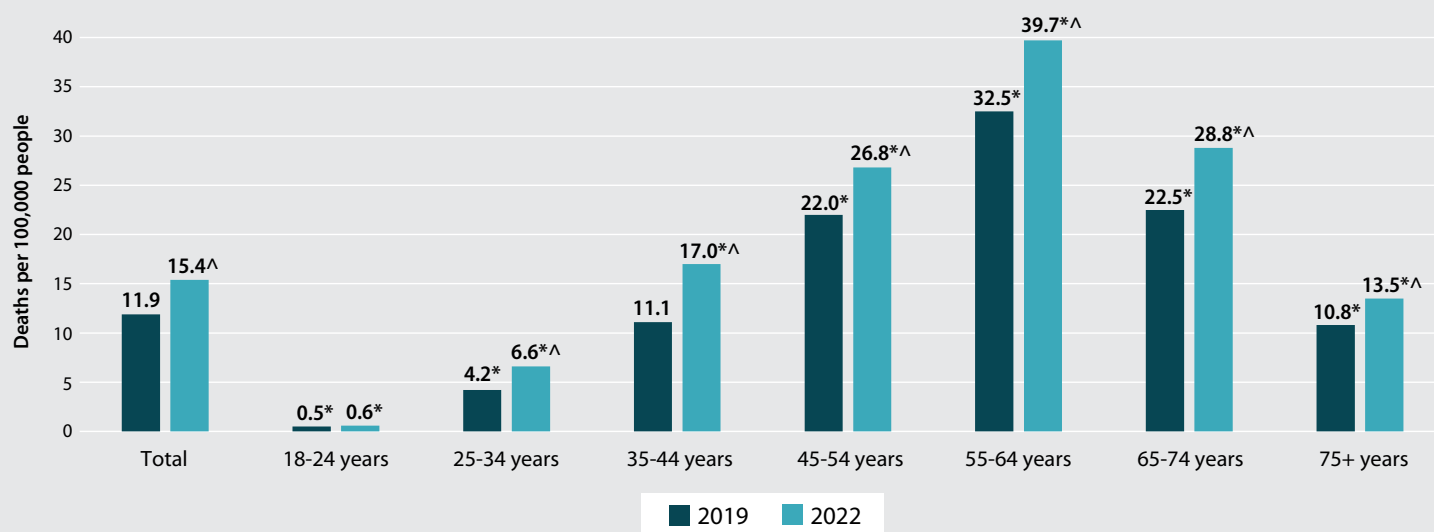
Looking at the growth in alcohol-attributable death rates for males and females since 2019, we can see that while males continue to have higher rates, rates for females have tended to grow faster during the same time period (Figure 7).

During the pandemic (2019 to 2022), the rate of alcohol-attributable deaths for females grew 33% from 5.9 per 100,000 people in 2019 to 7.8 in 2022 as highlighted above, and the rate of alcohol-attributable deaths for males grew by 28% from 15.2 deaths per 100,000 people in 2019 to 19.5 in 2022.

Alcohol Deaths by Age

For most of this brief, rates of alcohol-attributable deaths use age-adjusted data from the CDC. However, this is not possible for the analysis in the age categories. Therefore, the total rate for the U.S. noted in this category may not match the rates for the categories using age-adjusted rates.

Figure 8. Alcohol-Attributable Deaths by Age per 100,000 People, 2019-2022



* Statistically significant difference from total rate at 95% level.

[^] Statistically significant increase from 2019 rate at 95% level.

Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Long description found in the 'Alcohol Deaths by Age' section of this publication.

By age group, adults age 25-34 experienced the largest increase in alcohol-attributable deaths rates during the COVID-19 pandemic (2019-2022), growing 58% from 4.2 per 100,000 people in 2019 to 6.6 per 100,000 people in 2022 (Figure 8).

Older adults age 55-64 also saw their rate of alcohol-attributable deaths grow significantly during the pandemic, rising by nearly 30% from 32.5 per 100,000 people in 2019 to 39.7 per 100,000 people in 2022. This age group also had the highest rate in 2022, measuring 39.7 alcohol-attributable deaths per 100,000 compared to the national rate of 15.4 deaths per 100,000 people.

Nearly all other age groups experienced statistically significant growth in their alcohol-attributable death rates during the pandemic, with adults age 35-44 seeing a rate growth of 54% (11.1 alcohol-attributable deaths per 100,000 people in 2019 up to 17.0 per 100,000 people in 2022). Middle-age adults (45-54) experienced an increase of 22% during the pandemic (22.0 per 100,000 people in 2019 to 26.8 in 2022). Elderly adults age 65-74 and those 75 years of age and older also experienced significant increases in alcohol-attributable deaths during the pandemic, rising by 28% from 22.5 per 100,000 people in 2019 to 28.8 per 100,000 people in 2022, and by 25% from 10.8 per 100,000 people in 2019 to 13.5 per 100,000 people in 2022, respectively.

Young adults (age 18-24) were the only age group to not experience a statistically significant increase in alcohol-attributable deaths during these years. Their rates remained stable at 0.5 deaths per 100,000 people in 2019 and 0.6 deaths per 100,000 people in 2022; in 2022, the rate of alcohol-attributable deaths for young adults age 18-24 was significantly lower than the U.S. rate (15.4 per 100,000 people).

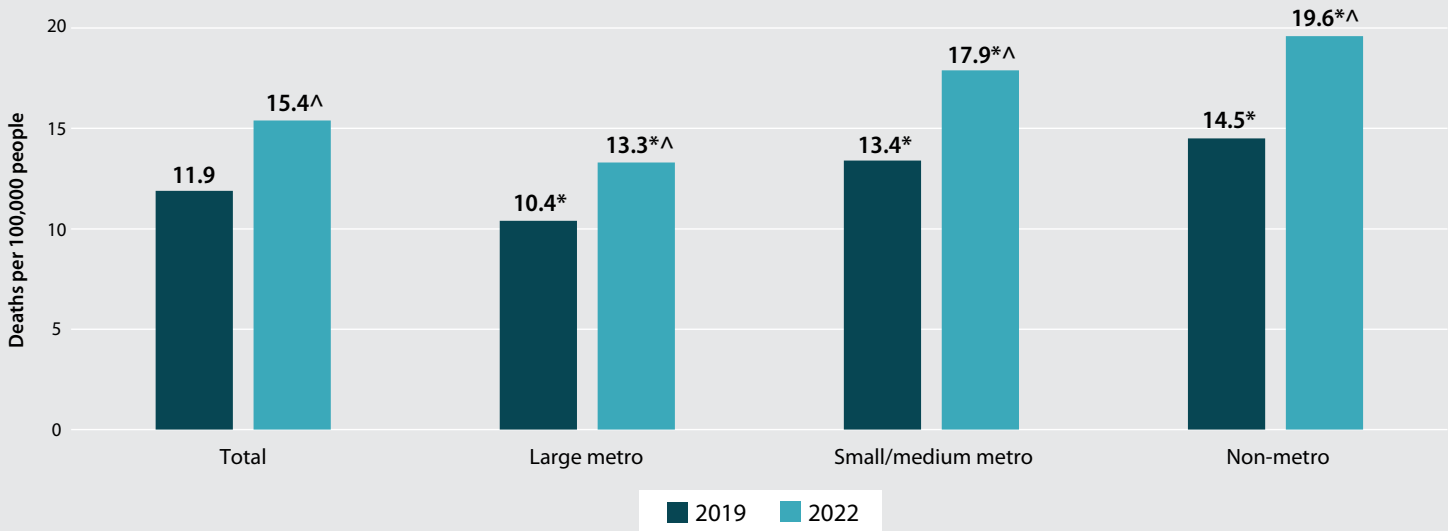
The data for young adults present a particularly unique challenge in interpretation, as lower rates of alcohol-attributable deaths could stem from a variety of factors – including that many causes of alcohol-attributable deaths stem from accumulation of consumption over time along with other risk factors that may not present until older age. Another factor potentially contributing to the low death rate for this group could be related to findings from recent studies that have found encouraging news in declining rates of drinking and risky behaviors (which includes excessive alcohol consumption) among adolescents and young adults.¹⁵ However, it will be important to continue to monitor the alcohol consumption behaviors of younger generations, as it is not yet clear whether their apparently lower alcohol consumption profile will continue or if they will eventually come to drink in ways that reflect older generations.

Alcohol Deaths by Urbanization Level

As with the age category, the CDC does not use age-adjusted data for alcohol-attributable deaths stratified by urbanization levels. Therefore, the total rate for the U.S. noted in this category matches that of the prior section, but does not match the total rates for the categories that do use age-adjusted rates (race and ethnicity and sex).

Growth in alcohol-attributable deaths was significant across all urbanization levels (large metro area, small/medium metro area, and non-metro area) between 2019 and 2022 (Figure 9).

Figure 9. Alcohol-Attributable Deaths by Urbanization per 100,000 People, 2019-2022



* Statistically significant difference from total rate at 95% level.

[^] Statistically significant increase from 2019 rate at 95% level.

Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Long description found in the 'Alcohol Deaths by Urbanization Level' section of this publication

Rates in non-metro areas increased the most, rising by 36% from 14.5 per 100,000 people in 2019 to 19.6 per 100,000 people in 2022. This was also significantly higher than the U.S. rate (15.4 per 100,000 people) in 2022.

Alcohol-attributable deaths in small/medium metro areas also rose significantly between 2019 and 2022, from 13.4 deaths per 100,000 people to 17.9 deaths per 100,000 people. While rates increased for large metro areas, growing by 27% from 10.4 alcohol-attributable deaths in 2019 to 13.3 per 100,000 people in 2022, this was both the smallest rate of growth across all urbanization levels, and was significantly lower than the U.S. rate (15.4 deaths per 100,000 people) in 2022 by 14%.

CONCLUSIONS AND CONSIDERATIONS

Overall, the nearly two decades worth of data on alcohol-attributable deaths show cause for growing concern, starting with the slow yet steady rise in rates of deaths beginning in 2006 and capped off by a historic surge during the COVID-19 pandemic. In 2022 alone, over 50,000 deaths were attributed to alcohol in the United States, an increase of over 30% from alcohol-attributable deaths reported in 2019. This growth occurred over just three years as compared to a similar increase in alcohol-attributable death rates that occurred between the eleven-year stretch of 2008 and 2019 (7.4 deaths per 100,000 people to 10.4 per 100,000 people). Additionally, it is important to remember that these figures represent deaths that are considered to be 100% attributable to alcohol according to the CDC – meaning that the number of actual deaths related to alcohol use and misuse is surely higher, though more difficult to definitively measure.

In addition to the overarching escalation of deaths during the pandemic, our analysis yielded troubling results related to specific demographic subpopulations. Rates of alcohol-attributable deaths among American Indian and Alaska Native populations, already higher than any other racial or ethnic group before the pandemic, grew 45% from 2019 to 2022. American Indian and Alaska Native people have experienced a disproportionate burden of alcohol deaths for decades, an issue that other researchers have noted likely stems from numerous factors associated with systemic racism.¹⁶

Alcohol-attributable deaths among women, who historically had lower rates than men, saw their rate grow 33% from 2019 to 2022. Adults age 35-44 also saw their rates grow: a 58% increase from 2019 to 2022. Additionally, looking back to the beginning of the rise in alcohol-attributable deaths in the U.S., adults age 35-44 saw a dramatic rise of 307% from a rate of 1.6 alcohol-attributable deaths per 100,000 people in 2006 to 6.6 deaths per 100,000 people in 2022 – by far the largest increase for any demographic subgroup included in this analysis.

In the case of women and adults age 35-44, marketing strategies may be a key source of increase in rates for both groups. One study pointed to the rise in the normalization and glorification of “wine mom” culture and popularization of “rosé all day” messaging that has encouraged women – more specifically women of childbearing and early parenting years – to turn to drinking as a primary method of coping with the burdens of motherhood and other stressors as well as a source of social enjoyment.¹⁷ To complement this messaging, the alcohol industry has also increased offerings of products specifically designed to appeal to women, such as low-calorie wine and seltzers and other pink-colored drinks meant to mimic or complement rosé’s popularity.¹⁸

MOVING FORWARD

Encouragingly, for the first time in nearly 20 years, the rate of alcohol-attributable deaths in the United States decreased from 2021 to 2022, falling to 13.5 per 100,000 people from a height of 14.4 per 100,000. While this is a promising sign, the fact also remains that it is a small drop – just 6% – and it is not yet clear whether alcohol-attributable deaths will continue to decline or whether they will revert back to a long-standing pre-pandemic trend of gradually increasing.

Rather than simply waiting to see whether alcohol-attributable deaths may or may not continue to decline on their own, policymakers and public health professionals should consider interventions to mitigate the risks of excessive alcohol consumption now. For instance, policymakers could seek to reduce alcohol consumption by increasing the cost of consuming it. Alcohol taxes have not kept pace with inflation in the U.S. since about 1970, due to a combination of being raised too little and too infrequently.¹⁹ Research has suggested that increasing the cost of alcohol through higher taxes or minimum pricing policies could reduce alcohol-related disease burden and save lives.^{20,21}

Public health agencies in the U.S. could also redouble efforts to educate people about the underappreciated health risks of excessive alcohol consumption and dispel myths around any benefits of moderate alcohol consumption.^{22,23} While expecting the U.S. to suddenly re-embrace abstinence after the nation’s previously abandoned experiment with Prohibition seems impractical and unlikely, there would surely be public health dividends in encouraging people to at least reduce their alcohol use, as such a reduction in turn lessens the risks of cancer and other diseases.²⁴ Reduction in alcohol use could take multiple pathways, such as drinking less often, drinking smaller quantities, or occasionally exchanging alcoholic beverages for “mocktails” or for non-alcoholic or low-alcohol beers or wines—products that are gaining in both popularity and sales.²⁵

More specifically, when thinking about ways to address rising alcohol-attributable deaths for certain groups, policymakers and public health professionals could work in tandem to design and implement policies and programs aimed at alleviating family stress that may contribute to excessive alcohol consumption by women.²⁶ Examples could include policies such as expanded parental leave and child care assistance and/or programs such as community support groups and mental health resources, among others.

Although the U.S. has found itself on a worrisome trend of mounting alcohol deaths, we do not have to accept it as inevitable and irreversible, especially after seeing that a reduction in deaths is possible.

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