

Alcohol Abuse

Riverside University Health System - Public Health

Epidemiology and Program Evaluation

May 2022



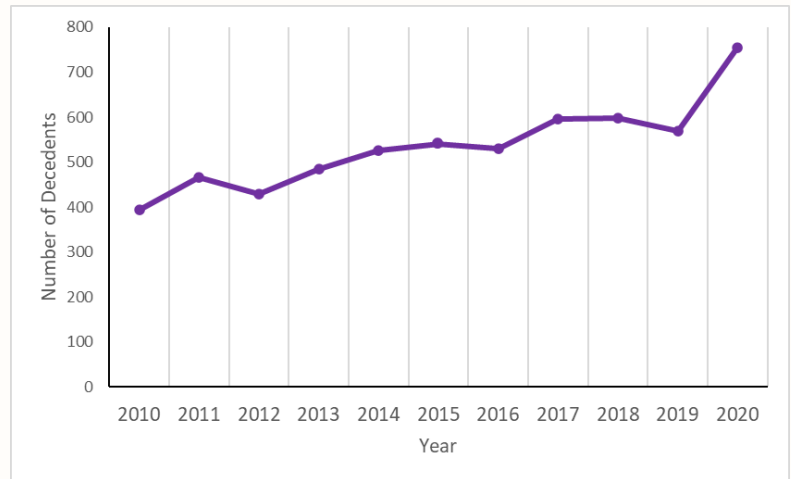
ALCOHOL MORBIDITY AND MORTALITY REPORT

INTRODUCTION

It is estimated that 95,000 lives in the United States are lost each year due to excessive alcohol abuse. Alcohol abuse can lead to a number of consequences. Short-term risks involve accidental injuries, violence, risky behavior, and miscarriages. Long-term alcohol abuse has been linked to chronic problems such as cardiovascular disease, liver disease, stroke, cancer, memory problems, mental health problems, social problems, and alcohol dependence¹.

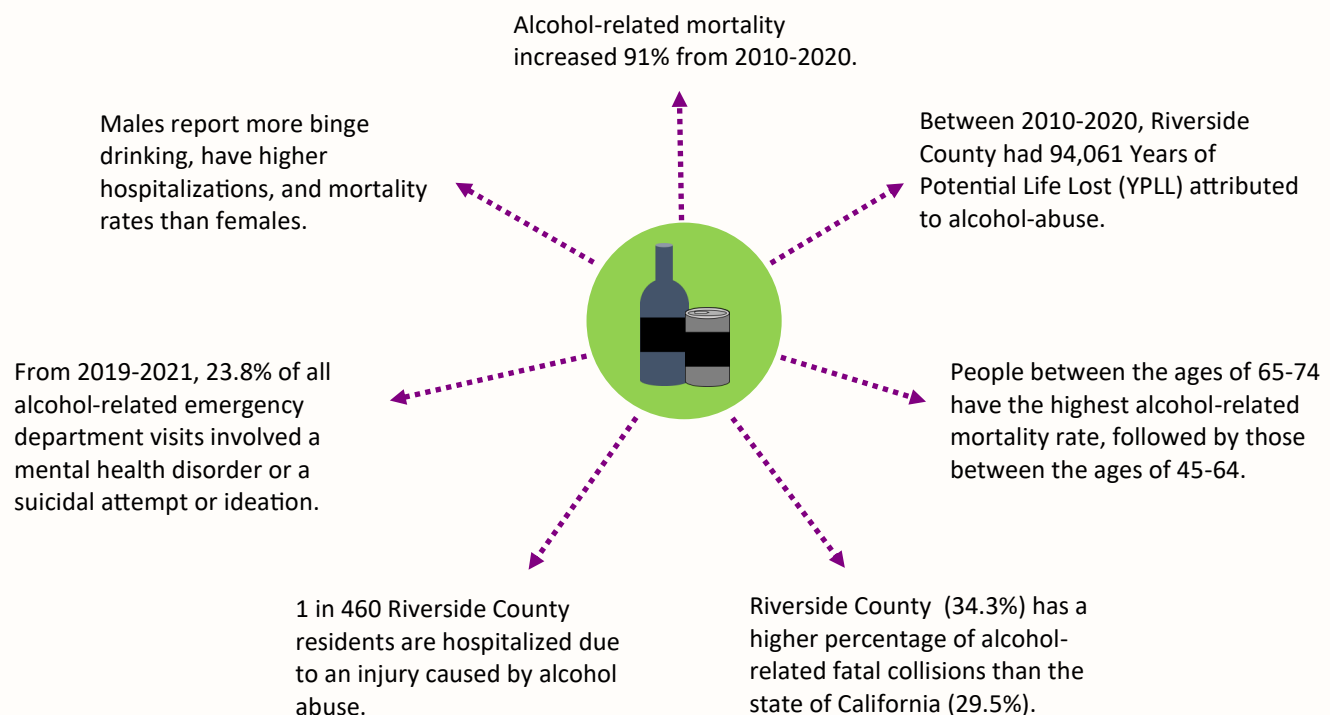
This report aims to increase awareness to the increasing problem of alcohol-abuse in the County of Riverside by reviewing population surveys, hospital inpatient visits, emergency department visits, collision data, and mortality data.

Figure 1. Number of Alcohol-Related Deaths in Riverside County, CA, 2010-2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County. 2010-2020.

Key Findings



MORBIDITY INDICATORS

Binge Drinking

In the United States, binge drinking is the most common form of excessive alcohol abuse. Drinking in excess until the blood alcohol concentration (BAC) is 0.08 g/dl is considered binge drinking. In order to bring your BAC to that level, a male would have to drink approximately five and women would have to drink approximately four alcoholic beverages within two hours. Most people that binge drink do not have a severe alcohol-use disorder². Regardless, binge drinking has been associated with unintentional injuries, violence, sexually transmitted diseases, unintended pregnancy and poor pregnancy outcomes, health problems in newborns, chronic diseases, cancer, mental impairment, and alcohol use disorders³.



Binge Drinking in Riverside County

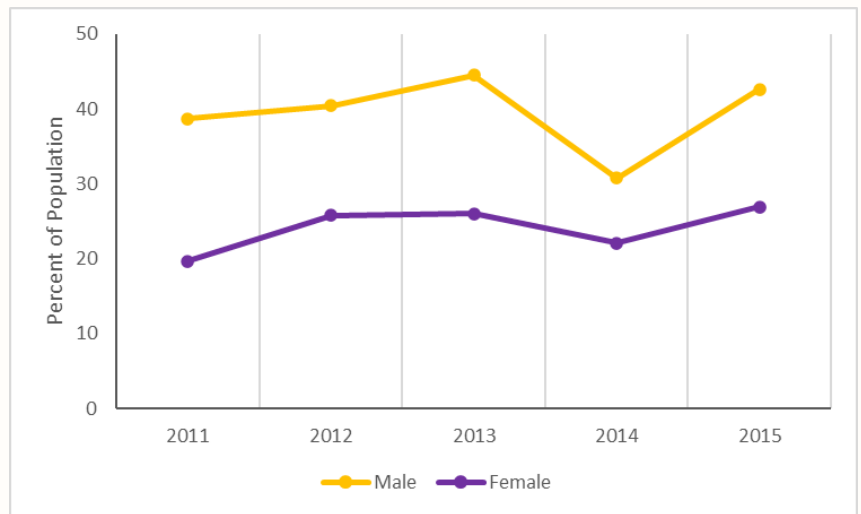
In 2015, 34.7% (C.I. 28.3-41.1) of Riverside County residents reported binge drinking in the past year; the same as the state of California.

Between 2011 and 2015 there was a 29.3% increase of Riverside County residents reporting binge drinking.

A higher percentage of males (42.6%, C.I. 32.6-52.7, in 2015) reported binge drinking than females (26.9%, C.I. 19.3-34.4, in 2015) every year between 2011-2015 (Figure 2).

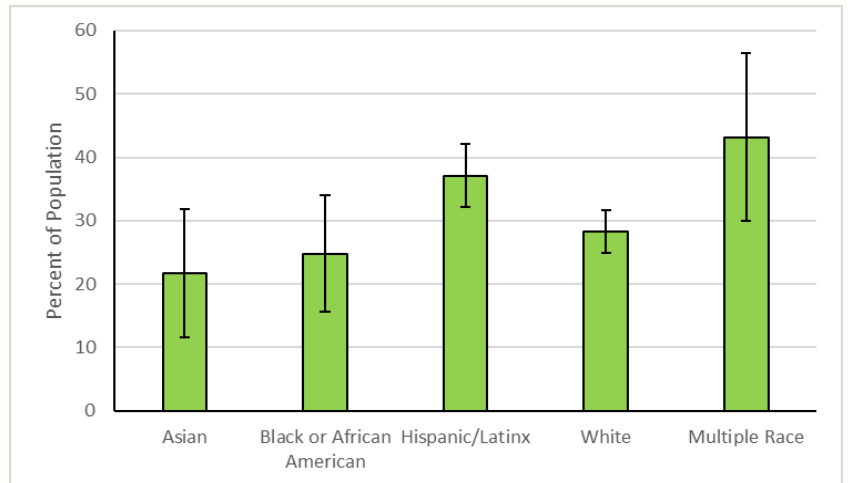
Individuals identifying as Hispanic/LatinX (37.1%) and those identifying as multiple race/ethnicity (43.2%) reported the highest proportion of binge drinking (Figure 3).

Figure 2. Comparison of Self-Reported Binge Drinking Between Males and Females in Riverside County, CA, 2011-2015



Source Figure: UCLA Center for Health Policy Research, Los Angeles, CA. AskCHIS 2011-2015. Binge drinking in the past year (Riverside County). Available at <http://ask.chis.ucla.edu>. Exported on 11/29/2021.
*Transgender/gender non-conforming data unavailable

Figure 3. Binge Drinking in Riverside County by Race/Ethnicity, 2011-2015



Source Figure: UCLA Center for Health Policy Research, Los Angeles, CA. AskCHIS 2011-2015. Binge drinking in the past year (Riverside County). Available at <http://ask.chis.ucla.edu>. Exported on 11/29/2021.
* Information for Pacific Islander and Native American are not available.

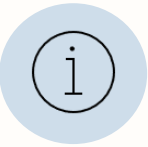
Mental Health



In 2020, an estimated 19.5% (C.I. 16.9-26.4) of the population reported needing help with emotional/mental health problems or alcohol/drug use.



In 2020, 13.2% (C.I. 10.6-15.8) of the Riverside County population visited a professional for mental/drug/alcohol issues at least one time in the past year, and 6% (C.I. 4.3-7.7) sought help from an online tool.

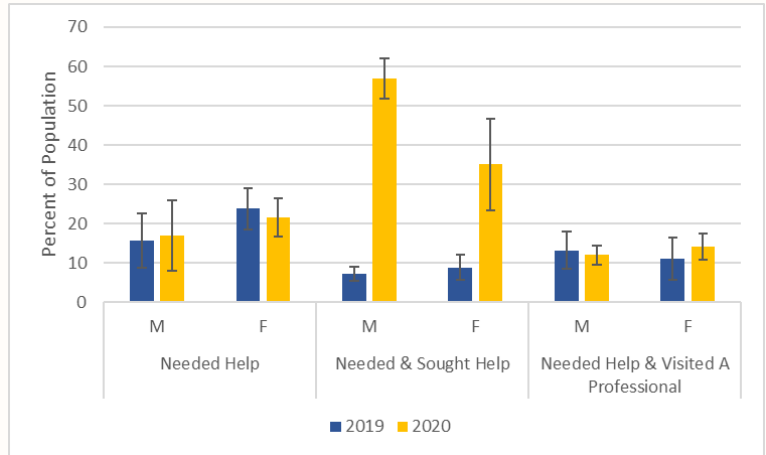


In 2020, less than half (43.8%, 95% CI: 34.4-53.1) of those reporting needing help, actively sought help for this issue.



Only 56.2% (C.I. 46.9-65.6) of those that said they needed help actually received it. Additional efforts could be made to ensure that accessing help for mental/drug/alcohol issues is available for those indicating they need help.

Figure 4. Alcohol and Drug-Related Mental Health Professional Needs and Use, in Riverside County, CA 2019-2020



Source: UCLA Center for Health Policy Research, Los Angeles, CA. AskCHIS 2020. Available at <http://ask.chis.ucla.edu>. Exported on 11/29/2021.

Hospitalizations

Riverside County Resident Alcohol-Related Inpatient Visits, 2016-2019

Alcohol abuse can lead to many health complications. Alcoholic diseases and disorders are caused entirely due to chronic alcohol abuse, but there are other health risks that can increase with alcohol use, such as injuries, cancer, and other diseases⁵. In this section alcohol-related refers to causes that are entirely and partially due to alcohol abuse.



From 2016 to 2019, 9.2% of all inpatient visits to hospitals in Riverside County were alcohol-related.

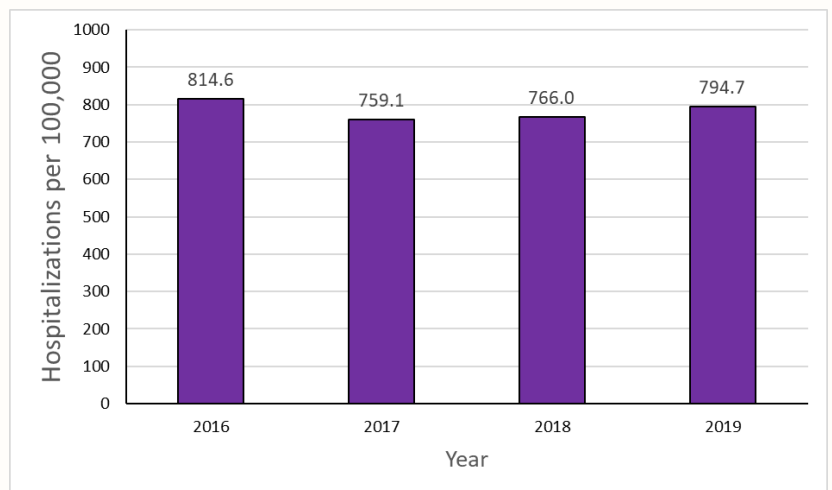


81.3% (n=74,698) of all alcohol-related hospitalizations in the county were Riverside County residents.



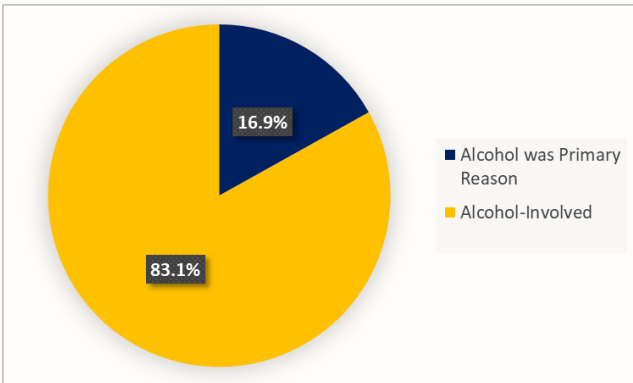
There was a 4.8% increase in all alcohol-related hospitalizations from 2016-2019.

Figure 5 Hospitalizations per 100,000 due Entirely to Alcohol Abuse, Riverside County, CA, 2016-2019



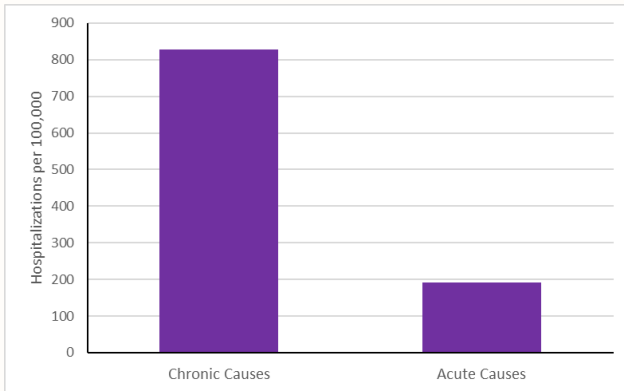
Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data , Riverside County. 2016-2020.

Figure 6. Alcohol-Related Hospitalizations by Alcohol Involvement Riverside County, CA 2016-2019 (n=91,894)



Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County. 2016-2020.

Figure 7. Four-Year Average Hospitalizations due Entirely to Alcohol Abuse by Condition Type, Riverside County, 2016-2019 (n=74,698)



Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County. 2016-2020. *

Table 1. Hospitalizations with Conditions Caused Entirely due to Alcohol Abuse in Riverside County Residents, 2016-2019

	Hospitalizations n(%)	4-Year Rate per 100,000 Population
Injuries	5,221(7.0)	217.8
Motor Vehicle Crashes	1,665(2.2)	69.4
Homicide	1,324(1.8)	55.2
Suicide Attempt or Ideation	528(0.7)	22.0

Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County. 2016-2020. *Frequency(percent) values may not add up to 100 due to rounding and/or missing data.



For hospitalizations that involved alcohol, 83.1% were instances where alcohol contributed to some degree to the hospitalization and 16.9% were primarily due to alcohol use (Figure 6).

5.3% of hospitalizations that were solely caused by alcohol use, had alcohol present in their system at the time of hospitalization. 4.4% of inpatients with an alcohol-caused chronic disease had alcohol in their system when hospitalized.

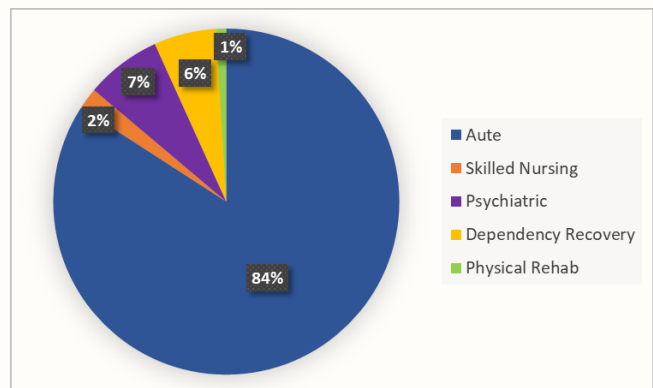
The majority (76.8%) of hospitalizations due to alcohol abuse were due to chronic diseases. 827 hospitalizations per 100,000 population were due to a chronic alcohol condition and 191 per 100,000 were due to acute conditions (Figure 7).

The majority of Inpatient visits were related to acute care (90.3%) followed by psychiatric care (5.9%) (Figure 8).

On average, alcohol-related inpatient visits lasted 5.9 days for acute conditions and 5.7 days for chronic conditions.

From 2016-2019, acute alcohol-attributed inpatient visits accounted for 71.9% of all alcohol-related inpatient costs.

Figure 8. Alcohol-Related Inpatient Visits by Care Type, Riverside County, CA 2016-2019 (n=74,698)



Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County. 2016-2020.

For the purpose of this report, only 100% attributable and Direct ICD 10 codes for chronic and acute causes were used as indicated in: <https://www.cdc.gov/alcohol/ardi/alcohol-related-icd-codes.html>

Alcohol-Attributed Inpatient Demographic Profile for Riverside County Residents

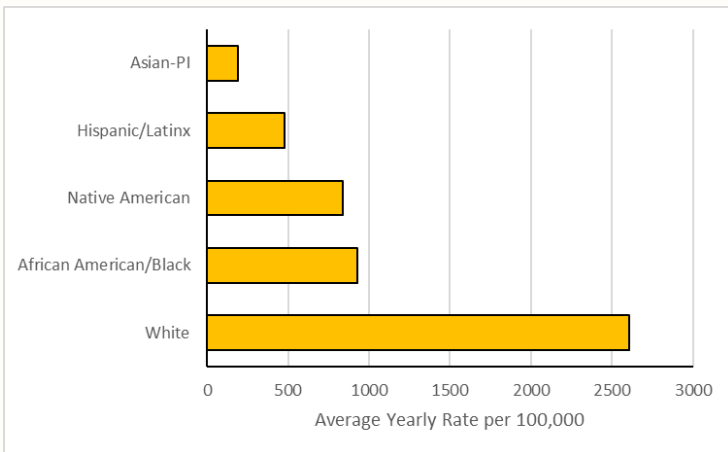


Rates for age and sex stayed consistent from 2016-2019. Males had a 2.0% increase and females had a 0.3% decrease in the number of inpatient visits caused entirely to alcohol use from 2016 to 2019.



White/non-Hispanics had a higher number of inpatient visits due to alcohol use (n=44,449) than any other racial/ethnic group from 2016-2019 (Table 2).

Figure 9. Average Inpatient Visit Rates Caused Entirely by Alcohol Abuse by Ethnicity, Riverside County, CA 2016-2020



Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County, 2016-2020. *Asian and Pacific Islander are reported together until 2019 and cannot be disaggregated.

Table 2. Socio-Demographics of Hospitalizations Caused by Alcohol Abuse for Residents of Riverside County, 2016-2019

	Total n(%) ¹	Average Yearly Rate per 100,00 Population
Age Group		
Under 15	721(1.0)	35.4
15-24	3,834(5.1)	277.5
25-44	15,373(20.6)	585.1
45-64	29,670(39.7)	1,264.3
65-74	12,613(16.9)	1,571.3
75+	12,487(16.7)	2,049.1
Sex		
Female	29,225(39.1)	594.3
Male	45,469(60.9)	930.6
Race/Ethnicity		
Asian-PI	1,135(1.5)	189.9
African American/Black	5,159(6.9)	926.3
Hispanic/Latinx	20,784(27.8)	478.3
Multiple Race/Other	2,105(2.8)	1,041.0
Native American ²	390(0.5)	837.8
White/Non-Hispanic	44,449(59.5)	2,607.7

Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County, 2016-2020. ¹Frequency(percent) values may not add up to 100 due to rounding and/or missing data. ²This population is less than 20,000. *Asian and Pacific Islander are reported together until 2019 and cannot be disaggregated. *Transgender/gender non-conforming data unavailable.

Spatial Distribution of Alcohol-Related Inpatient Visits, 2016-2019

Table 3. Hospitalizations Due to Entirely to Alcohol Abuse, Riverside County Regions, 2016-2019 (n=74,671)

	Hospitalizations n(%) ¹
Coachella Valley	19,183(25.7)
East	479(0.6)
Mid	15,215 (20.4)
Northwest	27,901(37.4)
Southwest	11,892(15.9)

Source: Department of Health Care Access and Information (HCAI): Patient Discharge Data, Riverside County, 2016-2020. ¹Frequency(percent) values may not add up to 100 due to rounding and/or missing data.



The Northwest region in Riverside County had the highest number (n=27,901) of alcohol-attributed inpatient visits (Table 3).

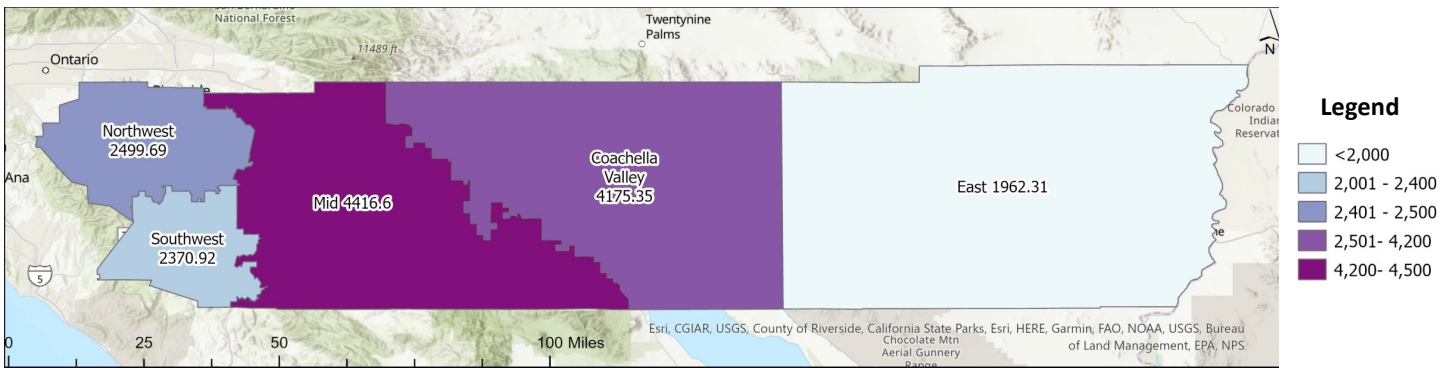


The residential zip code with the highest number of alcohol-related inpatient visits in 2019 was 92503 (Riverside City, n=602), in the Northwest region.



In 2019, the Mid region in Riverside County had the highest alcohol-related inpatient rate (23 per 1,000) followed closely by Coachella Valley (20 per 1,000) (Figure 10).

Figure 10. Hospitalization 4-Year Rates due Entirely to Alcohol Abuse by Riverside County Region, 2016-2019



Source: The California Office of Statewide Health Planning and Development (OSHPD): Patient Discharge Data , Riverside County, 2019 .
 *Data is displayed by quantiles.

Alcohol-Related Emergency Department Visits, 2019-2021

In Riverside County, 15 of 17 emergency departments (ED) participated in syndromic surveillance and submitted daily data to ESSENCE (Electronic Surveillance System for the Early Notification of Community-Based Epidemics), from 2019-2021. Although timely, the information in this section is limited due to ED participation being voluntary.



From 2019-2021, there were a total of 26,977 alcohol-related ED visits. 85% of these visits were from Riverside County residents.

On average, there were a total of 24 (SD= 6.7) daily alcohol-related emergency department visits throughout the county.

A total of 5,434 (20.7%) alcohol-related ED visits also had a mental-health component; included depression, a suicidal component, or a diagnosed mental-health disorder.

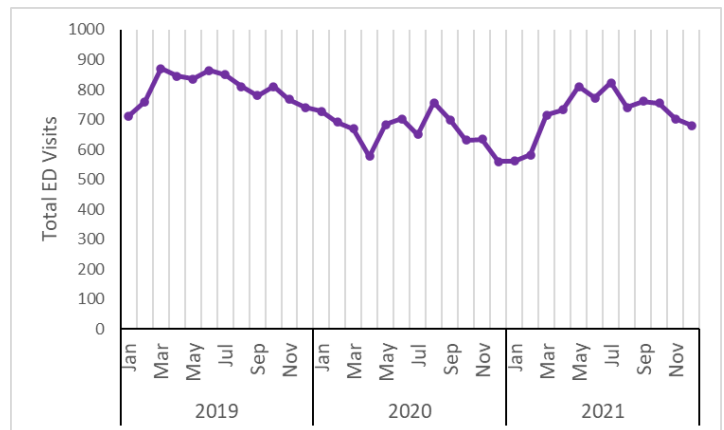
A total of 2,225 (9.6%) alcohol-related ED visits were due to physical injuries such as traffic incidents, work-related injuries, or a fall.

A total of 124 (0.5%) alcohol-related visits to the ED were associated with firearms and intimate partner or sexual violence.

Alcohol-related ED visits tend to be lowest during the winter and fall months, increasing in the spring, and peaking in the summertime (Figure 11).

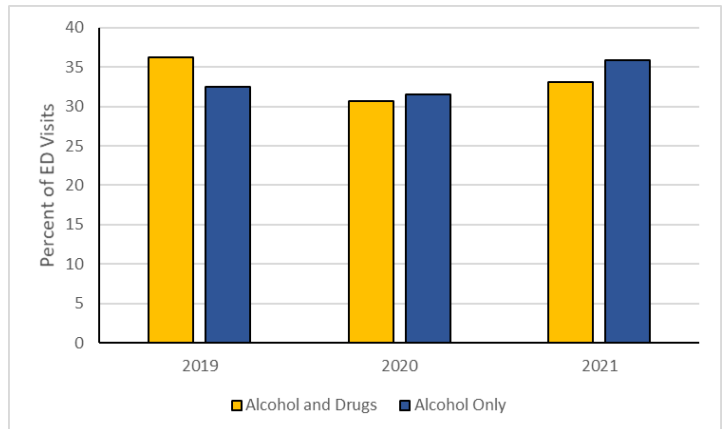
2019 accounted for 36% of all alcohol and drug-related visits from 2019-2021. This was lower in 2020 and 2021. The opposite is true for alcohol-only visits (Figure 12).

Figure 11. Number of Alcohol-Related Emergency Department Visits by Month, Riverside County, CA 2019-2021



Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County. 2019-2021 .

Figure 12. Comparison of the Proportion of Alcohol-Related ED Visits and Alcohol and Drug-Related Visits from 2019-2021, Riverside County



Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County. 2019-2021 .

Riverside County Alcohol-Related Emergency Department Visits Demographic Profile 2019-2021



Alcohol-related injuries in the African-American/Black community decreased 2.2% from 2019 to 2021, while all other racial/ethnic groups increased (Figure 13).

Hispanic/Latinx (38.5%) and White/Non-Hispanic (45%) populations had the highest proportions of alcohol-related ED visits (Figure 14).



Those between the ages of 45-64 had the highest number of visits to the ED (Table 4).

Those between the ages of 25-44 had higher proportion of concurrent mental health issues (49.2%), drug use (50.3%), and unintentional injuries (33.9%) (Table 4).



Males made up the highest proportion (64.9%) of alcohol-related ED visits (Table 4).

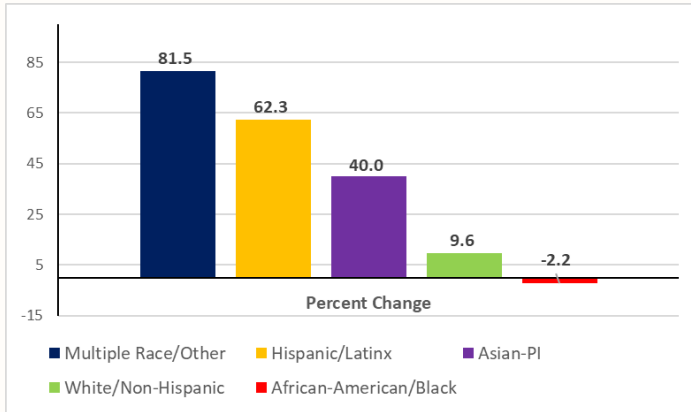
Males had a higher proportion of ED visits in relation to alcohol and mental health issues (61.1%), other drug use (63.3%), and unintentional injuries (65.1%) than females (Table 4).

Table 4. Frequencies and Percent of Alcohol-Related ED Visits for Residents in Riverside County by Sociodemographics, 2019-2020

	Total ED Visits ¹ (n=26,273)	Alcohol and Mental Health ¹ (n=5,434)	Alcohol and Other Drugs ¹ (n=2,084)	Alcohol and Unintentional Injuries ¹ (n=2,225)
Age Group				
Under 15	183(0.8)	33(0.6)	44(2.1)	8(0.4)
15-24	3,116(13.5)	632(11.8)	535(25.7)	407(18.3)
25-44	9,711(42.0)	2,633(49.4)	1,048(50.3)	756(33.9)
45-64	7,412(32.1)	1,824(34.2)	383(18.4)	309(13.9)
65-74	1,615(7.0)	243(4.6)	63(3.0)	501(22.5)
75+	585(2.5)	69(1.3)	11(0.5)	244(11.0)
Sex				
Female	7,591(32.8)	2,172(40.7)	763(36.6)	773(34.7)
Male	15,019(64.9)	3,261(61.1)	1,320(63.3)	1,448(65.1)
Ethnicity				
Asian-PI ²	199(0.9)	56(1.0)	13(0.6)	23(1.0)
African American/Black	1,790(7.7)	375(7.0)	253(12.1)	140(6.3)
Hispanic/Latinx	8,900(38.5)	1,904(35.7)	831(39.9)	893(40.1)
Multiple Race/Other	1,096(6.1)	218(4.1)	76(3.6)	108(4.9)
Native American ³	100(0.4)	17(0.3)	10(0.5)	10(0.4)
White/Non-Hispanic	10,408(45.0)	2,850(53.4)	894(42.9)	1,031(46.3)

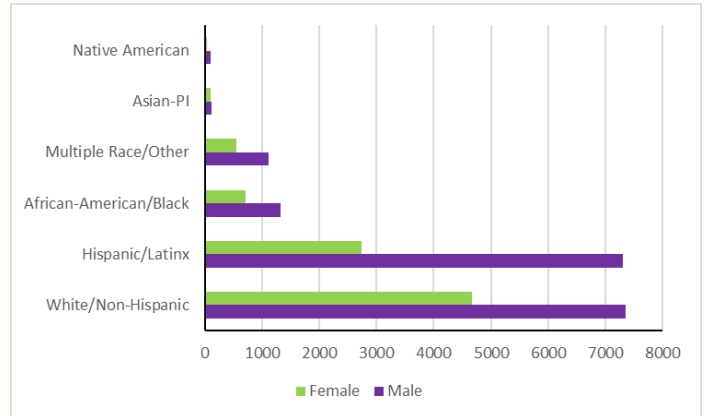
Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County, 2019-2021. ¹Frequency(percent) values may not add up to 100 due to rounding and/or missing data. ² Asian and Pacific islander are reported together and cannot be disaggregated. ³This population is less than 20,000. *Transgender/gender non-conforming data unavailable.

Figure 13. Percent Change in Alcohol-Related Injuries 2019-2021 by Race/Ethnicity, Riverside County



Source: Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County, 2019-2021. * Native American not shown due to no injuries in 2019. ** Asian and Pacific Islander are reported together and cannot be disaggregated in this report.

Figure 14. Number of Alcohol-Related ED Visits by Ethnicity, Riverside County, CA 2019-2021



Source: Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County, 2019-2021. * Native American population is less than 20,000. ** Asian and Pacific Islander are reported together and cannot be disaggregated in this report.

Spatial Distribution of Emergency Department Visits

Table 5. Riverside County Cities With the Highest Residential Alcohol-Related ED Visits Rates, 2021 (n=8641)

City	ED Visits n(%) ¹	Rate per 100,000 Population ¹
Desert Hot Springs	228(2.6)	840.3
Hemet	696(8.1)	733.1
Palm Springs	343(4.0)	769.5
Lake Elsinore	389(4.5)	727.5
Riverside	1736(20.1)	571.3

Source: Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County, 2019-2021. *Only includes cities or CDP with populations over 20,000. ¹Frequency(percent) values may not add up to 100 due to rounding and/or missing data.

Table 6. Riverside County Regions with Highest Residential Alcohol-Related ED Visits, 2021 (n=8641)

Region	ED Visits n(%) ¹	Rate per 100,000 Population ¹
Coachella Valley	1,650(19.1)	359.7
East	6(0.1)	24.8
Mid	1,251(14.5)	360.0
Northwest	3,515(40.7)	314.6
Southwest	1,835(21.2)	362.5

Source: Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County, 2019-2021. *Frequency(percent) values may not add up to 100 due to rounding and/or missing data.

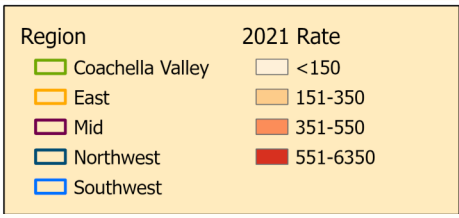
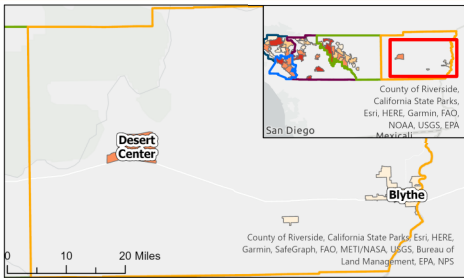
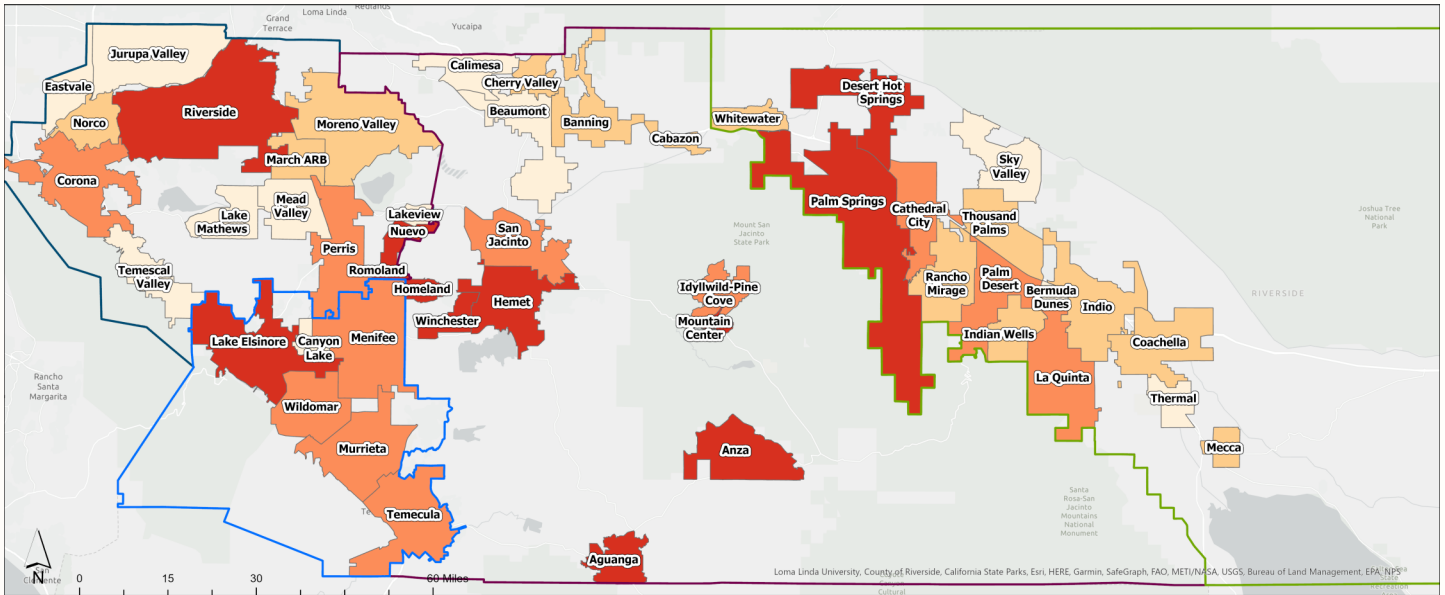


The majority of ED visits, required a Riverside County resident to travel over 5 miles. 1,139 (4.0%) total visits to the ED were less than 1 mile away, 2670 (9.9%) of total visits were between 2-3 miles away, and 7945 (29.7%) of visits were between 3-4 miles away.

The city of Desert Hot Springs had the highest alcohol-related visits rate (840.3) in 2021, however, Riverside city had the highest total number of alcohol-related ED visits and was in the top 5 cities with the highest rate (Table 5).

Although the Southwest region of Riverside County had the highest rate of alcohol-related ED visits, all regions have smaller geographies within them that have high rates (Table 6, Figure 15).

Figure 15. Emergency Department Visit Rate per 100,000 Population by Resident City in Riverside County, CA, 2021



Source: Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE): Riverside County, 2021. *Data is displayed by quantiles

Alcohol Involved Collisions 2019-2021

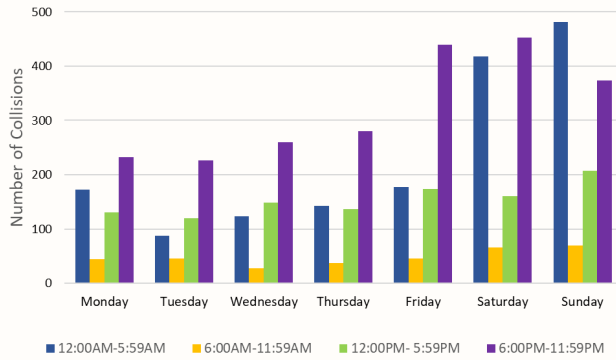
It is estimated that, in the United States, one person dies every 50 minutes due to a motor-vehicle crash involving an alcohol-impaired driver¹. Riverside County had a similar proportion of alcohol-involved collisions (10.9%) compared to California (10.5%), but had a higher proportion of alcohol related fatalities (34.3%) than California(29.5%).

Table 7. Comparison of Alcohol Involved Collisions in Riverside County and California, 2019-2020

	Total Incidents		Injuries		Fatalities	
	State n(%)	RC n(%)	State n(%)	RC n(%)	State n(%)	RC n(%)
Alcohol Involved						
No	750,222(89.5)	43,409(89.1)	422,524(89.3)	23,939(88.7)	5,396(70.5)	391(65.7)
Yes	88,412(10.5)	5,324(10.9)	50,633(10.7)	3045(11.3)	2,260(29.5)	204(34.3)
Impaired Vehicle Collided With						
Non-collision	2,575(2.9)	190(3.6)	2,042(4.0)	135(4.4)	132(5.8)	10(4.9)
Pedestrian	3,074(3.5)	152(2.9)	2,695(5.3)	95(3.1)	518(22.9)	52(25.5)
Other motor vehicle	37,273(42.2)	2,426(45.6)	28,318(55.9)	1,850(60.8)	774(34.2)	82(40.2)
Parked motor vehicle	14,195(16.1)	5,68(10.7)	3,594(7.1)	135(4.4)	49(2.2)	3(1.5)
Train	18(0.02)	1(0.02)	6(0.01)	0(0.0)	1(0.04)	0(0.0)
Bicycle	1029(1.2)	43(0.8)	937(1.9)	36(1.2)	57(2.5)	4(2.0)
Animal	44(0.05)	4(0.1)	24(0.05)	3(0.1)	1(0.04)	0(0.0)
Object	29,753(33.7)	1,929(36.2)	12,727(25.1)	789(25.9)	728(32.2)	53(26.0)

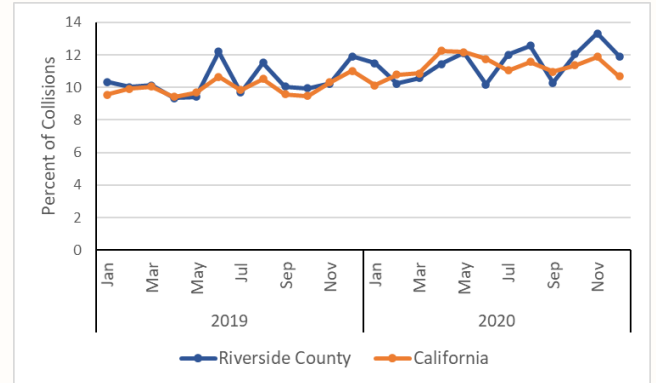
Source: Statewide Integrated Traffic Records System (SWITRS): Collisions 2019-2020.
¹Frequency (percent) values may not add up to 100% due to rounding and/or missing data.

Figure 16. Number of Alcohol-Related Collisions in Riverside County by Day of the Week, 2019-2020



Source: Statewide Integrated Traffic Records System (SWITRS): Collisions 2019-2020.

Figure 17. Percent of Alcohol-Related Accidents from 2019-2020 by Month, Riverside County



Source: Statewide Integrated Traffic Records System (SWITRS): Collisions 2019-2020.



Most impaired vehicles collided with another motor vehicle (45.6%) or an object (36.2%) on the road (Table 7).

Riverside County had a lower percentage of injuries (3.1%) to pedestrians due to an impaired driver compared to California (5.3%), but had 2.6% more pedestrian fatalities (Table 7).

Riverside County had 5.4% less total impaired vehicle collisions involving a parked vehicle than California (Table 7).



17.0% of all alcohol-involved collisions, from 2019-2020, occurred on a Saturday between the hours of 12AM and 6AM (Figure 16).

The highest number of alcohol-related collisions in 2019 and 2020 occurred between the hours of 12AM-2AM early Sunday morning (n=330) followed by 12AM-2AM Saturday morning (n=287).

From Monday -Thursday, alcohol-involved collisions accounted for less than 10% of all collisions in a day, however, the proportion increased on Friday (10.6%), Saturday (16.8%), and Sunday (19.7%) (Figure 16).



The percent of collisions attributed to alcohol in Riverside County were higher than that of California 15 out of 24 months between 2019-2020 (Figure 17).

Riverside County saw a 5.0% decrease in alcohol-related collisions from 2019-2020 and California saw a decrease of 12.0%.

Riverside County has higher proportions of alcohol-involved incidents (10.9% vs 10.5%), injuries (11.3% vs 10.7%), and fatalities (34.3% vs 29.5%) compared to the state of California (Table 7).

Alcohol-Related Mortality 2010-2020



3.3% (n=5,878) of all county deaths between 2010 to 2020 were alcohol-related.

On average, 534 alcohol-related deaths occurred each year between 2010 and 2020.

The average annual age-adjusted mortality rate between 2010 and 2020 was 23.4 per 100,000.

There was a 91.1% increase in alcohol-related deaths between 2010 and 2020 (Figure 1).

96.2% (n=5,657) of all alcohol-related deaths were due to chronic alcohol-use causes and 3.8% (n=221) deaths were due to acute causes.

89.1% of all alcohol related deaths occurred in those aged 45 and over (n=5,239). 96% of these deaths were due to chronic causes.

Males aged 15-24 (56%, n=18) had a higher proportion of acute deaths than females of the same age group (27%, n=7).

The large shift in proportion between acute and chronic mortality causes between the ages of 15-24 (60% acute) and 24-44 (12% acute) points to a need for public health intervention before the age of 25 (Figure 18).

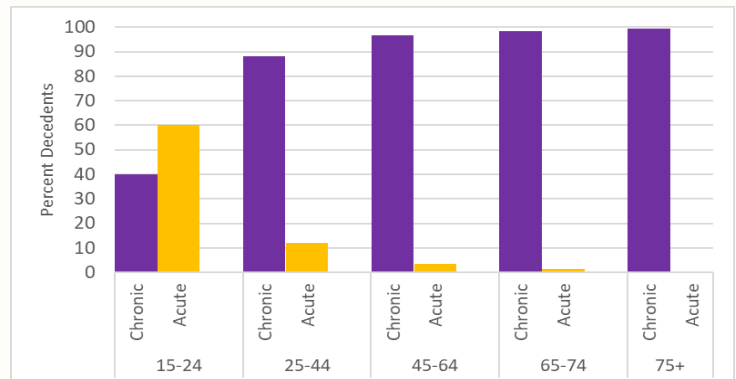
Chronic mortality causes included death from diseases directly or completely caused by long-term alcohol abuse. Acute deaths, included injuries/accidents while intoxicated and/or using drugs, and/or organ failure due to excessive drinking.

Table 8. Alcohol-related Deaths in Riverside County from 2010-2020 by Social Determinants of Health (n=5878)

	Total deaths n(%) ¹	Average Crude Death Rate per 100,000 Population
Age group		
15-24	23(0.4)	0.7
25-44	614(10.4)	9.0
45-64	3,252(55.3)	53.1
65-74	1,297(22.1)	65.8
75+	690(11.7)	45.4
Sex		
Female	1,580(26.9)	12.1
Male	4,298(73.1)	33.2
Marital status		
Single	1,387(23.6)	17.5
Married	2,403(40.9)	21.0
Widowed	637(10.8)	53.1
Divorced	1,896(32.3)	86.0
Armed forces		
No	4,808(81.7)	356.8
Yes	1,021(17.4)	75.9
Education²		
No HS diploma	1,295(22.0)	41.6
HS diploma	2,229(37.9)	50.6
Some college	1,089(18.5)	26.0
Associate	351(6.0)	27.0
Bachelor	483(8.2)	21.1
Graduate/Professional	228 (3.9)	17.7
Race/Ethnicity		
Asian-PI ³	106(1.8)	*
African American or Black	309(5.3)	20.2
Hispanic / Latinx	1,935(32.9)	16.2
Native American ⁴	64(1.1)	*
White	3,449(58.7)	35.0

Source: California Integrated Vital Records System (Cal-IVRS), Riverside County. 2010-2020. ¹frequency (percent) values may not add up to 100 due to rounding and/or missing data. ²Educational attainment includes only those aged 25 and older (n=5,854). ³Events for Pacific Islander are aggregate with Asian due to low counts, rate suppressed due to low numbers. ⁴Rate suppressed due to instability. *Transgender/gender non-conforming data unavailable.

Figure 18. Alcohol-Related Mortality by Age Group and Type of Mortality Cause, Riverside County, 2010-2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County. 2010-2020.

Alcohol-Related Mortality Socio-Demographics in Riverside County, 2010-2020



There was a 92.5% difference in the total number of alcohol-related decedents between males (n=4,297) and females (n=1,580) from 2010-2020.

There are marked differences in alcohol-related mortality rates between age groups. Those in ages 65-75 have higher mortality rates than any other age group (Figure 19).

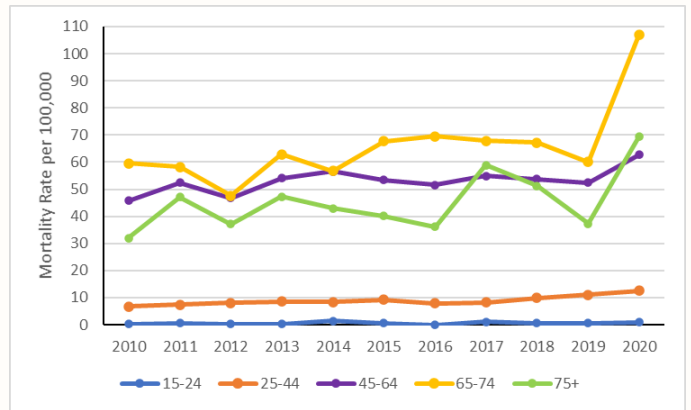
After adjusting for age, Asian-PI and Hispanic populations had the lowest alcohol-related mortality rates over time (Figure 20).

From 2010 to 2020, those never married had a 135% increase in alcohol-related deaths followed by the widowed population which had a 119% increase.

Divorced populations had the highest alcohol-related mortality rate followed by those who were widowed (Figure 21).

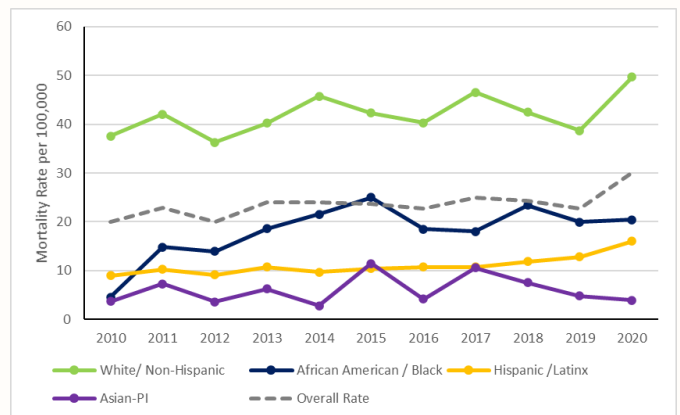
Regardless of educational attainment, males had higher proportions of alcohol-related deaths in comparison to females (Figure 22).

Figure 19. Alcohol-Related Mortality Rates by Age Group, Riverside County, 2010-2020



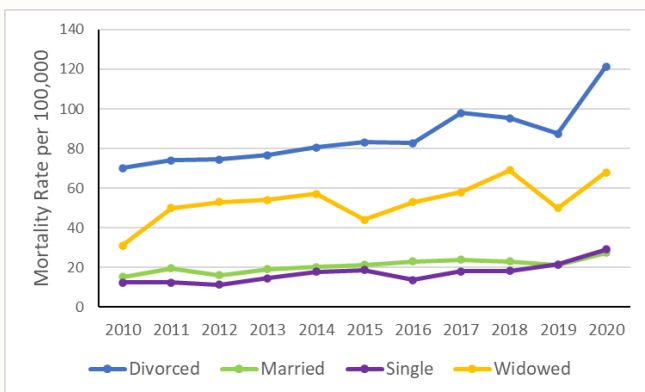
Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2010-2020.

Figure 20. Age-Adjusted Alcohol-related Mortality Rates by Ethnicity, Riverside County, 2010-2020



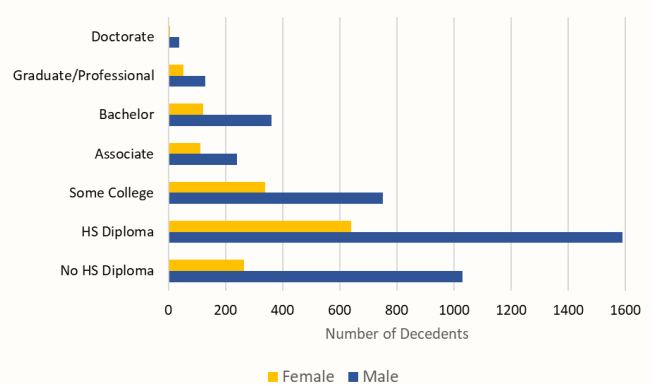
Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2010-2020. *Native American Population not depicted due to unstable rates. *Events for Pacific Islander are aggregated with Asian due to low counts.

Figure 21. Mortality Rate by Marital Status, Riverside County, 2010-2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2010-2020.

Figure 22. Number of Alcohol-Related Mortality by Educational Attainment, Riverside County, 2010-2020

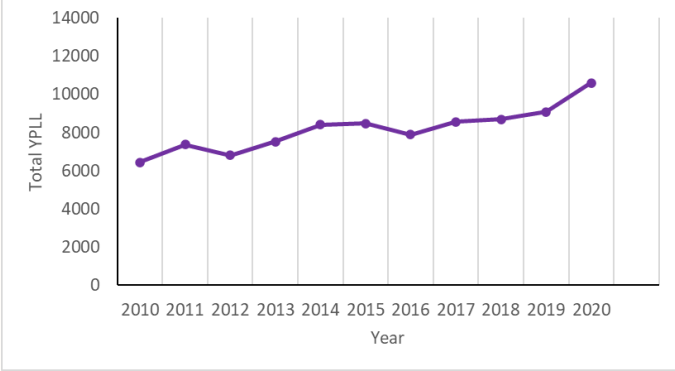


Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2010-2020. *Transgender/gender non-conforming data unavailable.

Years of Potential Life Lost

Years of potential life lost (YPLL) is used to reflect the impact of premature deaths. In Riverside County, a premature death is that which occurred before the age of 75. In this section, the YPLL of alcohol-related deaths are explored.

Figure 23. Years of Potential Life Lost in Riverside County, 2010-2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2010-2020.

1

A total of 94,061 years of potential life lost (YPLL) was attributed to alcohol-abuse between 2010 and 2020.

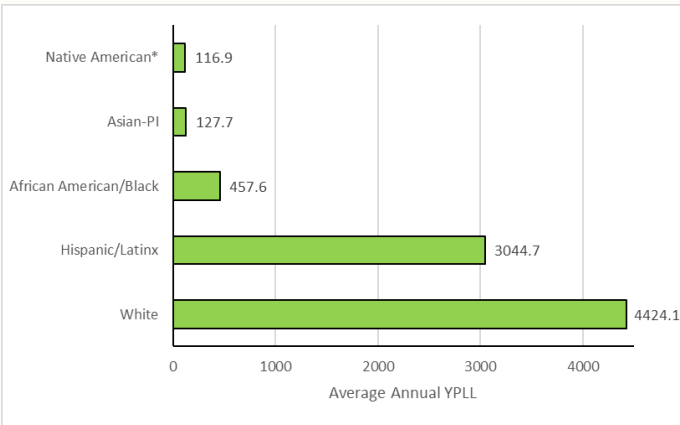
2

YPLL increased 68.7% from 2010-2020 (Figure 23).

3

On average, 15 years of premature deaths were lost for each alcohol-related death from 2010-2020.

Figure 24. Average Annual Years of Potential Life Lost by Ethnicity, Riverside County, 2010-2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2010-2020.

*Native American Population consists of fewer than 20,000 individuals. **Pacific Islander events are aggregated with Asian due to low counts.

4

White (982.7 YPLL per 100,000) and African American/Black (620.1 YPLL per 100,000) populations consistently had the highest alcohol-related YPLL rates between 2012-2021.

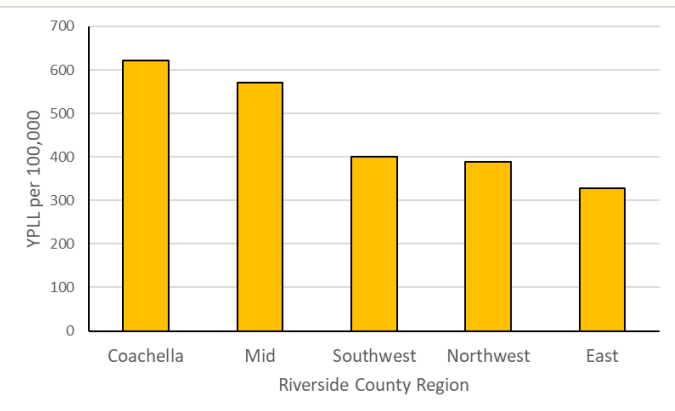
5

Decedents that were divorced had over three times the YPLL (14,202.9 per 10,000) than married, widowed, or never married decedents from 2010, to 2020.

6

62.7% of the YPLL due to alcohol abuse were from decedents that had a highest educational attainment of a high school diploma or less.

Figure 25. Years of Potential Life Lost by Riverside County Regions, 2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2020.

7

The Coachella Valley region in Riverside County had the highest YPLL (623.2 per 100,000) in 2020 (Figure 25).

8

The Southwest region had a 104% increase in the total number of alcohol-related deaths from 2010-2020.

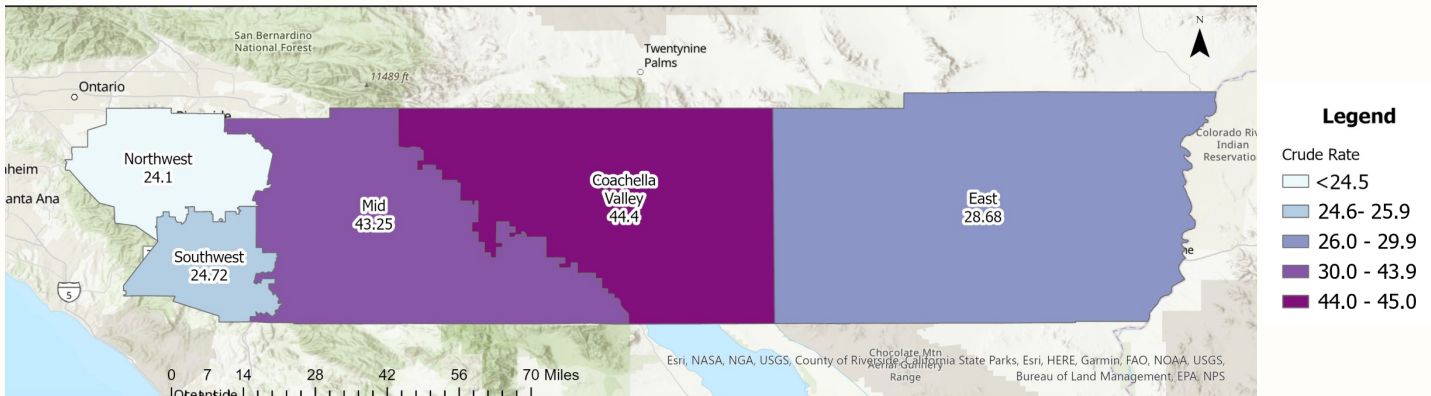
9

The East region of Riverside County was the only region that had a decrease (-26.6%) in YPLL from 2010-2020.

Spatial Distribution of Alcohol-Related Mortality in Riverside County, 2020

The Coachella Valley and Mid region of Riverside County share the largest burden of alcohol-related deaths per 100,000 of the population (Figure 26). Although these regions had the highest burden of alcohol-related deaths, the city of Riverside, located in the Northwest region, consistently had the highest alcohol-related death rate in the county every year from 2010-2020, the rate being 5.0 per 100,000 in 2020.

Figure 26. Alcohol-Related Mortality Rate per 100,000 Population in Riverside County, CA, 2020



Source: California Integrated Vital Records System (Cal-IVRS), Riverside County, 2020.
 *Data is displayed by quantiles.

Future Directions

Further studies will address access to resources and help in historically under-resourced neighborhoods. More information is needed to understand behaviors surrounding alcohol abuse. Data surrounding binge drinking in Riverside County is lacking for recent years, making it difficult to understand current drinking behaviors for adolescents and adults. The 2020 CHIS survey suggests that half of the population in Riverside County that report needing mental-health help, for alcohol/drug -related issues, actually seek help but it is important to understand what prevents the other half from pursuing the help they need. Collaborating with other partners such as the Riverside Medical Center and RUHS-Behavioral Health may bring some understanding to current behaviors and shed some light on gaps that need to be addressed to improve program success.

Injuries relating to alcohol use, in the recent years, have increased. Looking into the occupations and health insurance status of people suffering from the effects of alcohol abuse may provide some insight to help determine what kinds of gap gaps are present in our communities as well as the role job industries play on alcohol abuse.

Chronic diseases shared the largest proportion of alcohol-related deaths in Riverside County. It is recommended that alcohol interventions begin before the age of 25, a time where the chronic effects of alcohol abuse is still minimal in the community. It is known that the harm from excessive alcohol use can be prevented through early screening and interventions in adolescents and adults as well as government control over alcohol sales¹, however, more information is needed to understand what preventative measures are needed to best serve the community. Further studies will address the role of alcohol outlet densities throughout the County of Riverside to determine any needs for intervention.

The Mid and Coachella Valley regions have the highest alcohol-related rates for hospitalizations, emergency department visits, and deaths. Future interventions should focus in these areas, especially in the younger populations, where early interventions can help change behavior and prevent chronic disease.

Riverside University Health System-Public Health understands the need for better representation of marginalized populations, such as the LGBTQ+ community and persons who are unstably housed and is working to remedy this informational gap so that future analysis and interventions can be more inclusive.

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Suggested Citation: Ruedas, Gimena. *Alcohol Morbidity and Mortality Report 2022*. Riverside University Health System-Public Health, Epidemiology Program Evaluation.

Acknowledgements: Rachaline Napier, MPH, Epidemiologist, Epidemiology & Program Evaluation. Rick Lopez, B.S., Research Specialist I, Epidemiology & Program Evaluation. Joseline Franco, MPH, GIS Research Specialist I, Epidemiology & Program Evaluation.

Mentions: A special thanks to Aaron Gardner, Kevin Meconis, Sheena Patel, Dulce Martinez Luna, Amy Hyong, and Wendy Hetherington for advice and guidance in the preparation of this document.