

Alcohol Poisoning Deaths, New Mexico and the United States, 2008-2012

Alcohol poisoning is a medical emergency that occurs when a person's blood alcohol concentration (BAC) is sufficiently elevated to interfere with vital functions such as breathing, heart rate, and temperature control. Symptoms can include confusion, vomiting, difficulty breathing, low body temperature, seizures, and loss of consciousness (1). In some cases, alcohol poisoning can result in death.

New Mexico has the highest alcohol-attributable mortality rate in the nation (2) and alcohol poisoning death is a contributor to this high mortality rate. In New Mexico, 4.4% of alcohol attributable deaths are due to alcohol poisoning and in some counties this percentage is much higher. For example, alcohol poisoning accounts for 12.8% of alcohol-related deaths in McKinley County. A previous report (3) of alcohol poisoning in New Mexico highlighted the need to conduct surveillance on alcohol poisoning and identify high risk groups. This report will compare alcohol poisoning rates for New Mexico to those for the United States in order to support the development of policies and public health interventions in New Mexico.

Methods

Deaths due to alcohol poisoning were defined using the following International Classification of Diseases 10 (ICD-10) codes: X45 and Y15. This is consistent with the definition used by the CDC (4). Deaths due to suicide by and exposure to alcohol (X65) and excessive blood level of alcohol (R78.0) are not included in this definition. All alcohol poisoning deaths from 2008 through 2012 among New Mexico residents and in the United States were identified using the CDC WONDER Underlying Cause of Death Dataset (5). This time period was chosen in order to make comparisons between the United States and New Mexico. The definition of alcohol poisoning changed in 2007. This resulted in a nearly four-fold increase in the number of deaths classified as alcohol poisoning between 2006 and 2007. Therefore rates before 2007 are not reported

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here. County rates within New Mexico were identified from 2009 through 2013, using New Mexico Death Certificate Data from the Bureau of Vital Records and Health Statistics, New Mexico Department of Health.

Alcohol poisoning mortality rates were calculated by decedent demographics for the five-year period, 2008-2012, and by county for the five-year period, 2009-2013 (2013 national data were not available as of press time). Death rates were age-adjusted to the 2000 U.S. standard population and expressed per 100,000 population.

Results

In 2012, 53 people died of alcohol poisoning in New Mexico and 2,238 people died of alcohol poisoning in the U.S. The mortality rate for New Mexico was 2.5 deaths per 100,000 population. This was more than three times the national rate of 0.7 deaths per 100,000. From 2008 to 2012, rates of alcohol poisoning deaths remained 3.4 – 3.9 times higher in New Mexico compared to the United States (Figure 1).

Rates of alcohol poisoning were consistently higher in New Mexico than in the U.S. across all demographic groups (Figure 2). In New Mexico and the U.S., Men had higher rates of alcohol poisoning than women. Rates for women in New Mexico were 3.7 times higher than rates for U.S. women and rates for men in New Mexico were 3.8 times higher than for U.S. men. Rates among American Indians/Alaskan Natives and Hispanics in New Mexico were nearly three times higher than their counterparts nationwide. Rates among Whites in New Mexico were 60% higher than rates among Whites in the United States. Rates for Asians/Pacific Islanders and Black/African Americans were not included due to small numbers. Although rates in the

United States peaked between the ages of 40-59 years, rates in New Mexico were highest in the 40-49 year age group.

In New Mexico, rates were highest in counties in the Northwest part of the state (Figure 3), particularly in McKinley County (mortality rate: 13.5 deaths per 100,000 population) and San Juan County (7.5 deaths per 100,000 population). The lowest rates in New Mexico were in Eddy County, Lea County (both 0.3 deaths per 100,000), and Curry County (0.4 deaths per 100,000 population). However, these rates should be considered unstable due to small numbers.

Discussion

In New Mexico and in the U.S., alcohol poisoning deaths occurred disproportionately among persons aged 40-59 years, men, and American Indians. However, New Mexico's overall alcohol poisoning mortality rate was more than three times higher than the national rate, and rates were higher in New Mexico for every demographic group assessed. This suggests that to close the gap between New Mexico's and the United States' alcohol poisoning mortality rates, interventions are warranted not just in high risk groups, but in all demographic groups.

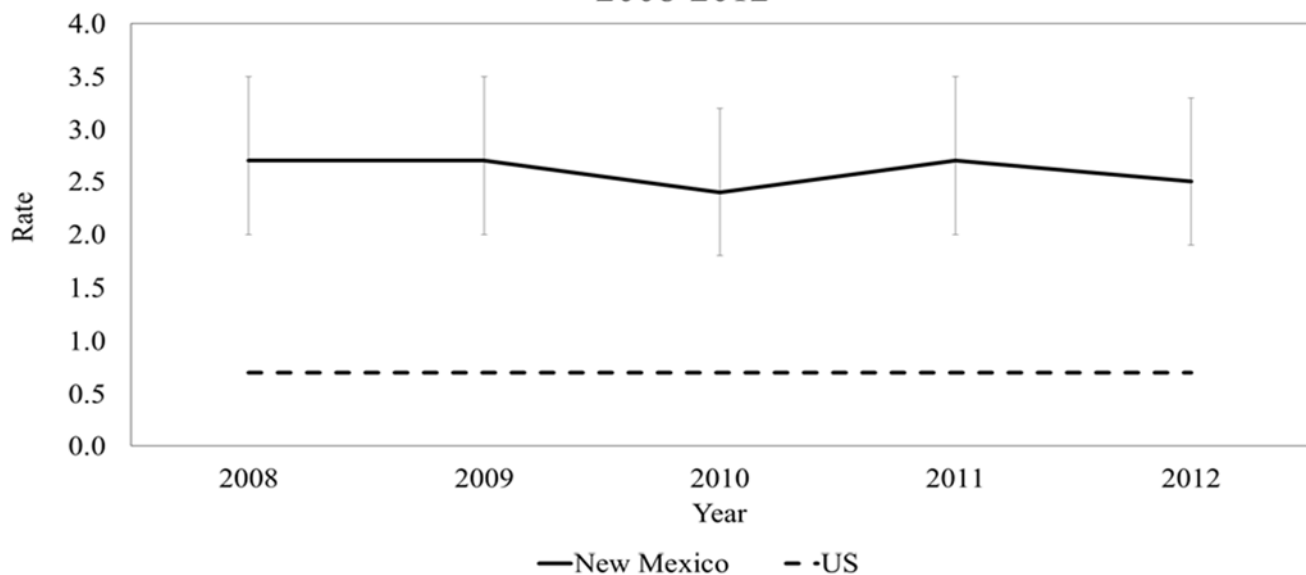
The New Mexico Department of Health's previous alcohol poisoning surveillance report noted that New

Mexico's overall alcohol poisoning death rate for 1999-2003 was three times the national rate at 0.7 deaths per 100,000 population (3). Using data from vital records, the 2009-2013 mortality rate for New Mexico was 2.4 deaths per 100,000 population. This represents more than a three-fold increase in mortality. This increase is an artifact that occurred because starting in 2007, deaths coded as alcohol intoxication deaths were added to the alcohol poisoning category increasing the breadth of the category.

Within New Mexico, there are geographic disparities in alcohol poisoning mortality. McKinley and San Juan counties, in the Northwest part of the state, had the highest rates of alcohol poisoning. Curry, Eddy and Luna, in the Southeast part of the state, had the lowest rates. The population of McKinley County is 74% AI/AN and the population of San Juan County is 37% AI/AN. The high death rate among AI/AN may be driving the high death rates in these two counties.

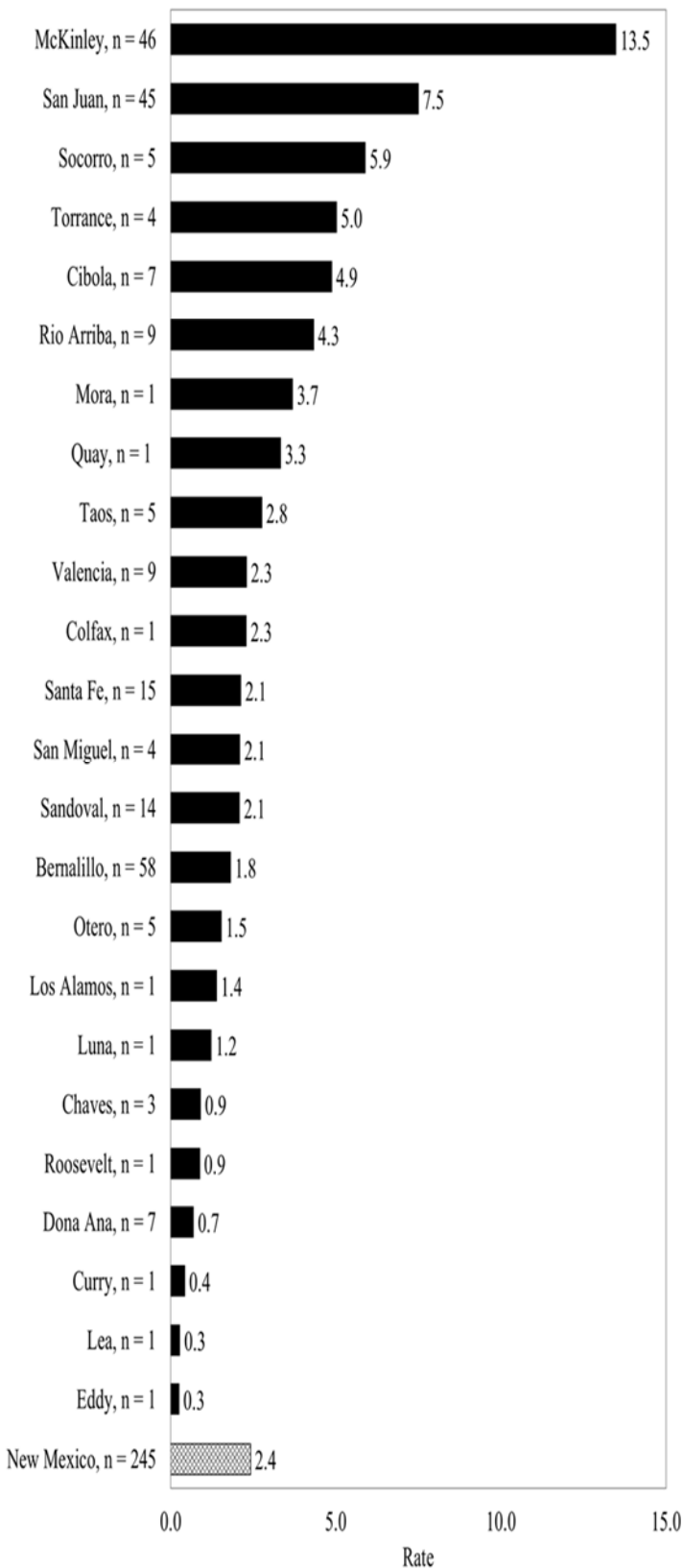
Although 40-49 year olds are at the highest risk for dying of alcohol poisoning, there have been more prevention initiatives for youth and young adults. Developing and implementing effective prevention strategies that target all age groups are needed to reduce New Mexico's high alcohol poisoning death rate. Environmental strategies that reduce excessive alcohol consumption and related harms (6), such as regulating al-

Figure 1. Alcohol poisoning mortality by year, New Mexico and U.S., 2008-2012



Rates are per 100,000, age-adjusted to the 2000 U.S. Standard Population.
Brackets indicate 95% confidence interval.

Figure 3. Alcohol Poisoning Mortality by County, New Mexico, 2009-2013



Rates are per 100,000, age-adjusted to the 2000 U.S. Standard Population
 The following counties had no deaths: Catron, De Baca, Grant, Guadalupe, Harding, Hidalgo, Lincoln, Sierra, and Union

cohol outlet density and universal alcohol screening and brief intervention could prove effective at preventing alcohol-attributable death among both high risk groups and overall.

Recommendations

1. Continue to conduct systematic surveillance on alcohol poisoning.
2. Promote prevention strategies that will address the disparities in alcohol poisoning mortality.
3. Partner with community groups, policy makers, counties, and tribal authorities to implement effective prevention strategies such as those outlined in The Community Guide (6).

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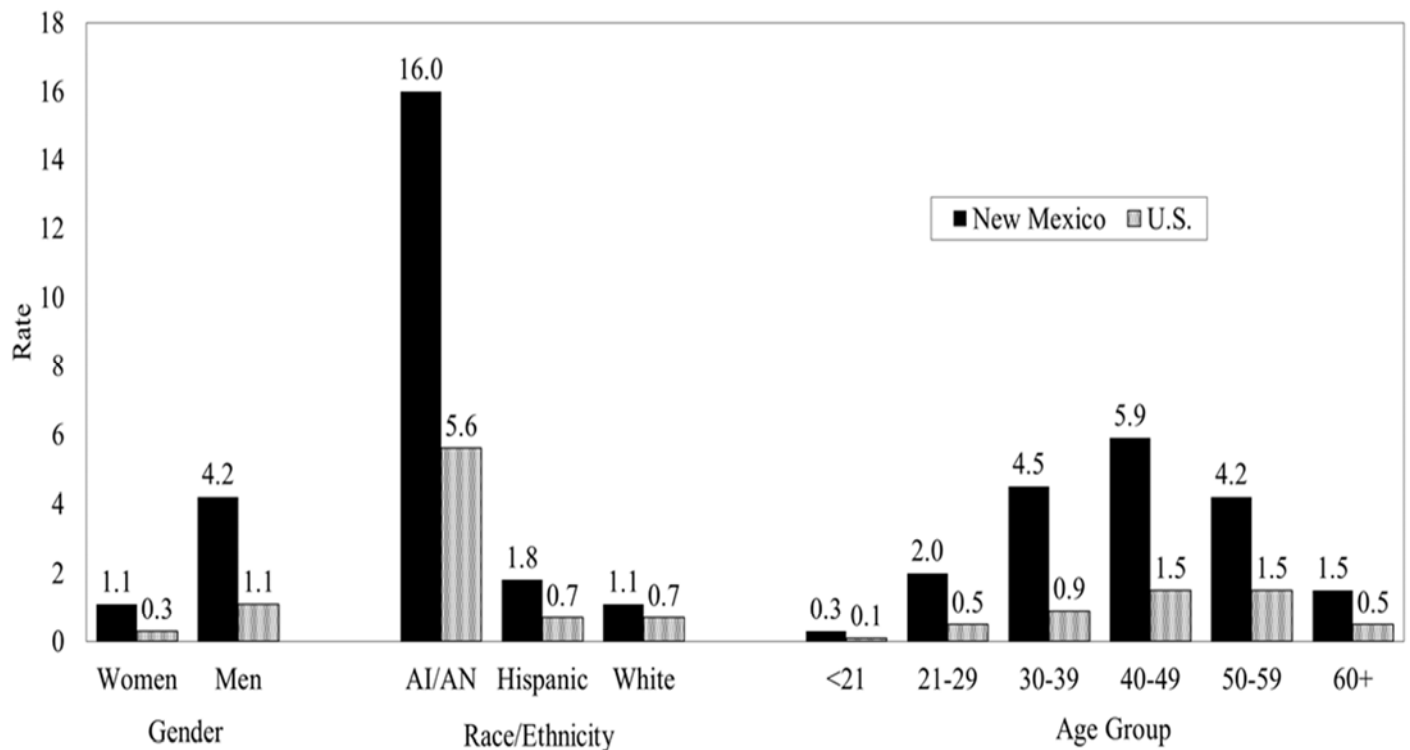
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Figure 2. Alcohol poisoning mortality by demographics, New Mexico and U.S., 2008-2012 combined



Rates are per 100,000. Gender and race/ethnicity rates age-adjusted to the 2000 U.S. Standard Population.