



## Drugs, Alcohol, and Suicide Represent Growing Share of U.S. Mortality

Shannon M. Monnat

Americans are killing themselves at an alarming rate. Nationwide, the mortality rate<sup>1</sup> from drug poisoning, alcohol poisoning, and suicide increased by 52 percent between 2000 and 2014. Most of this increase was driven by a surge in prescription opioid and heroin overdoses, but overdoses from other drugs, suicides by means other than drugs, and alcohol-induced deaths also increased over this period. Between 2010 and 2014, drugs, alcohol, or suicide were the underlying cause of death for 537,000 people and were contributing factors in an additional 133,000 deaths.<sup>2</sup> Especially striking is that mortality from drugs, alcohol, and suicide has increased during a period of declining mortality for other major causes of death, including diabetes, heart disease, most cancers, and motor vehicle accidents.<sup>3</sup>

Not all demographic groups are at equal risk of drug, alcohol, and suicide mortality. The highest rates are among young and middle-aged non-Hispanic white males,<sup>4</sup> especially those in nonmetropolitan areas. All three types of mortality increased among white males and females from 2000 to 2014, but drug-induced causes produced the largest mortality increases (Figure 1). White males have the highest combined mortality rate for the three causes, but the combined rate for white females increased the most (by 123 percent). Hispanic females also experienced increases in all three causes of death, but their rates remained far lower than those for both white males and females. Drug and alcohol mortality actually declined among Hispanic males, though Hispanic males continue to have higher alcohol-induced mortality rates than white males. Hispanics are more likely than whites to abstain from drinking alcohol, but Hispanics who do drink consume alcohol in larger quantities and drink more often than whites.<sup>5</sup> Although black male drug and alcohol mortality rates

### KEY FINDINGS

52%

Nationwide, the mortality rate from deaths involving drugs, alcohol, and suicide rose 52 percent from 2000 to 2014.



Drug, alcohol, and suicide mortality rates are highest among middle-aged non-Hispanic white males and are growing fastest among non-Hispanic white females.



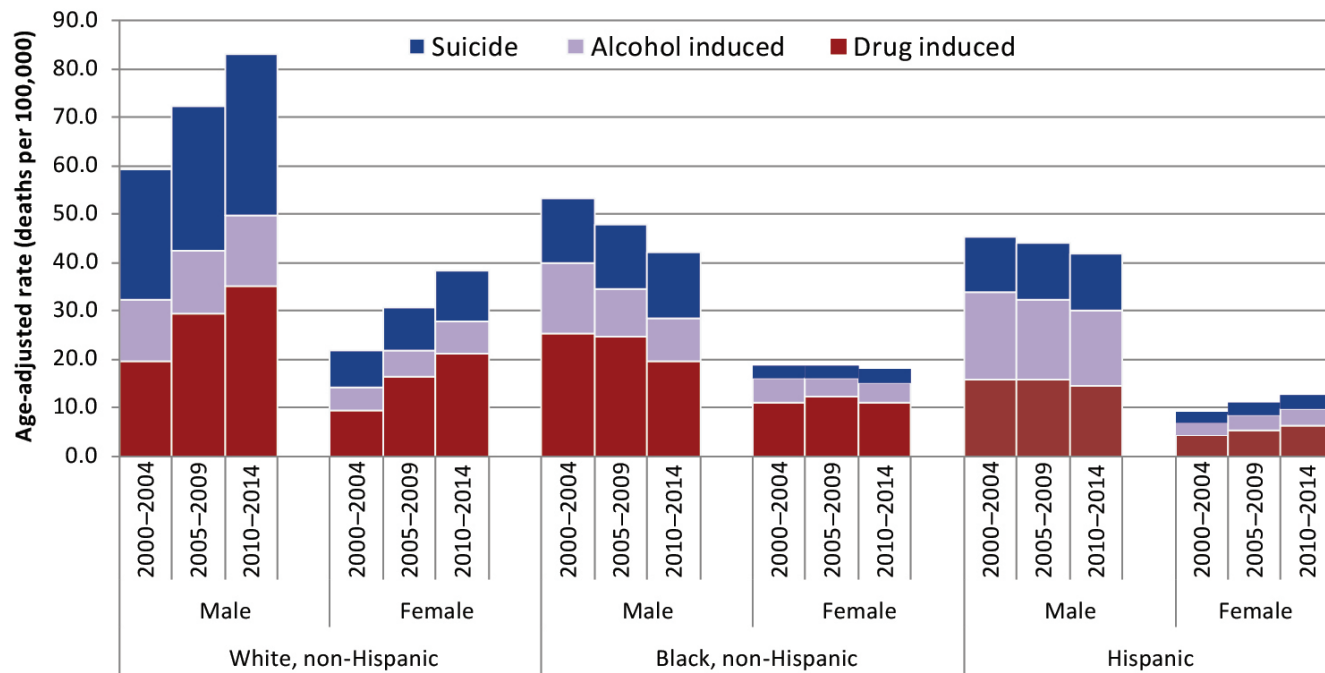
Nearly half of all young white male deaths are caused by drugs, alcohol, or suicide. A little over a quarter of young Hispanic male deaths and 13 percent of young black male deaths are due to these causes.



Drugs, alcohol, and suicide are the leading cause of death for young white adults.

exceeded those of white males in the early 2000s, by the end of the decade the rates for black males had declined and were lower than those for white males. Rates for black females are low and relatively stable.

Lower drug, alcohol, and suicide mortality rates for blacks versus whites is striking given that blacks fare worse than whites on several key health measures and blacks have much higher mortality rates than whites from top causes of death like heart disease, diabetes, and cancer.<sup>6</sup> Lower drug-induced mortality rates for blacks than whites may result from physicians being less likely to prescribe opioids to black than white patients.<sup>7</sup> But blacks also have lower alcohol and suicide mortality rates than whites, suggesting that access to opioids cannot be the only factor explaining the difference. It is possible that blacks are more resilient than whites to the factors that drive drug and alcohol

**FIGURE 1. MORTALITY FROM DRUGS, ALCOHOL, AND SUICIDE VARIES SIGNIFICANTLY BY RACE AND SEX (AGES 25–54)**

Source: CDC Underlying Cause of Death files

disorders and suicide. For example, research demonstrates that blacks are less likely than whites to have substance use disorders and internalizing disorders like depression and anxiety. Factors like anger, hostility, depression, and loss of control over one's life are also more strongly associated with a wide variety of poor health outcomes among whites than among blacks.<sup>8</sup>

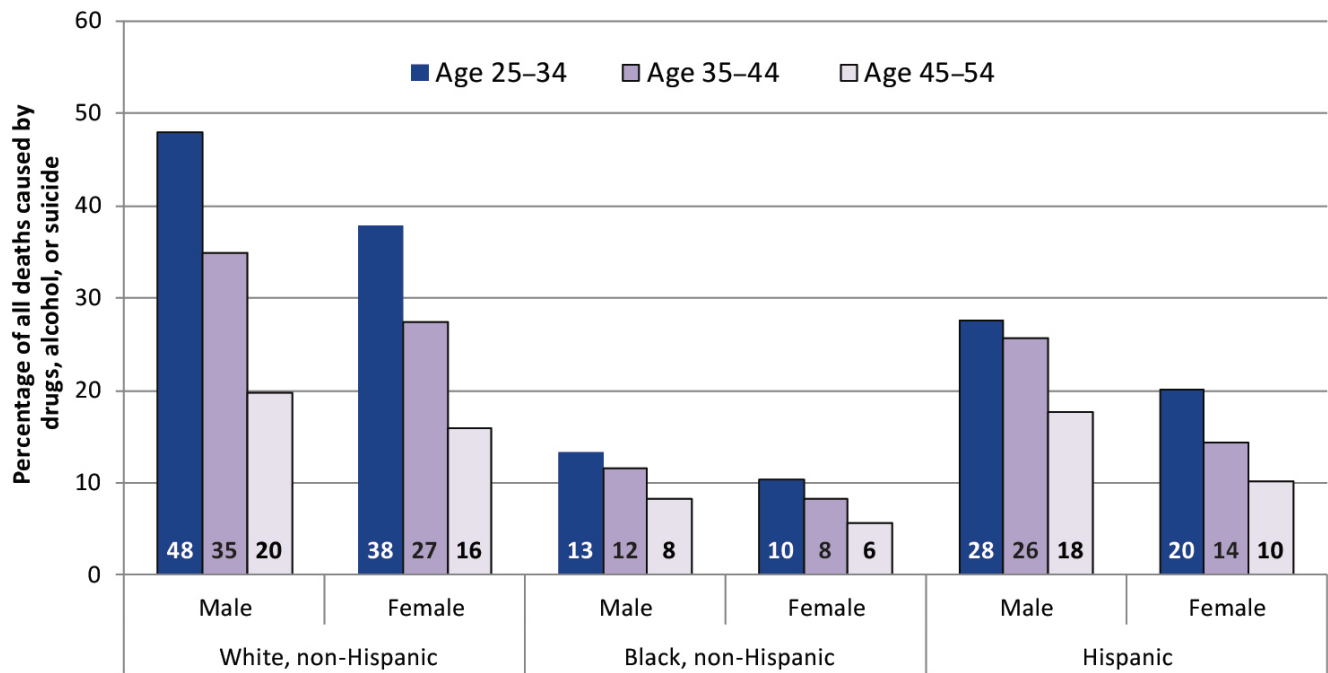
Though deaths from drugs, alcohol, and suicide accounted for just 4.2 percent of all U.S. deaths in 2010–2014, this is up from 3.0 percent in 2000–2004—a substantial increase in one decade. Moreover, deaths from drugs, alcohol, and suicide represent significant shares of all deaths for demographic groups that are generally at low risk of mortality, particularly whites in their 20s–40s (Figure 2). In fact, they are the *leading* cause of death for young white adults.<sup>9</sup>

Among young white men (age 25–34), deaths from drugs, alcohol, and suicide exceed those of the next *ten* leading causes of death combined, including accidents, heart disease, cancer, homicide, and diabetes. White males made up just 29.5 percent of the young adult population in 2010–2014, but they accounted for a remarkable 57 percent of all drug, alcohol, and suicide deaths in this age group. Of all the young white males who died in 2010–2014, 48 percent of them died from drugs, alcohol, or suicide; 38 percent of all young white female deaths were due to one of these three causes. Compare these shares to those for young blacks and Hispanics. Of all young adult deaths that occurred between 2010 and 2014, 13 percent of young black male deaths, 10 percent of young black female deaths, 28 percent of young Hispanic male

deaths, and 20 percent of young Hispanic female deaths were attributable to drugs, alcohol, or suicide.

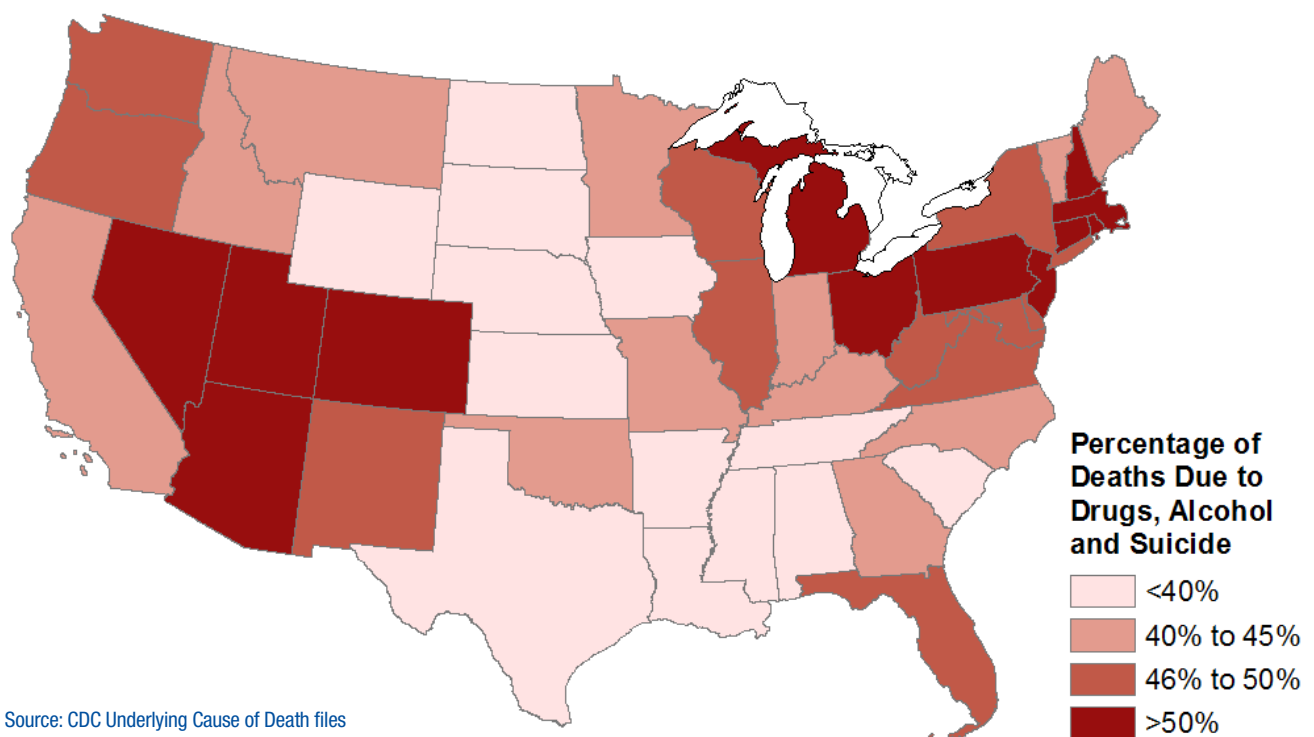
In twelve states, over *half* of all deaths among young white adults in 2010–2014 were due to drugs, alcohol, or suicide (Figure 3). In the early 2000s, the share of deaths among young white adults due to these causes exceeded 40 percent only in Utah. Drug, alcohol, and suicide deaths make up the largest share of deaths of young white males in Rhode Island (59.8 percent), Utah (58.9 percent), Massachusetts (58.1 percent), New Hampshire (57.1 percent), and New Jersey (55.5 percent) and the largest share of deaths of young white females in Rhode Island (47.8 percent), Arizona (47.2 percent), Colorado (47.1 percent), Nevada (46.8 percent), and Massachusetts (46.1 percent).

**FIGURE 2. SUBSTANTIAL SHARE OF DEATHS ARE DUE TO DRUGS, ALCOHOL, AND SUICIDE, 2010–2014**



Source: CDC Underlying Cause of Death files

**FIGURE 3. DRUGS, ALCOHOL, AND SUICIDE WERE THE CAUSE OF OVER HALF OF DEATHS OF YOUNG WHITE ADULTS (AGE 25–34) IN TWELVE STATES, 2010–2014**



Source: CDC Underlying Cause of Death files

Deaths from drugs, alcohol, and suicide represent significant heart-break to families and loss to communities and society. Moreover, they reflect only a small proportion of those who struggle with pain, depression, and substance use disorders.<sup>10</sup> Concurrent declines in self-rated physical and mental health, increasing reports of chronic pain, and increasing inability to work due to physical or mental limitations<sup>11</sup> all have far-reaching implications for children and families, for employers who depend on the health and productivity of workers, and for the many first responders and service providers struggling to address the growing challenges of these problems with limited resources.

The decade-long surge in opiate mortality has rightfully drawn significant media and government attention. Current interventions focus on implementing stricter opioid prescribing regulations, reducing the flow of heroin and fentanyl (a highly toxic and potent synthetic opioid) into the United States, and increasing access to substance abuse treatment and to naloxone (Narcan®)—the opiate overdose reversal drug. These are laudable first steps, but the United States is not going to “Narcan” its way out of this. The problem is larger than opiates. In 2014, less than a quarter of drug, alcohol, and suicide deaths involved opiates; most drug-induced suicides are caused by benzodiazepines, for which opiate reversal drugs have no effect. Focusing only on opiate misuse, rather than considering

the wider array of harmful health behaviors, and failing to recognize the substantial demographic variation in drug, alcohol, and suicide mortality may lead to ineffective policy strategies. Although opiate overdoses have increased the most over the past fifteen years, deaths due to other drugs, alcohol, and suicides from causes other than drugs have also increased. In fact, the combined mortality rates for alcohol-induced and suicide deaths exceed those for drug-induced deaths for all except white females.

Researchers have identified multiple physiological, pain-related, psychosocial, family and interpersonal, socioeconomic, and neighborhood environment factors that are associated with substance abuse and suicide.<sup>12</sup> Recent academic and journalist work also suggests ties to declining social supports and rising income inequality, economic distress, and instability that have followed from decades of declines in secure and livable wage jobs for those in the working class.<sup>13</sup> Although there are political and economic constraints to implementing comprehensive policies that address the underlying causes of high rates of drug, alcohol, and suicide mortality, such policies are likely to provide the best chance for reducing these deaths.

## Data

White and black refer to non-Hispanic whites and blacks. Hispanics can be of any race. Mortality rates are from the U.S. Centers for Disease Control and Prevention Underlying Cause of Death files. Data are based on death certificates for U.S. residents. Rates are per 100,000 people and are age-adjusted based on the 2000 U.S. population. Death categorizations are based on ICD-10 codes. Contact the author to obtain the specific ICD-10 codes included in each category. Intentional self-poisoning by illicit drugs, prescription drugs, and alcohol are included in the suicide category and were 15 percent of all suicides among those age 25–54 in 2010–2014. Deaths where drugs or alcohol were contributing causes (e.g., accidents), rather than the underlying cause of death, are not included in these rates. For additional details on how rates are calculated or how deaths are classified, see the CDC Wonder website: <http://wonder.cdc.gov/>.

## Endnotes

1. Rates are per 100,000 people and are age-adjusted.
2. Of the 536,833 deaths with drugs, alcohol, or suicide listed as the underlying cause in 2010–2014, 34.4 percent were accidental drug overdoses, 1.8 percent were other types of drug deaths (e.g., drug-induced diseases), 26.0 percent were alcohol induced (mostly liver disease, alcohol dependence syndrome, and accidental alcohol poisoning), 5.0 percent were suicides by intentional drug poisoning, and 32.7 percent were suicides by some other method (mostly self-inflicted gun deaths). Fifty-six percent of accidental drug overdoses and 30 percent of intentional drug overdoses involved opioids (heroin or prescription pain relievers).
3. Between 2000 and 2014, age-adjusted mortality rates declined by 16 percent for diabetes, 36 percent for heart disease, 19 percent for cancer, and 31 percent for transportation accidents.
4. These analyses include only the three largest racial/ethnic groups because together they represented 93 percent of the U.S. population and accounted for 96 percent of drug, alcohol, and suicide deaths for ages 25–54 in 2010–2014. Mortality data for American Indians/Alaska Natives and Asians are available on CDC Wonder. American Indians/Alaska Natives represent less than 1 percent of the population age 25–54 and less than 2 percent of drug, alcohol, and suicide deaths. Driven mostly by alcohol-induced deaths, the combined drug, alcohol, and suicide mortality rate among American Indians/Alaska Natives is the highest among all racial/ethnic groups age 25–54 (151.5 for males, 87.9 for females). Asians have the lowest combined drug, alcohol, and suicide mortality rate (19.0 for males, 6.7 for females).
5. See National Institute on Alcohol Abuse and Alcoholism, “Alcohol and the Hispanic Community,” accessed September 28, 2016 (<http://pubs.niaaa.nih.gov/publications/HispanicFact/HispanicFact.htm>).
6. See L. Russell, “Fact Sheet: Health Disparities by Race and Ethnicity” (Washington, DC: Center for American Progress, 2010), accessed October 27, 2016 (<https://www.americanprogress.org/issues/healthcare/news/2010/12/16/8762/fact-sheet-health-disparities-by-race-and-ethnicity/>).
7. See A. Singhal, Y.Y. Tien, and R.Y. Hsia, “Racial-Ethnic Disparities in Opioid Prescriptions at Emergency Department Visits for Conditions Commonly Associated With Prescription Drug Abuse,” *PLOS ONE* 11, no. 8 (2016).
8. See S. Assari, “Black Americans May Be More Resilient to Stress Than White Americans,” *The Conversation*, September 16, 2016; J. Breslau et al., “Specifying Race-Ethnic Differences in Risk for Psychiatric Disorder in a USA National Sample,” *Psychological Medicine* 36, no. 1 (2006): 57–68.
9. Young adult and young refer to age 25–34.
10. See A. Case and A. Deaton, “Rising Morbidity and Mortality in Midlife Among White Non-Hispanic Americans in the 21st Century,” *PNAS* 112, no. 49 (2015):15078–83; Substance Abuse and Mental Health Services Administration, “Mental and Substance Use Disorders,” accessed October 11, 2016 (<http://www.samhsa.gov/disorders>).
11. Case and Deaton 2015.
12. See A.L. Stone, L.G. Baker, A.M. Huber, and R.F. Catalano, “Review of Risk and Protective Factors of Substance Use and Problem Use in Emerging Adulthood,” *Addictive Behaviors* 37, no. 7 (2012):747–75; G. Hu, H.C. Wilcox, L. Wissow, and S.P. Baker, “Mid-Life Suicide: An Increasing Problem in U.S. Whites, 1999–2005,” *American Journal of Preventive Medicine* 35, no. 6 (2008): 589–93; M.D. Cheatle, “Depression, Chronic Pain, and Suicide by Overdose: On the Edge,” *Pain Medicine* 12, suppl. no. 2 (2011): S43–S48.
13. See Case and Deaton 2015; S. Quinones, *Dreamland: The True Tale of America’s Opiate Epidemic* (New York, NY: Bloomsbury Press, 2015); J.D. Vance, *Hillbilly Elegy: A Memoir of a Family and Culture in Crisis* (New York, NY: HarperCollins, 2016); V.T. Chen, “All Hollowed Out: The Lonely Poverty of America’s White Working Class,” *The Atlantic*, January 16, 2016, accessed October 27, 2016 (<http://www.theatlantic.com/business/archive/2016/01/white-working-class-poverty/424341/>).

### About the Author

Shannon M. Monnat is a Carsey fellow and an assistant professor of rural sociology, demography, and sociology and a research associate in the Population Research Institute at Pennsylvania State University (smm67@psu.edu).

### Acknowledgments

The author thanks Kenneth Johnson, Michele Dillon, Michael Ettlinger, and Laurel Lloyd at the Carsey School of Public Policy at the University of New Hampshire for their comments and suggestions on earlier drafts. The author acknowledges support from the W3001 committee, which is funded by the Western Association of Agricultural Experiment Station Directors (WAAESD), the U.S. Department of Agriculture Economic Research Service, and the Penn State Population Research Institute, which receives core funding from the National Institute of Child Health and Human Development (Grant R24-HD041025). The views expressed in this brief represent those of the author and should not be attributed to these funding agencies.



**University of New Hampshire**  
Carsey School of Public Policy

The Carsey School of Public Policy at the University of New Hampshire is nationally recognized for its research, policy education, and engagement. The school takes on the pressing issues of the twenty-first century, striving for innovative, responsive, and equitable solutions.

Huddleston Hall • 73 Main Street • Durham, NH 03824  
(603) 862-2821

TTY USERS: DIAL 7-1-1 OR 1-800-735-2964 (RELAY N.H.)

[carsey.unh.edu](http://carsey.unh.edu)