

Trends in Suicide in New Mexico, 2009-2018

Suicide is a serious public health problem and a major cause of mortality in New Mexico. Suicide has been increasing in both New Mexico and the United States, with suicide rates in New Mexico at least 50% higher than U.S. rates over the past 20 years.¹ In 2017, New Mexico had the fourth highest suicide rate in the United States.

A previous suicide attempt is the strongest risk factor for suicide.² Suicide is also strongly associated with a history of mental disorders, particularly clinical (major) depression and alcohol use disorders. Other risk factors associated with suicide include a history of other substance misuse, a family history of suicide, a family history of child maltreatment, feelings of hopelessness, impulsive or aggressive tendencies, cultural and religious beliefs, local epidemics of suicide, isolation, barriers to mental health treatment, loss (of relationships, social connections, work, finances), physical illness, easy access to lethal methods, such as firearms, and an unwillingness to seek help because of the stigma attached to mental health and substance use disorders or to suicidal thoughts.³

Methods

State mortality data come from the New Mexico Department of Health's (NMDOH) Epidemiology and Response Division (ERD) Bureau of Vital Records and Health Statistics, with population estimates from the University of New Mexico, Geospatial and Population Studies (GPS) Program. U.S. data are from the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics, accessible via CDC WONDER Online Database.¹ Suicide was defined by underlying cause of death based on International Classification of Diseases, 10th Revision (ICD-10) codes X60–84, Y87.0 and *U03. Age-adjusted rates are per 100,000 population, age-adjusted to the 2000 U.S. standard population. New Mexico suicide deaths include only New Mexico residents, and deaths for persons of unknown age are not included in age-adjusted rates.

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Results

In 2018, 535 New Mexicans died by suicide for a rate of 24.8 per 100,000 residents. This represents a nearly 40% increase over the past decade – in 2009, there were 372 suicide deaths – and continues the state's rising trend. In 2018, suicide was the ninth leading cause of death in the state, the second leading cause of death for persons 5-34 years of age and the third leading cause of death for persons 35-44 years of age. Suicide accounted for 16,196 Years of Potential Life Lost (YPLL), fourth after unintentional injuries, cancer, and heart disease deaths. The YPLL is a measure of premature mortality in a population that describes the impact of injury-related deaths on a society compared to other causes of death.

Rates among New Mexico males topped those of females by more than three times (Figure 1), but over the past decade, suicide rates among females have increased at a faster rate (51.9%) compared to males (32.3%). In 2018, American Indian/Alaska Native (AI/AN) and White residents had significantly higher suicide rates (31.7/100,000 and 30.4/100,000, respectively) compared to those who identify as Hispanic (17.1/100,000). Over the past decade, suicide rates among AI/AN New Mexicans have increased 55.4% while those of Whites have increased by 38.2%.

In 2018, New Mexicans 20-34 years had the highest suicide rate (37.3/100,000). The past decade saw an increase in suicide rate in all age groups, with the largest rate increases seen in those 10-14 years – from 2.8 deaths/100,000 residents (4 deaths) in 2009 to 8.5/100,000 (12 deaths) in 2018 – and 65-74 years – from 16.6/100,000 (25 deaths) in 2009 to 32.5/100,000 (71 deaths), tripling and doubling of the rates, respectively. AI/AN New Mexicans died by suicide at younger ages compared to White New Mexicans (Figure 2). In 2018, residents of the New Mexico's Northwest Region had a significantly higher sui-

cide rate (36.2/100,000) than all other health regions except the Southeast (Figure 3).

In 2018, firearms accounted for 52% of suicide deaths, followed by suffocation, or hanging (29%), and poisoning (15%). A greater percentage of suicide deaths occurred by firearm among males (60%), Whites (62%) and those 65 years and older (79%) (Figure 4). More AI/AN New Mexicans, in contrast, died by suffocation or hanging (59%).

Discussion

Suicide, like other human behaviors, has no single determining cause. Easy access to lethal means, however, is a major risk factor for suicide, and a wide body of research has demonstrated an association between gun ownership and suicide.⁴⁻⁷ In New Mexico, two out of three firearm deaths are suicides.⁸

Data from the New Mexico-added module on firearms, included in the 2016 Behavioral Risk Factor Surveillance System (BRFSS)⁹, an ongoing, nationwide surveillance system that routinely collects data on the prevalence of a variety of health conditions and behaviors that affect health, reveal that more than one in three New Mexicans (37.9%) kept firearms in or around their home. Of these gun owners, one in five (20.6%) reported that they kept their firearms loaded and unlocked, i.e., not needing a key or a combination to get the gun or to fire it. Of those who said they had made a past suicide attempt, nearly one in 10 (8.2%) reported having a firearm which they currently kept loaded and unlocked. 2016 BRFSS data also revealed that firearms were kept loaded and unlocked by those reporting other risk factors for suicide, including: current depression (5.9%), binge drinking (11.9%), lack of a personal health care provider (8.5%), and three or more chronic health conditions (10.7%).

Conclusions/Recommendations

Suicide rates continue to increase in New Mexico among all groups. Suicide is increasingly impacting the state's most vulnerable populations, including the youngest and oldest and racial minorities. Prevention efforts need to focus on members of these groups as well as those residents with specific risk factors for suicide, particularly those who have made a previous suicide attempt. Among the goals of the 2020-2022 New Mexico State Health Improvement Plan (NM SHIP) is one to increase the secondary prevention of suicide through

evidence-based interventions in emergency departments.¹⁰ The recent re-establishment of the New Mexico Suicide Prevention Coalition and the development of the state's suicide prevention plan are two additional efforts underway, all reflective of strategies presented in the comprehensive 2017 Center for Disease Control and Prevention's technical package.¹¹

As clinical depression is one of the strongest risk factors for suicide, efforts to diagnose and treat mood disorders at the primary care level are important preventive measures. The U.S. Preventive Services Task Force (USPSTF) recommends screening for depression in the general adult population, including pregnant and postpartum women, as well as among adolescents aged 12 to 18 years.¹² However, the USPSTF states that screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up, thus posing a potential challenge for residents in this primarily rural state with notable shortages of professionals in primary care and mental health. The USPSTF also specifically recommends that clinicians provide or refer pregnant and postpartum persons who are at increased risk of perinatal depression to counseling interventions.

Among additional USPSTF recommendations pertinent to suicide prevention is the screening for unhealthy alcohol use in primary care settings in adults 18 years or older, including pregnant women, and providing persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce unhealthy alcohol use.¹³

Historically, New Mexico has had both a high suicide rate as well as a high firearm mortality rate. Firearm

Figure 1. Suicide Rates by Year and Sex, U.S., 2009-2017, and New Mexico, 2009-2018

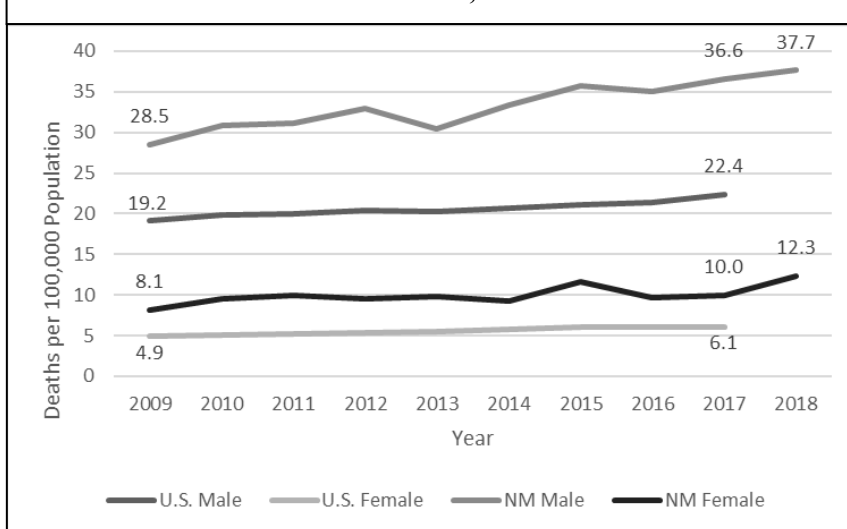
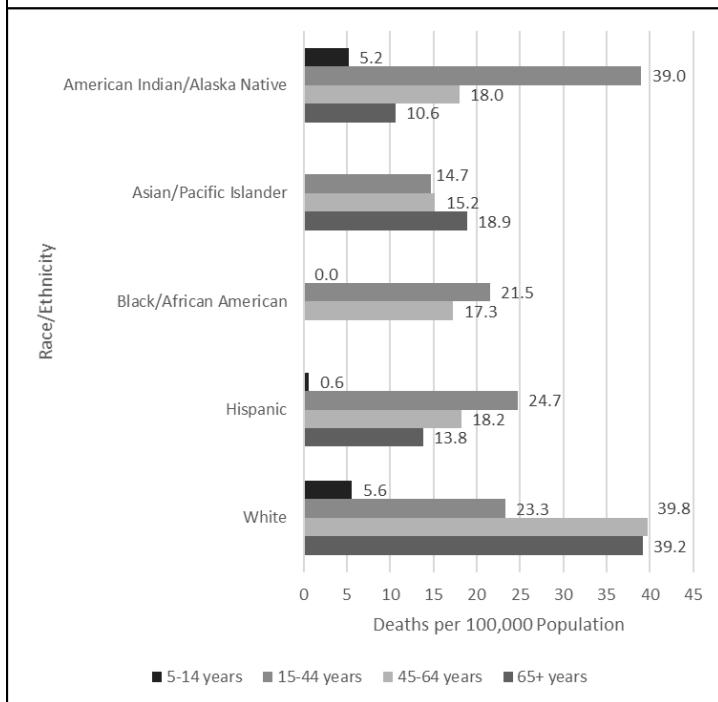


Figure 2. Suicide Rates by Age Group and Race/Ethnicity, New Mexico, 2014-2018



mortality rates are lower in states with strong firearm policies¹⁴; thus growing evidence supports the potential utility of firearm legislation as part of a national effort to decrease U.S. suicide deaths.¹⁵ By strengthening firearm policies, New Mexico can reduce suicide deaths.

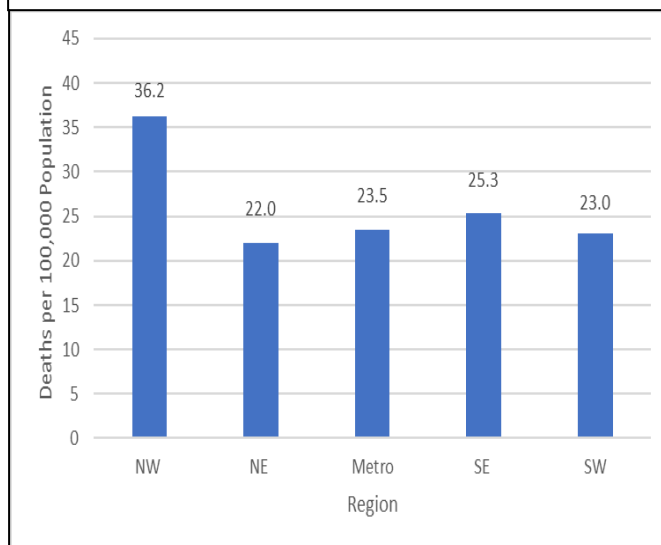
References

- Centers for Disease Control and Prevention, Wide-ranging Online Data for Epidemiologic Research (CDC WONDER), 2019. Available at: <http://wonder.cdc.gov>. Accessed October 2, 2019.
- American Psychiatric Association, Suicide Prevention, 2019. Available at: <https://www.psychiatry.org/patients-families/suicide-prevention#targetText=Risk%20Factors%2C%20Warning%20Signs%20and,is%20a%20previous%20suicide%20attempt>. Accessed October 3, 2019.
- Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Suicide Risk Factors, 2019. Available at: <https://www.cdc.gov/violenceprevention/suicide/riskprotectivefactors.html#Risk%20Factors>. Accessed October 3, 2019.
- Anestis MD and Houtsma C. The association between gun ownership and statewide overall suicide rates. *Suicide Life Threat Behav.* 2018;48(2):204-217.
- Miller M, Barber C, White RA and Azrael D. Firearms and suicide in the United States: is risk independent of underlying suicidal behavior? *Am J Epidemiol.* 2013;178(6):946-55.
- Siegel M and Rothman EF. Firearm ownership and suicide rates among US men and women, 1981-2013. *Am J Public Health.* 2016;106(7):1316-22.
- Anglemeyer A, Horvath T and Rutherford G. The accessi-

bility of firearms and risk for suicide and homicide victimization among household members: a systematic review and meta-analysis. *Ann Intern Med.* 2014;160(2):101-10.

- Christensen M and Landen M. Firearm injury deaths in New Mexico. *New Mexico Epidemiology report.* Volume 2019 (January 18), Number 2. Available at: <https://nmhealth.org/data/view/report/2217/>. Accessed October 3, 2019.
- Behavioral Risk Factor Surveillance System. National Center for Chronic Disease and Health Promotion. Available at: <https://www.cdc.gov/brfss/index.html>. Accessed October 3, 2019.
- New Mexico Department of Health and Public Education Department. 2020-2022 New Mexico State Health Improvement Plan. Available at: <https://nmhealth.org/publication/view/plan/5311/>. Accessed November 22, 2019.
- Stone, DM, Holland, KM, Bartholow, B, Crosby, AE, Davis, S, and Wilkins, N. (2017). *Preventing Suicide: A Technical Package of Policies, Programs, and Practices.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/violenceprevention/pdf/suicideTechnicalPackage.pdf>. Accessed November 22, 2019.
- U.S. Preventive Services Task Force. Published recommendations. Available at: <https://www.uspreventiveservicestaskforce.org/BrowseRec/Search?s=DEPRESSION>. Accessed November 22, 2019.
- U.S. Preventive Services Task Force. Published recommendations. Available at: <https://www.uspreventiveservicestaskforce.org/BrowseRec/Search?s=ALCOHOL>. Accessed November 22, 2019.
- Kaufman EJ, Morrison CN, Branas CC and Wiebe DJ. State firearm laws and interstate firearm deaths from homicide and suicide in the United States: a cross-sectional analysis of data by county. *JAMA Intern Med.* 2018;178(5):692-700.
- Anestis MD, Houtsma C, Daruwala SE, Butterworth SE. Firearm legislation and statewide suicide rates: the moderating role of household firearm ownership levels. *Behav Sci Law.* 2019;37:270-280.

Figure 3. Suicide Rates by Region, New Mexico, 2018



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Figure 4. Suicide by Mechanism, New Mexico, 2018

