

H58 Pre-Pandemic Trends in Suicide: New Mexico, 2009–2018

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Learning Overview: The goal of this study is to examine trends in suicides in the state of New Mexico over the ten-year period that preceded the coronavirus pandemic.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by exploring demographics of suicide cases in New Mexico as well as establishing known trends of suicides in the pre-COVID-19 pandemic era for future comparison with suicide data collection after the arrival of COVID-19 in the United States.

Nationwide, suicide is the tenth-leading cause of death and the second-leading cause of death in 10- to 34-year-olds.^{1,2} Suicide rates have been increasing in the United States over the past decade, and, in 2018, the suicide rate was 14.8 per 100,000 population, the highest since 1938.¹ According to the American Association of Suicidology, suicide is a major cause of morbidity and mortality for New Mexicans, with the state's 2018 crude suicide rate (25.6 per 100,000 population) being significantly higher than the national rate as well as the highest of all 50 states and the District of Columbia.¹ To assess suicide trends in the state of New Mexico, the Office of the Medical Investigator (OMI), the state's centralized medical examiner agency, conducted a retrospective analysis of all deaths with a manner of suicide from January 1, 2009, to December 31, 2018. Categorical variables were analyzed using either chi square or Fisher exact tests, and continuous variables were analyzed using *t*-tests and Analysis of Variance (ANOVA), as appropriate. Results were considered statistically significant if the *p*-value was 0.05 or less.

A total of 4,467 deaths were identified by the OMI's electronic database with suicide as the manner of death between 2009 and 2018. Analysis of these deaths revealed a 34% increase in suicides over that time period from 18.8 per 100,000 in 2009 to 25.2 per 100,000 residents in 2018, a statistically significant increase ($p=0.001$). Of these deaths, 2,934 received a full or partial autopsy and 1,510 received an external examination. Analysis of gender was similar to national trends with males comprising 76% of the total suicidal deaths and women comprising 24%, with no significant difference in mean age by gender. Examination of race/ethnicity over the study period revealed significant differences in both racial/ethnic distribution and mean age by race ($p<0.001$ and $p<0.0001$, respectively). Overall, White Non-Hispanic individuals encompassed the majority of suicidal deaths (64.6%) with a mean age of 50.6 years, followed by White Hispanic individuals (26%) with a mean age of 39.6 years and American Indians (7.1%) with a mean age of 32.8 years. From 2017 to 2018, suicides among American Indians increased by 45% (2017, $n=33$; 2018, $n=48$), and pediatric suicides (age range: 9–18 years), which had an unusual peak in 2017, decreased by 27% (2017, $n=41$; 2018, $n=30$). High school-aged children were at highest risk of suicidal death in the pediatric age groups consisting of 76% of the total pediatric suicidal deaths, followed by middle school-aged children (18%), and grade school-aged children (6%). There was a statistically significant increase ($p=0.00001$) in suicide deaths of decedents aged 60 and older from 2009 ($n=80$) to 2018 ($n=150$), with a 12% increase from 2017 ($n=134$) to 2018 ($n=150$). The most common methods of suicide included use of firearms (52.7%), hanging (22.6%), and ingestion or injection of illicit or prescription drugs (15%).

This examination of suicidal deaths highlights observed trends and vulnerable groups within New Mexico's populace prior to the sweeping changes in societal norms resulting from COVID-19. As the pandemic is likely to increase risk factors for suicide, including financial stressors and social isolation, a focus of preventative resources on these vulnerable groups, especially adolescents and the elderly, is necessary to prevent further exacerbation of these trends.

Reference(s):

1. Facts & Statistics. *American Association of Suicidology*. Accessed September 20, 2020.
2. Suicide. *National Institute of Mental Health*. Accessed September 20, 2020.

Suicide, Epidemiology, Method of Suicide