

research snapshot

summarize | mobilize



A higher density of casino and other gambling venues is associated with a higher risk of suicide in the United States

What this research is about

Suicide is one of the leading causes of death in the United States. Among those aged 10 to 34 years, suicide was the second leading cause of death in 2016. One risk factor for suicide is gambling. Previous research has found a strong link between problem gambling, suicide attempts, and suicide death. For example, a nationally representative study in the US found that suicide attempts were over two times more likely among people with gambling problems than people who did not gamble. A study in Canada found that people with gambling problems were over three times more likely to attempt suicide than the general adult population.

Over the last three decades, more casinos and gambling venues have opened in the US. The ease of access to gambling may increase the risk of suicide. The purpose of this study was to examine the relationship between casino density and risk of suicide in US counties.

What the researchers did

The researchers used data for 3,131 US counties from 50 US states. The data spanned 17 years (2000–2016). The overall sample included 53,227 county-year units.

Count of suicides: The researchers used the Compressed Mortality Files from the Centers for Disease Control and Prevention for county-years from 2000 to 2016.

Casinos and other gambling outlets: The researchers used data from the County Business Patterns from the US Census Bureau. This dataset included the number of gambling businesses present per county-year. This number was recorded using the North American

What you need to know

Previous research has found a strong link between problem gambling, suicide attempts, and suicide death. The purpose of this study was to examine the relationship between casino density and risk of suicide in US counties. The researchers used data for 3,131 US counties from 50 US states. This dataset spanned 17 years (2000–2016). The overall sample included 53,227 county-year units.

The researchers found that a total of 527,401 people died by suicide in the 3,131 US counties from 2000 and 2016. On average, each county-year had 1.3 casinos and 1.4 other gambling venues. Casinos and other gambling venues were heavily concentrated in Nevada. Overall, exposure to casinos and other gambling venues was linked with an increased risk of suicide mortality. An increase in the number of casinos per 100,000 population was linked with a 1.6% increase in suicides. The number of other gambling outlets was also linked with suicides. But this link was weaker than that for casinos.

Industry Classification System (NAICS) codes. The researchers used this dataset to calculate counts of casinos and other gambling outlets. Other gambling outlets included venues that primarily operate gambling facilities or services but are not casinos or casino hotels (e.g., bingo halls and card rooms). The researchers expressed these counts in terms of venues per 100,000 population. They then took the square root of these counts to account for the skewness of the data as some counties have a high number of casinos (e.g., Nevada).

The following datasets were used as controls as they might affect the relationship between casino density and risk of suicide:

- The County Characteristics Intercensal Population Estimates from the US Census Bureau were used to estimate population composition (e.g., sex, age, and race/ethnicity).
- The US Census Bureau's Small Area Income and Poverty Estimates were used to estimate the annual median household income (i.e., the middle value that divided the top half and bottom half).
- The Local Area Unemployment Statistics from the Bureau of Labor Statistics were used to identify the proportion of the population (>16 years) who were unemployed.
- The Quarterly Census of Employment and Wages was used to describe the local workforce with respect to employment within industry categories. These included agriculture and mining; leisure and hospitality; financial services; and others.
- The researchers also calculated measures of land area and used the 2010 classifications of Rural-Urban Continuum Codes from the US Department of Agriculture.

What the researchers found

A total of 527,401 people died by suicide in the 3,131 US counties from 2000 and 2016. On average, each county-year had 1.3 casinos and 1.4 other gambling venues. Casinos and other gambling venues were heavily concentrated in Nevada.

Overall, exposure to casinos and other gambling venues was linked with an increased risk of suicide mortality. After including the controls in the analysis, the researchers found that each square root increase in the number of casinos per 100,000 population was linked with a 1.6% increase in suicides. The number of other gambling outlets was also linked with suicides. But this link was weaker than that for casinos.

How you can use this research

This study shows that a higher density of casino and other gambling venues is associated with a higher risk of suicides. It suggests that policy makers should

consider potential impacts on suicide when legalizing casinos and other gambling venues.

About the researchers

Francis Markham is affiliated with the Centre for Aboriginal Economic Policy Research at the Australian National University in Australia. **Ariana N. Gobaud**, **Christina A. Mehranbod**, and **Christopher N. Morrison** are affiliated with the Department of Epidemiology in the Mailman School of Public Health at Columbia University in New York, New York, USA. Christopher N. Morrison is also affiliated with the Department of Epidemiology and Preventive Medicine in the School of Public Health and Preventive Medicine at Monash University in Australia. For more information about this study, please contact Ariana N. Gobaud at ang2167@cumc.columbia.edu.

Citation

Markham, F., Gobaud, A. N., Mehranbod, C. A., & Morrison, C. N. (2023). Casino accessibility and suicide: A county-level study of 50 US states, 2000 to 2016. *Addiction*, 118(7), 1351–1358. <https://doi.org/10.1111/add.16153>

Study funding

This study was funded, in part, by the National Institutes of Health/National Institute on Alcohol Abuse and Alcoholism, National Institutes on Drug Abuse, and Centers for Disease Control/National Center for Injury Prevention and Control.

About Greo

Greo has partnered with the Knowledge Mobilization Unit at York University to produce Research Snapshots. Greo is an independent knowledge translation and exchange organization with almost two decades of international experience in generating, synthesizing, and mobilizing research into action across the health and wellbeing sectors. Greo helps organizations improve their strategies, policies, and practices by harnessing the power of evidence and stakeholder insight.

Learn more about Greo by visiting greo.ca or emailing info@greo.ca.



Information item	Value
Title	Casino accessibility and suicide: A county-level study of 50 US states, 2000 to 2016.
Article URL	https://onlinelibrary.wiley.com/doi/10.1111/add.16153
Authors	“Markham, Francis”, “Gobaud, Ariana N.”, “Mehranbod, Christina A.”, “Morrison, Christopher N.”
Journal	Addiction
Year published	2023
Keywords	Addiction; casinos; gambling; spatial analysis; spatial epidemiology; suicide
Geographic coverage	United States
Study population	This study used data for 3131 US counties from 50 US states. Data spanned 17 years (2000–2016). The overall sample included 53 227 county-year units.
DOI	https://doi.org/10.1111/add.16153
Citation	Markham, F., Gobaud, A. N., Mehranbod, C. A., & Morrison, C. N. (2023). Casino accessibility and suicide: A county-level study of 50 US states, 2000 to 2016. <i>Addiction</i> , 118(7), 1351–1358. https://doi.org/10.1111/add.16153
Sampling procedure	The researchers used secondary data, including from the Compressed Mortality Files from the Centers for Disease Control and Prevention, the US Census Bureau, and other US government datasets.
Response rate	N/A
Study design	Secondary data analysis
Snapshot written by	Kristen Morrison

