Population factors and rates of suicide in U.S. counties

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OBJECTIVES
- Define the contributions of demographic, environmental, socioeconomic and health-related factors to U.S. suicide rates
- Provide data to inform policy and education recommendations on suicide prevention for population health stakeholders

BACKGROUND
U.S. suicide rates
- The annual age-adjusted rate of suicide is 12.9 per 100,000
- There are 42,773 suicides deaths per year; 117 suicides each day
- Since 2005, the rate of suicide has increased by 16%
- Among the factors included in the current study is population density, poverty, educational attainment, social alienation, and mental illness (other than self-reported heavy drinking)
- The population density and the inverse of percent of adults over age 25 with a college degree are significant factors contributing to increased suicide rates
- Rates of firearm to non-firearm suicide
- Besides the suicide belt, regions of high suicide incidence were seen in the western U.S., and various explanations proposed including social factors

METHODS
- We assessed the relationship of suicide rates and potential predictors of suicide risk among a sample of U.S. counties
- Candidate explanatory variables included county-level data on race/ethnicity, population density, poverty, educational attainment, social alienation, indicators of mental and physical health and measures of health care access
- The population density (population dispersion) and the inverse of percent of adults over age 25 with a college degree were significant factors contributing to increased suicide rates
- State firearm grade categories
- For all causes, population density was a significant factor
- When corrected for population, altitude was not significantly associated with causality, some of which could be addressed by other analytic methods; also,

RESULTS
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