Trends in Geographic Areas with High Suicide Rates of College-Aged Adults

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Introduction

Suicide is the second leading cause of death of college-aged adults (CAA) with nearly 3,900 deaths in 2010 (CDC, 2015). Yet awareness of suicidal behavior and open discussion about the risks of suicide are often impeded by denial of the vulnerability of young people and the stigma of mental illness. Some communities have a substantially higher prevalence of suicide than others. Because of this, our purpose was to 1) increase awareness by mapping U.S. counties, boroughs, and parishes with crude rates of 20 or more suicides per 100,000 residents aged 18-24, and 2) compare areas with high rates of suicide to those with low rates.

Conceptual Framework

Using the bioecological model (Bronfenbrenner & Ceci, 1994), we examined our communities of interest with regard to the socioeconomic and geographic characteristics (macro- and exosystems) identified in the literature. Exploration of environmental contexts associated with suicide risk is consistent with the recommendations of an independent panel of experts convened by the National Institutes of Health (2016).

Areas with > 20 Suicides of CAA /100,000 Population

Data were accessed from the Centers for Disease Control and Prevention Web-Based Injury Statistics Query and Reporting System, specifically, Fatal Injury Maps during 2004-2010 by county. We specified death by suicide of 18-24 year olds. We also randomly selected two comparison geographic areas with low rates of suicide from each state that has a high-rate area. Using Social Explorer, a web-based platform that facilitates creation and customization of maps, our high-rate counties are indicated. High and low suicide rate areas were compared with regard to population density, median household income, ethnic/racial mix, and presence of a university/college in geographic area using t-tests and chi².

Comparison of Areas with High and Low Rates of Suicide by College-Aged Adults

Thirty-one counties, boroughs and parishes in the U.S. had suicide rates of 20/100,000 by CAAs during 2004-2010. These areas significantly differed from comparison areas by having a lower proportion of white population (72 vs. 83%) suggesting greater risk in communities with more racial minorities, particularly American Indian/Alaskan Natives. They also are more likely to have an institution of higher education in the area (94 vs. 50%) indicating that colleges have a mandate to support suicide prevention efforts. Our findings were limited by CDC suppression of rates in areas with < 20 suicides/100,000 resulting in inability to identify low rate counties with certainty.