

Douglas County Suicide: Technical Notes

Overview

These technical notes are intended to give a detailed description of the methods and sources used to examine suicides described in the September 2019 Data Brief.

Methods

The KDHE multiple cause-of-death research files from 2008-2017 were used to identify deaths due to suicide. Cause of death referred to in this report is the primary or underlying cause of death, which is defined as the disease or injury that initiated the chain of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury. The underlying cause of death is established through a system called the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). This system promotes uniformity and comparability in the collection and presentation of mortality data.

Suicides were defined as the underlying cause of death codes: U03, X60-84, and Y87.0(7). Suicide deaths were categorized by external cause of suicide using the ICD-10 underlying cause-of-death codes: firearms (X72-X74), suffocation (X70), poisoning (X60-X69), and other means (U03, X71, X75-X84, and Y87). Poisoning includes both drug and nondrug (e.g., toxic substances or gases) intoxications. Suffocation includes hanging, asphyxiation, and other mechanical and nonmechanical threats to oxygenation (e.g., trapped in low oxygen environment). Other means include mechanisms such as cutting and piercing, falls and jumping, burns from fire, hot substances, and hot liquids; and transportation. References to rates being significantly higher or lower indicate that differences are statistically significant at the 0.05 level. Age-adjusted rates for suicides were obtained from KDHE's Kansas Information for Communities <http://kic.kdheks.gov/> using the 2000 standard U.S. population. Rates in Figure 1 are age-adjusted per 100,000 population.

Douglas County residents who were treated in Kansas Emergency Departments for a suicide attempt or ideation were identified using ESSENCE (Kansas Syndromic Surveillance Program). Suicide ideation was defined as ICD-10 CM codes R45.851 or R45851.

Currently, there is no ICD-10 CDC injury matrix for classifying the external mechanisms for non-fatal suicide attempts and intentional self harm. The ICD-10 CM codes that were used to define suicide attempts are listed in Appendix 1. This [list](#) was developed with a team of clinicians and coders at LMH-H in Lawrence Kansas. These ICD-10 codes were categorized into the external cause categories found in the ICD-10 injury mortality matrix https://www.cdc.gov/nchs/data/ice/icd10_transcode.pdf. These categories were then collapsed into 6 categories: Poisoning which included drugs and toxic effects, cut or pierce, asphyxiation, unspecified attempt, multiple mechanisms (e.g, poisoning and cut or pierce), and other. The “other” category in Figure 7 represent cases where there was one external mechanism listed and included injuries due to blunt force, smoke/burn, electrocution, firearms, other specified, and unknown. Note: There were no cases of attempting suicide by drowning, jumping/lying, cold, motor vehicle, airplane, or explosive.

Very few cases had both an ideation and attempt code, but when both of these codes were found, the case was coded as an attempt. City of residence was extracted from the field “patient city” in ESSENCE.

Age-specific rates in Figure 4 are per 100,000 population. Age-specific rates in Figure 5 are per 1,000 population. When rates are unreliable due to small numbers, this is noted in the graph footnote. Crude rates were calculated using the U.S. Census Bureau's population estimates as a denominator. When frequencies are reported, numbers less than 6 are suppressed and are indicated either as an (*) or a 0.

All analyzes were conducted using SAS 9.4 unless otherwise noted (e.g. Kansas Information for Communities, etc.).

For more information or questions about this study, please contact Dee Vernberg, Lawrence-Douglas County Health Department, dvernberg@ldchealth.org

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