

What is the National Violent Death Reporting System (NVDRS)?

What can we Learn from the Data?

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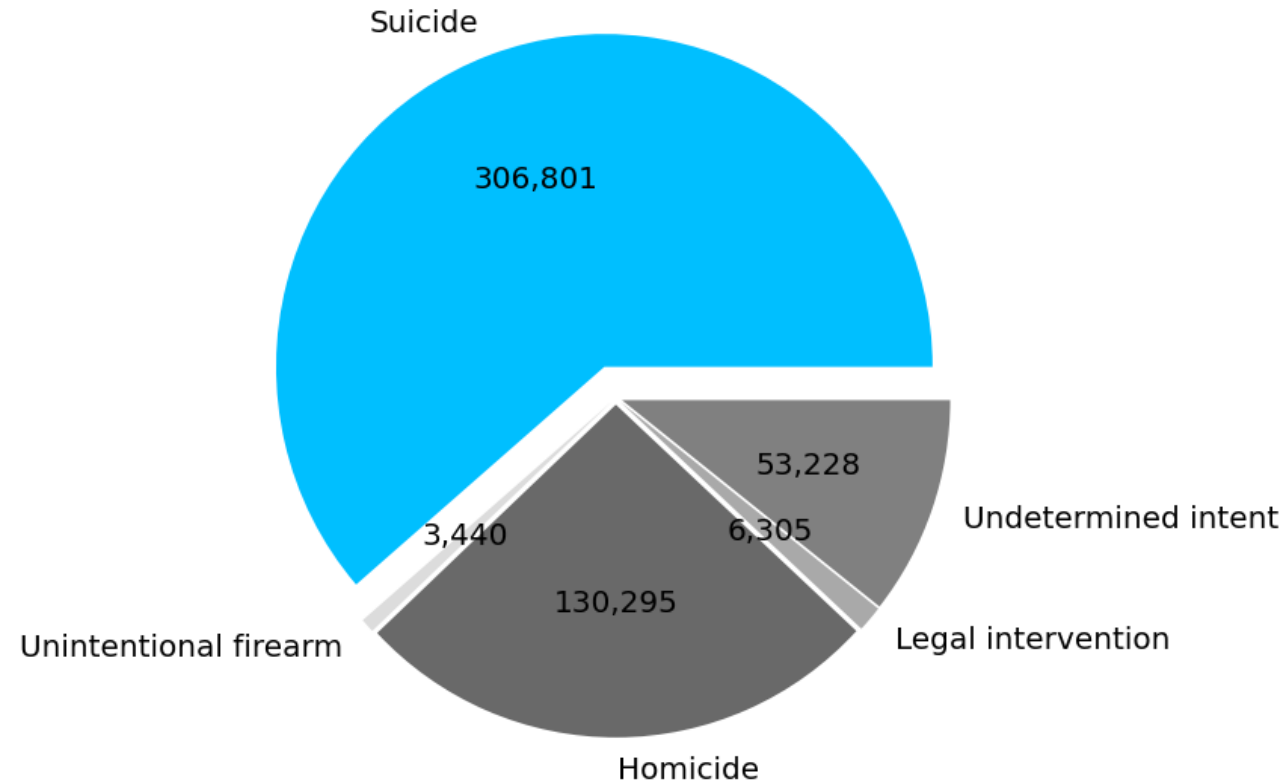
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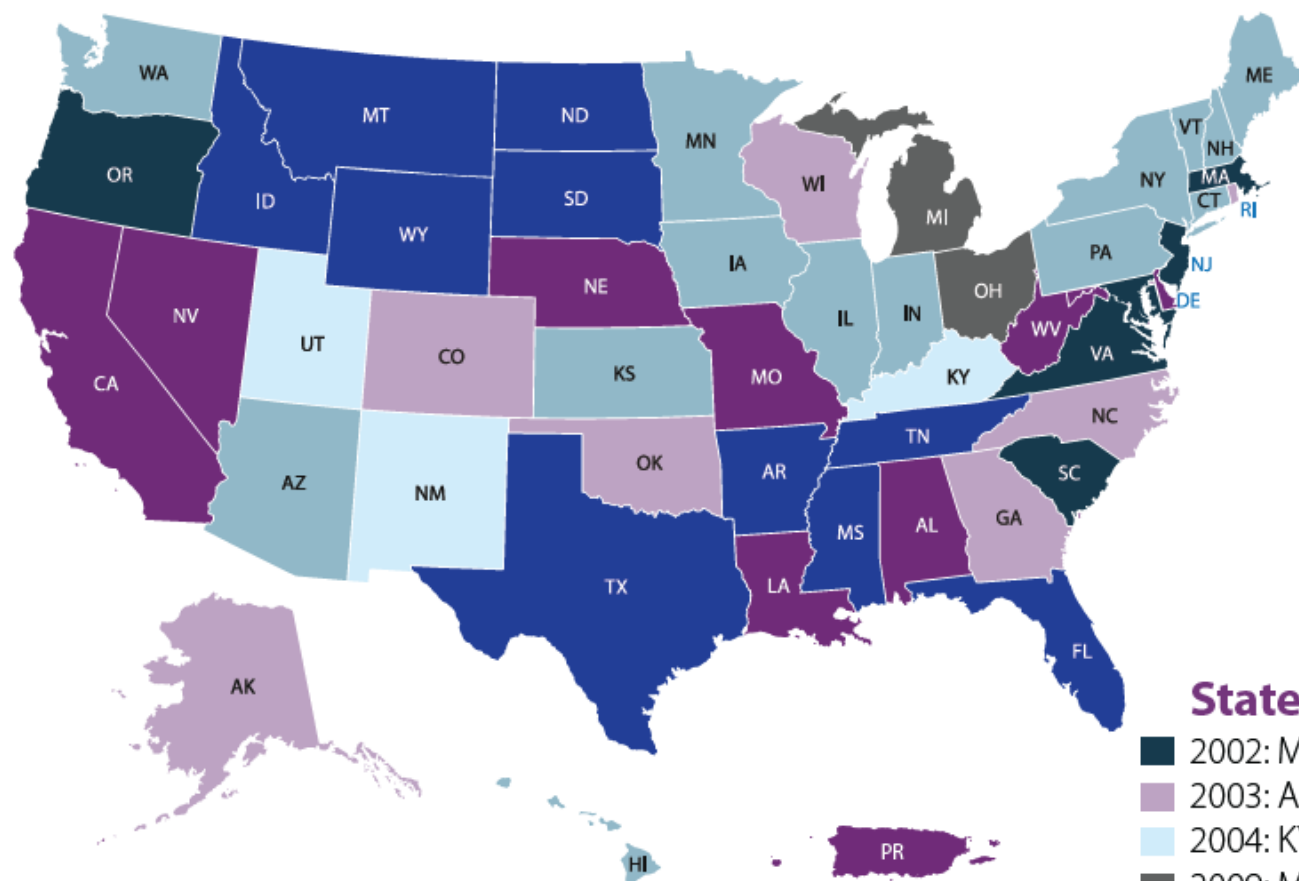
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What is the NVDRS?

U.S. surveillance data system for violent deaths

State-level data (e.g., death certificates) are abstracted into standardized variables by public health workers





The Reach of NVDRS

NVDRS began collecting data on violent deaths from six states in 2002, followed by progressive additions to the system over several years. **In 2018, NVDRS was expanded to include data collection from all 50 states, Puerto Rico, and the District of Columbia.** This expansion brings NVDRS closer to the goal of providing a complete picture of violent deaths across the nation

States added by year:

- 2002: MA, MD, NJ, OR, SC, VA
- 2003: AK, CO, GA, NC, OK, RI, WI
- 2004: KY, NM, UT
- 2009: MI, OH
- 2014: AZ, CT, HI, IA, IL, IN, KS, ME, MN, NH, NY, PA, VT, WA
- 2016: AL, CA, DE, DC, LA, MO, NE, NV, Puerto Rico, WV
- 2018: AR, FL, ID, MS, MT, ND, SD, TN, TX, WY

Data Characteristics

600 possible variables for each death

Examples of close-ended variables:

- Decedent demographics
- Decedent **occupation** (current and usual)
- Variables in the Public Safety Officer Suicide Module (added in 2022)

Unstructured data in the NVDRS

Summary of Law Enforcement Report

Summary of Coroner/Medical Examiner Report

Artificial example of a coroner summary:

“Victim is a 19 year old White male who hung himself. He was being treated for depression and his parents and siblings thought he might be gay. He had not been doing well in classes lately and was upset about his grades. No other circumstances are known.”

Identifying latent topics in the summaries using machine-learning methods

Assigned Topic Label	5 Most Representative Terms of the Topic
<i>Acting Strangely Lately</i>	drinking_heavily, drinking_excessively, acting_strangely, exchanging_text_messages, acting_strange_lately
<i>Everything Seemed Fine</i>	fell_asleep, everything_seemed_fine, seemed_fine, wakes_up, ran_errands
<i>Cleanliness</i>	unkempt, messy, disorganized, cluttered, dirty
<i>Drug-related Cognitive Disturbances</i>	groggy, lethargic, disoriented, incoherent, agitated
<i>Somatic Symptoms</i>	dizziness, nausea, headaches, fatigue, diarrhea
<i>Escalation</i>	becoming_increasingly, becoming_more, become_more, increasingly, noticeably

Considerations when using the NVDRS to study suicide

Variables are revised over time; states were added at different points

Variables may be coded as “yes” v.s. “no or unknown”

No accidental or natural deaths for comparisons

No suicide attempts for comparisons

Strengths of the NVDRS for studying suicide

Rich data source

Large database for machine-learning needs

Detailed coding manual

Rigorous data validation