

LINKING DATA to SAVE LIVES

National Center for Injury Prevention and Control
Division of Violence Prevention

DATA LIVES



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An argument. The loss of a job. Alcohol and drug abuse. For thousands of Americans each year, bad news, relationship problems, or emotional distress can contribute to homicide and suicide. Most people recover from temporary grief or depression and go on to lead fulfilling lives. But tragically, more than 36,000 people die by suicide in the United States each year. Homicide claims another 17,000 people in this country annually. We know these numbers can be reduced. The National Violent Death Reporting System (NVDRS) can help provide communities with a clearer understanding of why violent deaths occur so we can prevent them.

Where do we start?

Before we can prevent these violent deaths, we must first know the facts. The Centers for Disease Control and Prevention's (CDC) NVDRS is a state-based surveillance system that pools information about the "who, when, where, and how" of data on violent deaths, unintentional firearm injury deaths, and deaths of undetermined intent to better understand the "why." Capturing data allows researchers to:

- link records to describe in detail the circumstances that may contribute to a violent death;
- link violent deaths that occurred in the same incident to help identify circumstances of multiple homicides or homicides-suicides;
- provide timely preliminary information on violent deaths; and
- better characterize perpetrators, including their relationships to victim(s).



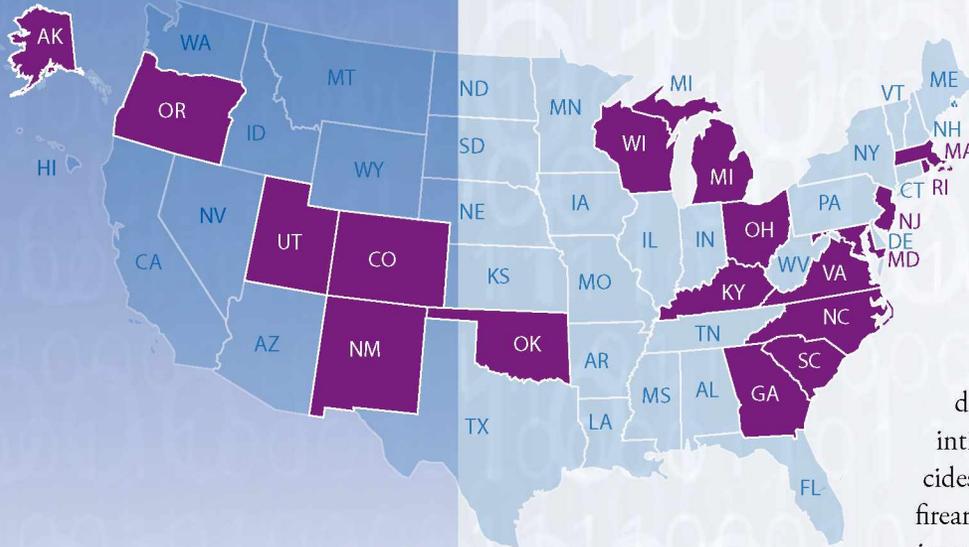
The National Violent Death Reporting System: Filling in the Gaps

Before CDC established NVDRS, frontline investigators, including homicide detectives, coroners, crime lab investigators, and medical examiners, collected valuable information about violent deaths. But they didn't combine the information into one

comprehensive reporting system that provides the complete picture. Instead, data remained in pieces, across a variety of different systems.

In 2002, CDC received funding to create NVDRS. This provided an opportunity to link detailed information – from death certificates, police reports, and coroner or medical examiner records – into a useable, anonymous database. Today NVDRS operates

in 18 states, pulling together data on violent deaths (including child maltreatment fatalities, intimate partner homicides, other homicides, suicides, and legal intervention deaths), unintentional firearm injury deaths, and deaths of undetermined intent.



States Currently Funded by NVDRS

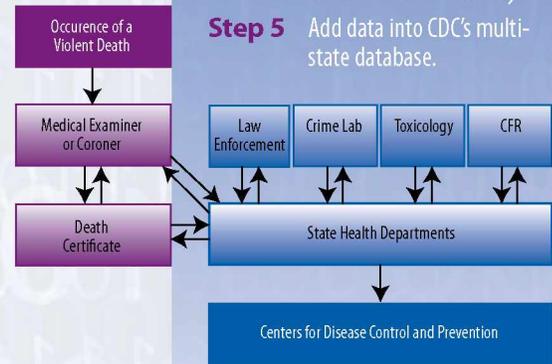
NVDRS data is critical to:

- informing decision makers and program planners about the magnitude, trends, and characteristics of violent deaths so that appropriate prevention efforts can be identified and put into place.
- facilitating the evaluation of state-based prevention programs and strategies.

Linking Data. Informing Prevention.

As NVDRS data become available, state and local violence prevention practitioners are looking to NVDRS to guide their prevention programs, policies, and practices. For example, NVDRS data has provided opportunities to:

- Collaborate and link with the Department of Defense (DoD) and Veteran's Administration (VA) to better understand the characteristics and circumstances of current and former military personnel who take their own lives.
- Identify violent deaths that suggest gang-like activity for more accurate classification of high-risk areas and opportunities for gang prevention programs.
- Partner with older adult caregivers and local coalition groups for instructional education on the signs of potential elder suicide.
- Look beyond law enforcement agency boundaries and examine comprehensive statistics for neighborhoods, counties, regions, and states to further understand issues related to intimate-partner homicide.
- Access datasets to provide customized reports of fatal and nonfatal injury-related data.



- Step 1** State NVDRS personnel are notified of violent death, unintentional firearm injury death, or death of undetermined intent
- Step 2** Identify the relevant records with the police and medical examiner or coroner
- Step 3** Merge available information sources into one registry
- Step 4** Remove personal identifiers to ensure confidentiality
- Step 5** Add data into CDC's multi-state database.

Nuts and Bolts/Data Collection Process
The steps listed above outline the typical NVDRS data collection process.

*The multiple ways
NVDRS works to inform
prevention is the real key
to success.*

—Sheryll Brown, MPH
Oklahoma State Department of Health

NVDRS in Action

South Carolina: Using Data to Prevent Suicide

To reduce the problem of suicide in the state, South Carolina brought together a group of committed professionals to form the Suicide Prevention Task Force. Using data provided by South Carolina's National Violent Death Reporting System and the framework from the National Strategy to Prevent Suicide, the task force crafted a plan to provide a unified strategy for suicide prevention efforts at all levels. Fueled by data from NVDRS, the plan gained momentum and was ultimately signed by the governor.

New Jersey: Using Data to Map Violence

New Jersey used NVDRS data to create maps of crime and violent death statistics. Piggybacking on the state GIS program already in use, New Jersey currently uses the comprehensive data provided by NVDRS to create a number of different informative maps, which geographically illustrate violent death prevalence and type. The system already can create a map for any number of different factors, such as maps of intimate partner deaths where there was prior knowledge of abuse by county or suicides by school district. This has led to a better understanding of violence and the need for prevention efforts.

Oregon: Preventing Elder Suicide

With the sixth-highest rate of elder suicide in the nation, Oregon used NVDRS data to develop an epidemiological profile of victims and establish an elder suicide prevention plan. NVDRS data indicated most victims of elder suicide in Oregon suffered from

physical illness, while 37 percent visited a doctor in the 30 days prior to their death. Oregon also discovered most victims were married, in relationships, or living with someone. With the data, the state developed an elder suicide prevention plan calling for better integration of primary care and mental health services. The plan also calls for training primary health care providers, integrating mental health care into primary care, and educating family members about the risks of suicide and warning signs of depression. The findings ultimately resulted in a \$100,000 grant from the Substance Abuse and Mental Health Administration to implement prevention strategies.

Rhode Island: Data Helps to Understand Poisonings

Rhode Island recently expanded the state's NVDRS system to include unintentional poisoning. Public health officials began tracking the specific substances involved in 2007 after poisoning topped the list as the number one cause of death among residents between the ages of 1 and 44. Concerned about illicit drugs, the Providence Police Department requested they be alerted immediately by NVDRS when spikes in heroin deaths occur so they can take action. Additionally, the medical examiner's office requested the system record a physician's specialty, specifically when the physician prescribes pills used in poisoning suicides caused by psychiatric medications. This information will identify which prescriber groups (e.g. psychiatrists, primary care) should be targeted for educational outreach to ensure patients receive counseling along with medications.



We have identified that intimate partner violence as well as mental health problems and substance abuse problems are precursors to a lot of different types of violent death. Those are areas of opportunity for agencies and community groups to focus on and reduce violent deaths.

—Debra L. Karch
Centers for Disease Control and Prevention

Case Studies

These case studies illustrate how each data source provides unique information that helps investigators understand the circumstances surrounding the violent death.

Case Study 1: Child Homicide

Death Certificates

- Closed head trauma
- Assault
- Homicide

Medical Examiner Records

- Baby sitter had anger management issues, history of alcohol abuse, no formal training in caring for children
- Victim was teething and experiencing separation anxiety
- Autopsy clinical markers of shaken baby syndrome

Police Reports

- Baby sitter was victim's aunt and had multiple children in her care
- Baby sitter had postpartum depression
- Baby sitter admitted shaking the baby when it would not stop crying
- Baby sitter was not under the influence of alcohol or drugs at the time of the incident

Case Study 2: Suicide Case Study

Death Certificates

- Suicide
- Hanging

Medical Examiner Records

- Presence of marijuana and a blood alcohol content below the legal limit for intoxication
- School problems related to anger management issues
- Enrolled in a “boot camp” by his parents
- Attending counseling for mental health issues

Police Reports

- History of drug and alcohol problems
- Recently asked his ex-girlfriend to take him back but she refused
- Previous suicidal behavior using the same method





Moving Forward

Each year, about 54,000 violent deaths occur in this country and cost the United States more than \$52 billion in medical care and lost productivity. As CDC expands NVDRS across states and territories, it can serve as a monitor for public health; provide insight into circumstances surrounding a homicide or suicide; and improve state and local violence prevention efforts.

Beginning in 2010, NVDRS implemented an intimate partner violence (IPV) module to provide a systematic way of capturing additional information on incidents with elements of IPV. This will allow states to monitor circumstances unique to intimate partner violence. In 2012, CDC released its fourth annual report summarizing data on violent deaths. The report, *Surveillance for Violent Deaths — National Violent Death Reporting System, 16 States, 2009*, includes a comprehensive overview of the year's data, and discussion of patterns in death from violence-related injuries.

Moving forward, NVDRS states will continue to make better use of data currently being collected by health, law enforcement, and coroner/medical examiners. With continued expansion, CDC's NVDRS will be able to increase knowledge about where the problem of violent death exists, who is most at risk, and trends over time. This data will provide the foundation for building successful strategies for preventing violence and helping people live life to their full potential.

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