



# NVDRS and Suicide

## How the National Violent Death Reporting System is being used to prevent suicide

A new data source on suicide has recently become available. Seventeen states collect detailed data on suicide and homicide as part of the US Centers for Disease Control and Prevention's National Violent Death Reporting System (NVDRS). The CDC funds states to link data from the death certificate, police report, and medical examiner's or coroner's report to better understand fatal violence. Previously, the only national information on suicide in the US was from the National Vital Statistics System's death certificate data, which tabulates who dies by suicide, how, and when. NVDRS supplies detail on *why* they died. **This fact sheet highlights ways in which data from the system, and its precursors, have been used for prevention.**

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### DATA IDENTIFIES NEW PARTNERS FOR PREVENTION

Could we do a better job identifying and helping people at risk of suicide? The Maryland NVDRS learned that among middle-aged decedents, most women but few men were in mental health treatment at the time they took their life, according to death investigation reports filed by police and medical examiners.

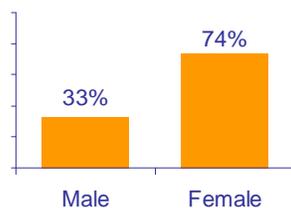


FIGURE 1. Percent of Maryland suicide victims ages 45-59 in current mental health treatment, 2003.

Improving mental health care, while important and necessary, may not reach many who need help. With male suicide rates four times higher than female, where can at-risk males be reached? NVDRS data point to new answers.

**UNION HALLS IN COLORADO**—Construction was the occupation that the Colorado NVDRS found most frequently documented among adult deaths—14% of the total—suggesting unions and construction employers as potential new partners for prevention.

**CRIMINAL JUSTICE SYSTEM**—Two-thirds of youths dying by suicide had contact with the juvenile justice system, according to the Utah Youth Suicide Study. The study now screens youths in the system and gets help to those in need. The findings are relevant to adults. The South Carolina NVDRS found that 40% of all those dying by suicide had arrest histories.

**PHYSICIAN OFFICES IN OREGON**—After the Oregon NVDRS found that 37% of elders dying by suicide had visited a physician in the preceding 30 days, the state launched a plan to improve physicians' skills in identifying and treating at-risk elders.

### FROM DATA TO ACTION

#### IMPROVING TREATMENT IN SAN FRANCISCO

Two-thirds of San Francisco suicide victims with a recognized mental illness were in treatment at the time of their death, according to NVISS, an NVDRS pilot. "These were treatment failures," Dr. William Schecter, chief of surgery at San Francisco General Hospital, concluded. He led an effort to implement joint psychiatric-trauma service reviews on suicides previously treated at the hospital. In an *Archives of Surgery* article summarizing the NVISS findings, he wrote, "We are squandering an opportunity to learn more about suicide and identify opportunities to improve care by failing to review these cases..."

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Linking data to save lives

## Suicide Data Elements in the National Violent Death Reporting System

### ► VICTIM CHARACTERISTICS

Age, race, ethnicity, sex  
Residence, birthplace  
Marital status  
Veteran status  
Pregnancy status  
Years of education  
Occupation – usual, current  
Homeless status  
In custody  
Occurred at home, occurred at work  
Alcohol use at time of incident suspected  
Survival time  
Autopsy performed  
Number/location of penetrating injuries

### ► INCIDENT INFORMATION

Geographic location  
Type of location  
Other victims in incident  
Short narrative summary of incident

### ► TOXICOLOGIC INFORMATION

Testing for/presence of:  
Antidepressants  
Opiates  
Amphetamines  
Cocaine  
Marijuana  
Alcohol  
Blood Alcohol Level

### ► SUICIDE METHOD

Type (e.g., firearm, suffocation, poison, etc.)  
Poison info (substance; source)  
Firearm info (type, make, model, caliber, source, storage)

### ► STATE-ADDED VARIABLES

States have the option to add locally-defined variables to the system

### ► MENTAL HEALTH INFORMATION

Depressed mood  
Mental health problem  
Diagnoses  
Alcohol problem, drug problem  
Treatment status  
Previous attempts  
Previous disclosure of suicidal feelings

### ► ASSOCIATED CIRCUMSTANCES

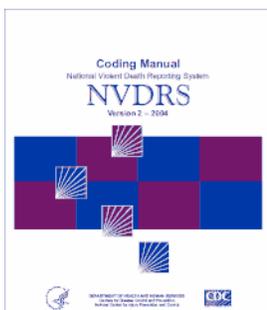
Health problem  
Intimate partner problem  
Family/friends problem  
School problem  
Job problem  
Financial problem  
Death of loved one by suicide  
Death of loved one by other means  
Violence perpetrator  
Violence victim  
Criminal problem  
Other legal problem  
Recent crisis  
Other problem  
Left a note

### ► CHILD FATALITY REVIEW MODULE (Optional module to record data from child fatality reviews)

Parent/caregiver information  
Household information  
Disabilities  
Length of time at current residence  
Intimate partner violence at home  
Substance abuse at home  
Prior system contacts  
Prior child abuse/neglect reports  
Type of prior abuse  
Prior inpatient psychiatric care  
Current Rx for psychotropic medication  
Barriers to accessing mental health care  
Quality of supervision

#### NVDRS CODING MANUAL

Available at:  
<http://www.cdc.gov/ncipc/pub-res/nvdrs-coding/VS2/>





## Using Data from the NVDRS

### STRENGTHS OF THE DATA

- Includes all suicide and homicide deaths in a state; identifies local issues and trends.
- Supplies far greater detail on suicides than previously available. Supplies circumstance, mental health, and toxicologic data.
- Case counts available within 6-12 months; more detailed data available after 18-24 months.
- Confidentiality protected; no identifiers released.
- Large numbers enable researchers to focus on little-studied subsets like immigrants, homeless people, railroad suicides, etc.

### LIMITATIONS OF THE DATA

- New system; uneven quality.
- Quality depends on many steps: did the police/coroner/medical examiner ask questions to elicit the information? Did someone know the answer and reveal it? Were the answers documented? Was the NVDRS abstractor allowed access to the report? Was it coded and entered into NVDRS accurately? Answers are likely to vary across jurisdictions, limiting the reliability of cross-jurisdictional comparisons.
- Many data elements do not differentiate “no” and “unknown,” making it difficult to interpret results. For example, if one state reports that 10% of suicide decedents had a drug problem and another reports 25%, the difference may true differences between the two groups

or it may be an artifact of reporting (e.g. the medical examiner in one state infrequently asks this information).

- Toxicologic testing policies, methods and screening detection limits vary across jurisdictions, limiting interpretability of the toxicologic data.
- Confidentiality concerns have placed limits on release of some useful data elements.

### IMPROVING THE SYSTEM

- Using the data, sharing results with data providers (police, coroners, medical examiners), and working with data providers to evaluate the data and improve documentation is likely to improve the system over time.
- CDC is currently surveying a sample of forensic toxicology labs that supply data to the system to document differences in testing policies and methods across jurisdictions.

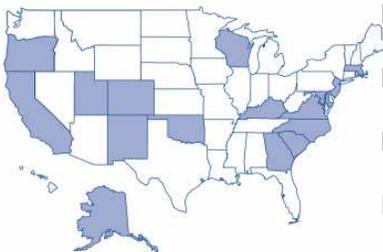
### ACCESSING THE DATA

- CDC has made a limited dataset available publicly at: <http://webapp.icpsr.umich.edu/cocoon/ICPSR-STUDY/04574.xml>
- A fuller dataset will be available in the future to researchers by request.
- A web-based NVDRS data query system is scheduled to be available in Spring 2008.
- Some state NVDRS offices also make local data available.

### NVDRS STATES

For state contacts:

<http://www.cdc.gov/ncipc/profiles/nvdrs/>



### REPORTS USING NVDRS DATA

Special Issue of *Injury Prevention* devoted to NVDRS: [http://ip.bmj.com/content/vol12/suppl\\_2/](http://ip.bmj.com/content/vol12/suppl_2/)

MMWR Report: Toxicology Testing and Results for Suicide Victims – 13 States, 2004

<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5546a1.htm>

MMWR Report: Homicide and Suicide Rates – NVDRS, Six States, 2003

<http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5415a1.htm>

MMWR Report: Homicides and Suicides – NVDRS, United States, 2003-2004

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5526a1.htm>

Example of state reports:

Oregon <http://www.oregon.gov/DHS/ph/ipe/nvdrs/index.shtml>

Virginia: <http://www.vdh.virginia.gov/medExam/documents/NVDRS2004.pdf>



### FROM DATA TO ACTION (Cont'd)

**TALKING WITH PARENTS ABOUT LOCKING UP GUNS** – For one out of three teen deaths, a crisis like a family argument or school suspension occurred within 24 hours of the suicide, according to NVISS, Harvard’s NVDRS pilot. Over half of these deaths were committed with a firearm. For 82% of firearm suicides among youth under 18, the gun belonged to a family member. Findings like these spurred Harvard to launch a campaign to raise awareness among suicide prevention groups about firearm storage and suicide and to evaluate New Hampshire’s CALM project, a training for mental health providers on working with families of suicidal patients to reduce patients’ access to guns and lethal medications.

### CUSTOMIZING THE SYSTEM FOR LOCAL NEEDS

**OVERDOSES IN RHODE ISLAND** – A precursor to the RI-NVDRS found that among poisoning suicides, many decedents overdosed on their own psychiatric medications. The medical examiner’s office was concerned that patients

were receiving medication without counseling and directed scene investigators to record the specialty of the prescribing physician (e.g., psychiatrist, primary care, oncologist, etc.). That information, now captured in RI-NVDRS, will identify which prescriber groups to target for educational outreach.



**ELDER SUICIDE IN OREGON** – With the second highest elder suicide rate in the nation, Oregon added new data elements to OR-NVDRS relevant to older people, such as whether the decedent was socially isolated, facing a loss of autonomy, or coping with chronic pain. The OR-NVDRS office led the effort to develop the state’s plan for elder suicide prevention and secured a SAMHSA grant to begin implementing the plan.

### NVDRS TIMELINE

- 2002 – Congress appropriates funds for NVDRS. CDC funds 6 states to participate: MA, MD, NJ, SC, VA
- 2003 – 7 states added: AK, CO, GA, NC, OK, RI, WI
- 2004 – 4 more added: CA (partial), KY, NM, UT
- 2005 – Coverage of CA expands
- 2006 – No new sites

### SUPPORT FOR NVDRS

- 35 national groups have called for expansion of NVDRS, including:
- Suicide Prevention Action Network
  - American Association of Suicidology
  - American Foundation for Suicide Prevention
  - American Psychological Association
  - American Public Health Association
  - American Academy of Pediatrics
  - National Org. of People of Color Against Suicide

### BUILDING A 50-STATE NVDRS

Currently 17 states have NVDRS systems in place. CDC plans to add new states as additional funding from Congress becomes available. Many new states are eager to participate. CDC estimates the annual cost of a 50-state system is \$20 million.

### SUICIDE PREVENTION RESOURCES

This fact sheet is part of a series by the Suicide Prevention Resource Center <[www.SPRC.org](http://www.SPRC.org)> and Harvard Injury Control Research Center’s NVISS project <[hsph.harvard.edu/hicrc](http://hsph.harvard.edu/hicrc)> to encourage use of the NVDRS to prevent suicide. Funding is provided by the Substance Abuse and Mental Health Services Administration (SAMHSA) under Grant No. 1 U79 SM57392-02. Any opinions, findings, conclusions, or recommendations expressed here are those of the author and do not necessarily reflect the views of SAMHSA.

