Using Data Locally to Inform Prevention Efforts

NC State Health Director’s Conference
January 21, 2016
Agenda

• Overview of NC-VDRS
• OCME case studies of child deaths/role of prevention teams in counties/CFR Teams
• Awareness and use of NC-VDRS statewide- UNC Capstone Team
Background to NVDRS
Violent Deaths in the US

- **55,000** Americans die from violence
  - Entire population of Halifax or Edgecombe County, NC
  - MVT (40,000) & HIV (14,000)
  - Suicide (35,000) & Assaults (18,000)

- Homicide and suicide affect **young and old**

  Homicide 2nd leading cause of death – persons 15-24 years

  Suicide:
  - 2nd leading cause for persons 25-34 years
  - 3rd leading cause for persons 10-24
  - 4th leading cause for persons 35-54
What is the National Violent Death Reporting System (NVDRS)?

1. Population-based, public health reporting system on deaths from violence managed by the CDC
   ● Funding through competitive application
   ● Ultimate goal to fund 50 states and territories

2. Data are collected by states and sent to CDC
   ● Data on homicides, suicides, and deaths from unintentional firearm, legal intervention and undetermined intent obtained from multiple sources
   ● Personal identifiers are removed

3. Provides timely and detailed data on incidents where someone is killed by violence, including victims, suspects, weapons, circumstances and their inter-relationships.
Currently Funded NVDRS States, 2015
Data Sources

• Data are gathered from multiple sources
  • Death Certificates (SCHS)
  • Medical Examiner (OCME)
  • Law Enforcement (Local)
  • NC-IBRS(SBI)
Types of Information Gathered

- Demographics (victim and suspect)
- Circumstances of the event
- Alcohol/drug use by the victim
- Type of location where the event happened
- Type of weapon used
- Relationship between the victim and suspect
Findings to Date
Deaths by Manner/Intent: Resident and Occurrence Deaths

Total resident deaths = 19,527
Total occurrence deaths = 21,802

*provisional data 2014 & 2015
As of Dec 30, 2015.
Percent of deaths due to Violence by Manner/Intent: Occurrence Deaths (NC-VDRS, 2004-2015*)

As of Dec 30, 2015.

*provisional data 2014 & 2015
Violent Death Rates by Manner/Intent and Age: N.C. Residents (NC-VDRS, 2004-2014*)

*provisional data 2014
As of Dec 30, 2015.
Violent Death Rates by Manner/Intent, Sex and Race/Ethnicity: N.C. Residents (NC-VDRS, 2004-2014*)

*provisional data 2014
As of Dec 30, 2015.
Percent of Deaths by Method of Fatal Injury:
N.C. Residents (NC-VDRS, 2004-2015*)

- **Homicide**: 69%
  - Firearm: 13%
  - Sharp Inst.: 6%
  - Blunt: 6%
  - Poison: 3%
  - Hanging: 3%
  - Unarmed: 0%
  - Other: 0%

- **Suicide**: 59%
  - Firearm: 19%
  - Sharp Inst.: 0%
  - Blunt: 0%
  - Poison: 18%
  - Hanging: 3%
  - Unarmed: 1%
  - Other: 3%

Suicide
Suicide Rate per 100,000 by County of Residence: NC-VDRS 2013

North Carolina 2013 Suicide Rate: 14.8 deaths per 100,000 residents
Suicide Rates by Sex, Race and Ethnicity: N.C. Residents (NC-VDRS, 2013)

<table>
<thead>
<tr>
<th>Sex</th>
<th>Race</th>
<th>Hispanic/Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>White</td>
<td>Non-Hispanic</td>
</tr>
<tr>
<td>23.5</td>
<td>18.0</td>
<td>15.7</td>
</tr>
<tr>
<td>Female</td>
<td>American Indian</td>
<td>4.7</td>
</tr>
<tr>
<td>6.6</td>
<td>8.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Asian</td>
<td>Black</td>
<td>Hispanic</td>
</tr>
<tr>
<td>8.1</td>
<td>5.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Suicide Rates by Age Group for Ages 10 or Older: N.C. Residents (NC-VDRS, 2013)
Suicide Circumstances: N.C. Residents (NC-VDRS, 2013)

- Current Treatment for Mental Illness: Males 41.6%, Females 57.5%
- Current Depressed Mood: Males 30.9%, Females 34.6%
- Intimate Partner Problem: Males 26.9%, Females 21.1%
- Physical Health Problem: Males 19.0%, Females 11.4%
- Alcohol Problem: Males 15.7%, Females 10.4%
- Other Substance Problem: Males 14.4%, Females 18.2%
- Ever Treated for Mental Illness: Males 46.5%, Females 63.9%
- Current Mental Health Problem: Males 46.8%, Females 64.6%
- History of Suicidal Thoughts: Males 38.4%, Females 43.2%
- Left a Suicide Note: Males 31.2%, Females 43.2%
- Disclosed Intent to Complete Suicide: Males 29.1%, Females 27.1%
- History of Suicide Attempts: Males 12.6%, Females 21.8%
Homicide
Homicide Rate per 100,000 by County of Residence: NC-VDRS 2013

Homicide Rate (rate per 100,000 residents)

- 0.0
- 0.1 - 5.0
- 5.1 - 7.0
- 7.1 - 11.0
- 11.1 - 23.0
- < 5 Deaths; rate suppressed

North Carolina 2013 Homicide Rate: 5.4 deaths per 100,000 residents
Suicide Rates by Sex, Race and Ethnicity: N.C. Residents (NC-VDRS, 2013)

<table>
<thead>
<tr>
<th></th>
<th>Rate per 100,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8.8</td>
</tr>
<tr>
<td>Female</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>American Indian</td>
<td>7.4</td>
</tr>
<tr>
<td>Black</td>
<td>13.4</td>
</tr>
<tr>
<td>White</td>
<td>2.9</td>
</tr>
<tr>
<td>Asian</td>
<td>2.9</td>
</tr>
<tr>
<td><strong>Hispanic/Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.8</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>5.5</td>
</tr>
</tbody>
</table>
Suicide Rates by Age Group for Ages 10 or Older: N.C. Residents (NC-VDRS, 2013)
Precipitating Circumstances for Homicide

- Did the homicide result from:
  - an argument or conflict over money or property?
  - jealousy or distress over an intimate partner’s relationship or suspected relationship with another person?
  - conflict between current or former intimate partners?
  - gang-related involvement?
  - interpersonal conflict, such as abuse, insult, grudge, or personal revenge?
Homicide Circumstances: N.C. Residents (NC-VDRS, 2013)

<table>
<thead>
<tr>
<th>Circumstance</th>
<th>Percentage of total Count</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gang Related</td>
<td></td>
<td>27.2</td>
<td>34.7</td>
</tr>
<tr>
<td>Jealousy (Lovers' Triangle)</td>
<td></td>
<td>5.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Intimate Partner Violence-Related</td>
<td></td>
<td>7.8</td>
<td>22.7</td>
</tr>
<tr>
<td>Drug Involvement</td>
<td></td>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>Precipitated by Another Serious Crime</td>
<td></td>
<td>34.0</td>
<td>39.4</td>
</tr>
<tr>
<td>Other Argument, Abuse, Conflict</td>
<td></td>
<td>30.1</td>
<td>46.5</td>
</tr>
</tbody>
</table>
Precipitating Crimes for Homicide

- Was the homicide precipitated by another crime:
  - Drug dealing or illegal drug use?
  - Rape or Sexual Assault?
  - Burglary?
  - Robbery?
  - Motor vehicle theft?
  - Assault?
Crimes Precipitating Homicides: N.C. Residents (NC-VDRS, 2013)

<table>
<thead>
<tr>
<th>Crime Type</th>
<th>Percentage of total Count</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assault, homicide</td>
<td></td>
<td>2.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Rape, sexual assault</td>
<td></td>
<td>11.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Arson</td>
<td></td>
<td>6.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Motor vehicle theft</td>
<td></td>
<td>13.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Burglary</td>
<td></td>
<td>33.3</td>
<td>25.0</td>
</tr>
<tr>
<td>Robbery</td>
<td></td>
<td>24.4</td>
<td>42.3</td>
</tr>
<tr>
<td>Drug trade</td>
<td></td>
<td>4.4</td>
<td>24.0</td>
</tr>
</tbody>
</table>

Percentage of total Count
Partnerships: Community and Researchers
NC-VDRS Advisory Board

- Researchers (Duke, UNC, ECU, RTI)
- Local community partners
- Law Enforcement (Durham Chief of Police)
- Data Providers (Vital Records, SBI)
- Office of the Chief Medical Examiner
- State Organizations (NCCADV)
Durham Community

- Historical partnership with Durham since inception of NC-VDRS
- Great and active partners: researchers, Health Department, Police/Sheriff, community prevention groups
- Help inform our work and keep project grounded in community prevention efforts
NC-VDRS Resources
Violent Death Rates and Risk for Released Prisoners in North Carolina

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David Edwards, MRP  
Division of Research and Statistics, North Carolina Department of Public Safety, Raleigh, North Carolina, USA

Released prisoners face high risk of early mortality. The risk of violent death, specifically homicide and suicide, are addressed in this study. Data on inmates released from the North Carolina Division of Adult Corrections (N = 476) matched to the Violent Death Reporting System are analyzed to estimate rates and demographic and criminal justice-related predictors. Violent death rates for persons released from prison were more than 7 times higher than for the general adult population. Results from multinomial logistic regression indicate decreased homicide risk for every year of age, whereas male gender and minority race increased risk. For suicide, minority race, release without supervision, and substance abuse treatment in prison decreased fatal risk. By contrast, a history of mental illness increased suicide risk. Implications for practice and research are discussed.

Keywords: mortality; homicide; suicide; reentry; mental health

Violent Death

There is an ongoing trend of released prisoners from prison in the United States face many challenges to successfully returning to society. Among the most documented threats to successful reentry are unemployment and homelessness, substance abuse, mental illness, physical illness, and return to criminal activity (DiIorio, Woff, Jacoby, Hartwell, & Duxey, 2003; Freedberg, Daniels, Uram, Perkins, & Ritchie, 2005; Langan & Levin, 2002; Malick-Kanu & Visali, 2008; Pasulka, 2003). In addition, studies have demonstrated that this population faces high risk of mortality postrelease, including both mortality by natural causes and violent fatalities (Blinn-Wcllah et al., 2007; Bosan, Schoenbach, & Wolf, 2008; Zhou & Fazeli, 2012). Most research, in the United States or internationally, focus on

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North Carolina Violent Death Reporting System

North Carolina Injury & Violence Prevention Branch
NC-VDRS Website

NC Division of Public Health, Chronic Disease and Injury Section

Home | About | Contact | Data and Surveillance | Individuals and Families | Health Professionals

North Carolina
Injury & Violence PREVENTION Branch

Violent Death Data

Violence, whether from assault or self-inflicted, takes the lives of nearly five North Carolinians every day (2006). Surveillance data can improve understanding of the causes and circumstances of violent deaths. Along with data from vital records, hospital discharge and emergency department data, in N.C. there is a system called The North Carolina Violent Death Reporting System (N. C. VDRS) that provides detailed information on deaths that result from violence.

Reports from the N.C. Violent Death Reporting System:

- N.C. Violent Death Reporting System At A Glance PDF 2 MB
- 2009 NC Violent Death Reporting System Provisional Tables PDF 3.16 MB
- 2008 NC Violent Death Reporting System Provisional Tables 2008 PDF 343 KB
NC-VDRS Data Users Agreement

Policy on Data Release and Publication of NC-VDRS Data

Introduction

The North Carolina – Violent Death Reporting System (NC-VDRS) policy on data release and publication of data reflects the collaborative nature of the NC-VDRS and the desire to “provide data for public health purposes without compromising the privacy concerns, federal and state confidentiality concerns, proprietary interests, national security interests, or law enforcement activities.”

NC-VDRS database is a relational, incident-based system that includes secondary data from the Vital Records (VR), the Office of the Chief Medical Examiner (OCME), State Bureau of Investigation (SBI), local law enforcement (LLE), and crime laboratories (for firearms) on every reported incident of violence in North Carolina that results in a fatality as of January 1, 2004. The Death Certificate and Medical Examiner data in the NC-VDRS is public record. In contrast, the law enforcement and type of weapon recorded on a crime laboratory report that are entered into NC-VDRS are not public record. Therefore the data in NC-VDRS require special confidentiality and data release policies.

The NC-VDRS policy on data release incorporates the major data release terms of each agency that contributes data (acknowledging that each of these groups has different procedures and policies on data release) and the data release and publication policies of the National Violent Death Reporting System (see exempt below). The full National Violent Death Reporting System data release policy is available from the NC-VDRS Director.

The CDC receives information about violent deaths from the state health departments pursuant to Cooperative Agreements for Development of the NVDRS. North Carolina was funded to begin collecting data as of January 1, 2004. These data do not contain obvious identifiers such as name and street address (Table 1) but they do include fields that could potentially be identifying when used in the aggregate, such as the variables in Table 2. Some of the data in the National and the North Carolina databases will permit to open investigations and will include sensitive information such as substance abuse and mental illness history.

The CDC’s Office of the General Counsel and the CDC’s Freedom of Information Act (FOIA) office have been consulted regarding the legal basis for the protection of NVDRS data. They have informed NVDRS staff that the CDC has mechanisms to protect these data from disclosure allowable under federal law. CDC may be asked to disclose data through such means as a FOIA request or a subpoena, both of which are discussed below.

NC-VDRS Data Sharing Agreements

I HEREBY AGREE TO THE FOLLOWING TERMS REGARDING MY USE OF THE NC-VDRS DATA

- I will destroy the data once my project is complete, e.g., 2 years after publication of a scientific paper. I understand that NC-VDRS will archive my data free of charge if I so request.
- I will not make a website release, press release, or other public statement using the NC-VDRS data without the express prior approval of NC-VDRS Director.
- I agree to acknowledge the OCME, SBI, and Law Enforcement Agencies as the source of the NC-VDRS data in all publications, press releases, website releases, and public statements using the NC-VDRS data.
- I understand that the Director reserves the right to withdraw access to the data and cancel the data sharing agreement. In that case, all data that has been shared must be destroyed and the project terminated.
- I understand that I must maintain IRB approval for my project throughout the entire project.
- I have reviewed the Policy on Data Release and Publication of NC-VDRS Data and I agree to abide by the policy.

Name: ____________________________ Signature: ____________________________ Date: __________

DATA CONFIDENTIALITY

I will treat the data as confidential and will not disclose the identity of anyone, living or dead, on the data file. I will report data in an aggregated fashion only. I have reviewed the Policy on Data Release and Publication of NC-VDRS Data and I agree to abide by the policy. Data will be password-protected and/or stored on secure servers at all times.

Name: ____________________________ Signature: ____________________________ Date: __________
¿Preguntas?

NC-VDRS

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www.injuryfreenc.ncdhhs.gov