



A Comparison of the National Violent Death Reporting System and Supplementary Homicide Report: Potential Benefits of Integration

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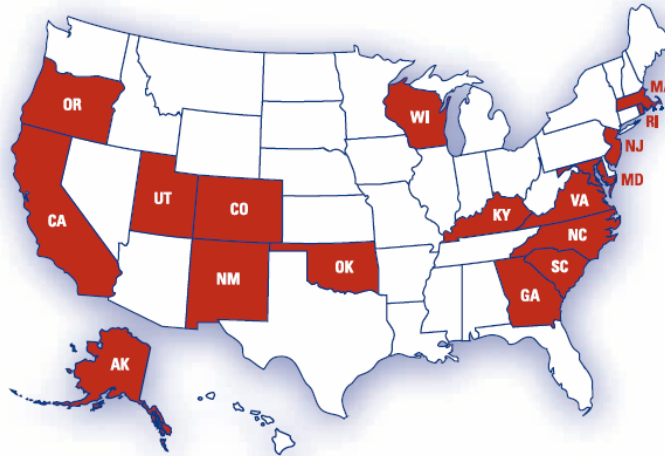


Brief Background of the NVDRS

- In 2002, as part of a growing nationwide effort toward informed public health efforts to combat violent death in America, the CDC took the first steps in establishing the National Violent Death Reporting System (NVDRS)
- 17 are currently funded by this federal initiative to collect and analyze data about homicides, suicides, and other forms of violent death

Current NVDRS States

■ NVDRS State



Brief Background of the NVDRS

- The NVDRS collects data on all deaths due to:
 1. Suicide
 2. Homicide
 3. Legal Intervention
 4. Deaths of Undetermined Intent
 5. Firearm-related Accidental Deaths

- Incident-based: all related deaths that occur within a 24 hour period (e.g., homicide-suicides, multiple homicides, multiple suicides, etc.)



Brief Background of the NVDRS

- All involved states collect data from 4 sources:
 1. Vital Statistics Death Certificates (DC)
 2. Coroner/Medical Examiner's Reports (C/ME)
 3. Police Reports (PR)
 4. Crime Laboratories (LAB)



Supplementary Homicide Report

- The SHR is one of the most widely used data sources to study homicides by researchers due to its national coverage, broad generalizability, and accessibility
- Some limitations of the SHR do exist and have been documented by homicide researchers

Purpose of the Study

- To introduce researchers and practitioners to the methodology of the NVDRS
- To examine how the issues researchers face when using SHR data have potential to be alleviated through its integration with the NVDRS
- To examine how the NVDRS database itself has potential to be enhanced with the inclusion of SHR data
- This examination will occur in relation to 5 issues:
 1. Known Circumstances
 2. Victim/Offender Relationships
 3. Under-reporting and Double-counting
 4. Missing Data
 5. National-level Representation and Public Availability

Data and Methods

- Homicide data from Maryland in 2004 were retrieved from 3 sources:
 1. SHR
 2. NVDRS *without* SHR data (NVDRS_{NI})
 3. NVDRS *with* SHR data (NVDRS_{SHR})
- Because the NVDRS uses multiple data sources, a primacy scheme has been developed to obtain data from the “most reliable” source
 - When the data from the first primacy source are missing, sources with secondary primacy are consulted, and so on

NVDRS Primacy Structure

| Variable | Primacy Order | | | |
|-----------------------------|---------------|------|------|-----|
| | 1st | 2nd | 3rd | 4th |
| Age | C/ME | DC | PR | SHR |
| Sex | DC | C/ME | PR | SHR |
| Race | DC | C/ME | PR | SHR |
| Ethnicity | DC | C/ME | PR | SHR |
| State/County of Residence | C/ME | DC | PR | --- |
| Marital Status | DC | C/ME | --- | --- |
| Location Where Injured | DC | PR | C/ME | --- |
| Education | DC | C/ME | --- | --- |
| Homeless Status | C/ME | PR | --- | --- |
| Manner of Death | C/ME | DC | --- | --- |
| Victim/Suspect Relationship | PR | C/ME | --- | --- |

Data and Methods

- Two measures were used in the comparisons of the data sources (see Wiersema et al., 2000):
 1. Differences between homicide **counts**
 2. Differences between homicide **rates**
- Positive values in both differences imply a larger number of homicides or a specific characteristic in the NVDRS than in the SHR.

Issue #1: Known Circumstances

■ *Potential Problems with SHR*

1. Mutually-exclusive nature of circumstances
2. Only 1 circumstance is reported
3. No uniform manner of prioritizing circumstances

■ *Potential Outcomes with SHR & NVDRS Integration*

1. Cumulative and exhaustive list of circumstances
2. No limit to circumstances reported
3. Standardized guidelines for reporting circumstances

Issue #1: Known Circumstances

| Circumstance | NVDRS _{NI} | NVDRS _{SHR} | SHR | % Change (NVDRS _{NI} -SHR) | % Change (NVDRS _{SHR} -SHR) |
|-----------------------|---------------------|----------------------|-----|----------------------------------------|-----------------------------------------|
| Robbery | 41 | 46 | 30 | 36.7 | 53.3 |
| Burglary | 2 | 7 | 4 | -50.0 | 75.0 |
| MV Theft | 4 | 4 | 0 | --- | --- |
| Arson | 2 | 2 | 0 | --- | --- |
| Rape, SA | 3 | 3 | 1 | 200.0 | 200.0 |
| Gambling | 1 | 1 | 0 | --- | --- |
| Argue: \$ or Property | 14 | 18 | 10 | 40.0 | 80.0 |
| Jealousy | 12 | 12 | 3 | 300.0 | 300.0 |
| Other Argument | 75 | 101 | 66 | 13.6 | 53.0 |

Additional Circumstances Available

NVDRS

- Assault/Homicide
- Witness Intimidation
- IPV
- Hate Crime
- Bystander
- Victim was a police officer

SHR

- Prostitution
- Sniper Attack
- Child Killed by Babysitter

Issue #2: Victim/Suspect Relationships

- **Potential Problems with SHR**
 1. Only 1 relationship reported for multiple suspects
- **Potential Problems with NVDRS**
 1. Larger amounts of missing data
- **Potential Outcomes with SHR & NVDRS Integration**
 1. Numerous relationships reported for multiple suspects
 2. Decrease in the amount of missing data
 3. More extensive list of V/S relationships

Issue #2: Victim/Suspect Relationships

| V/S Relationship | NVDRS _{NI} | NVDRS _{SHR} | SHR | % Change (NVDRS _{NI} -SHR) | % Change (NVDRS _{SHR} -SHR) |
|--------------------------|---------------------|----------------------|-----|-------------------------------------|--------------------------------------|
| Spouse | 0 | 12 | 11 | -100.0 | 9.1 |
| Boyfriend/ Girlfriend | 9 | 14 | 5 | 80.0 | 180.0 |
| Child | 3 | 6 | 13 | -76.9 | -53.3 |
| Sibling | 3 | 3 | 0 | 0.0 | 0.0 |
| Acquaintance | 1 | 39 | 72 | -98.6 | 45.8 |
| Friend | 4 | 3 | 3 | -33.3 | 0.0 |
| Other Family Member | 2 | 3 | 6 | -66.7 | -50.0 |
| Other Person | 1 | 3 | 3 | -66.7 | 0.0 |
| Stranger | 3 | 31 | 50 | -94.0 | -38.0 |

Additional Relationships Available

NVDRS

- Ex-boyfriend/
Ex-girlfriend
- Grandparent/
Grandchild
- Roommate
- Rival Gang Member
- Babysittee

SHR

- Common-law
husband/wife
- Neighbor
- Homosexual partner

Issue #3: Under-reporting and Double-counting

■ *Potential Problems with SHR*

1. Incidents may not be counted (under-reported)
2. The same incident may be counted more than once (double-counted)

■ *Potential Outcomes with SHR & NVDRS Integration*

1. Mandatory reporting of every homicide
2. Incidents established through DC and not SHR
3. Eliminates possibility of double-counting

Issue #3: Under-reporting and Double-counting

| County | NVDRS _{NI} | NVDRS _{SHR} | SHR | % Change (NVDRS _{NI} -SHR) | Rate Change (NVDRS _{NI} -SHR) |
|-----------------|---------------------|----------------------|-----|----------------------------------------|-------------------------------------------|
| Baltimore City | 273 | 273 | 276 | -1.1 | -0.47 |
| Prince George's | 131 | 131 | 146 | -10.3 | -1.78 |
| Baltimore | 22 | 22 | 29 | -24.1 | -0.89 |
| Anne Arundel | 20 | 20 | 16 | 25.0 | 0.78 |
| Montgomery | 18 | 18 | 18 | 0.0 | 0.0 |
| St. Mary's | 6 | 6 | 3 | 100.0 | 3.16 |
| Harford | 4 | 4 | 3 | 33.3 | 0.0 |
| Wicomico | 3 | 3 | 5 | -40.0 | --- |
| Unknown | 2 | 2 | 3 | -33.3 | --- |

Issue #4: Missing Data

- **Potential Problems with SHR**

1. Use hindered by missing data
2. Statistical procedures can introduce error

- **Potential Problems with NVDRS**

1. Even with 4 data sources, missing data still exist

- **Potential Outcomes with SHR & NVDRS Integration**

1. Use of multiple sources decreases missing data
2. Primacy structure determines the most valid data source

Issue #4: Missing Data

| Variable | NVDRS _{NI} | NVDRS _{SHR} | SHR | % Change (NVDRS _{NI} -SHR) | % Change (NVDRS _{SHR} -SHR) |
|------------------|---------------------|----------------------|-----|----------------------------------------|-----------------------------------------|
| County of Injury | 2 | 2 | 3 | -33.3 | -33.3 |
| Victim's Race | 1 | 0 | 2 | -50.0 | -100.0 |
| Victim's Sex | 0 | 0 | 1 | -100.0 | -100.0 |
| Victim's Age | 1 | 0 | 4 | -75.0 | -100.0 |
| V/S Relationship | 452 | 383 | 419 | 7.9 | -8.6 |
| Circumstances | 263 | 210 | 349 | -24.6 | -39.8 |

Issue #5: National-level Representation and Public Availability

■ *Potential Problems with SHR*

1. Minimal problems – SHR data is widely available, easily accessible, and nationally representative

■ *Potential Problems with NVDRS*

1. Limited representation
2. Limited public availability

■ *Potential Outcomes with SHR & NVDRS Integration*

1. Places restrictions on public availability of SHR data
2. Increasing participation in NVDRS
3. Increasing public availability of NVDRS

Conclusion

- Integration has the potential to address some of the potential problems experienced by using the SHR and NVDRS as separate data sources:
 1. Known Circumstances
 2. Victim/Suspect Relationships
 3. Under-reporting and Double-counting
 4. Missing Data
- Not all of the potential problems faced by the SHR and NVDRS has the potential to be remedied by integration:
 1. National-level representation and public availability

Conclusion

- Help foster stronger ties with local police departments and the NVDRS
- Increase awareness among homicide researchers of the potential value the NVDRS as a new dataset
- Inform and guide violence prevention initiatives, including county-level strategies

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- Thank You!