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About NC-VDRS

What is the North Carolina Violent Death Reporting System (NC-VDRS)?

The North Carolina Violent Death Reporting System (NC-VDRS) is part of a population-based, public health reporting system that captures information on violent deaths including homicides, suicides, unintentional firearm deaths, deaths from police intervention, and deaths from undetermined intent. NC-VDRS data includes information on the victim, suspects, weapons, and the circumstances surrounding the fatality. This data is assembled from three different sources including law enforcement records, death certificates, and Medical Examiner's records. The national system is coordinated by the Center of Disease Control and Prevention (CDC), using data collected at the state-level.

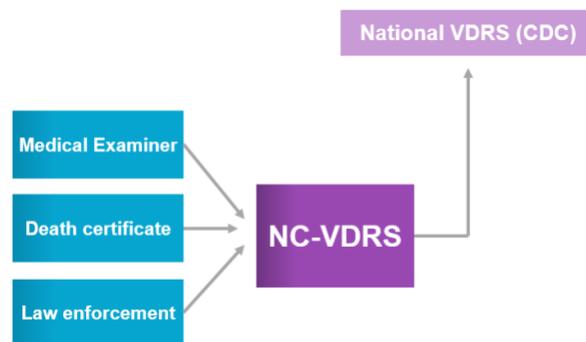
What kind of data does NC-VDRS collect?

NC-VDRS uses a novel approach to injury surveillance, drawing from three primary data sources:

1. Law enforcement records provide information on what happened before the death, including the circumstances surrounding the violent event, potential relationships between the suspect and victim, and the weapons used to commit the act of violence.
2. Medical Examiner's records provide information which was collected after the death, including information about wounds, weapons, and toxicology results.
3. The death certificate provides demographic information, including the victim's age, sex, and race.

We sometimes supplement this information with data from other sources, such as homicide information from the NC State Bureau of Investigations. A team of trained professionals review all this information, draft written narratives, and enter the data into the system. NC-VDRS contains demographic information on both the victim and the suspect (when documented), detailed information about the weapons used in the violent incident, and the circumstances of the incident itself (date, type of incident, location of death and injury, precipitating and co-occurring events).

Data are ultimately used for monitoring and prevention efforts at the state-level, and the data are shared with the CDC so that it can be compiled with other state VDRS programs.



What do people do with NC-VDRS data?

The North Carolina Department of Health and Human Services (NC DPH) uses NC-VDRS data to monitor trends in violent death across the state. NC DPH produces annual reports and factsheets on specific issues and special populations, all of which are available on the NC-VDRS website. Local health departments often use this data to inform planning efforts around violence prevention and safety. Community-based organizations and non-profits also use this data to inform local program planning, advocacy efforts, and social marketing. Researchers use this data to study trends in violent deaths, and to examine risk factors and identify vulnerable populations within North Carolina. For more information on existing projects that have been completed using NC-VDRS data, please see our [Selected Projects List](#).

If you are considering requesting access to the NC-VDRS, please note that you will only be able to use the data for the purposes outlined in your Data Use Agreement (DUA).

How do I learn more about national-level data on violent death?

The CDC maintains a website called the Web-based Injury Statistics Query and Reporting System (WISQARS). It is an online, interactive database that provides national-level data on fatal and nonfatal injury, violent death, and the cost of injury.

<http://www.cdc.gov/injury/wisqars/index.html>

In addition, a national Restricted Access Data (RAD) file can be obtained from CDC for all states participating in the CDC VDRS program.

<https://www.cdc.gov/violenceprevention/nvdrs/RAD.html>

Accessing the data

What do I need to know before working with NC-VDRS data?

Consult the codebook for our general-use dataset before undertaking any project using NC-VDRS data. Have a good sense for which variables you are interested in working with, what

those variables mean, and how they fit into your research questions. The codebook for the general-use NC-VDRS data is available [here](#), and additional information on the variables collected by CDC is available [here](#). The general-use dataset is available as a single “flat file”.

If you are interested in accessing variables that are not included in our general-use dataset, please email Scott Proescholdbell for more information. This data may be located in a number of data files, each with a unique data structure. If you receive multiple datafiles, make sure that you also receive information about the data structure which is outlined in the CDC document for the national file, *NVDRS Web Export Files: Record Identifiers, Structure and Linking*.

The NC-VDRS data are packaged for use by researchers or statisticians; if you do not have training in data management, research methodology, or statistics, then this may not be the right dataset for your project. While the general-use dataset is more user-friendly, please be sure that you have the proper technical capacity and/or personnel available to undertake a research project with NC-VDRS data. At the NC DPH Injury and Violence Prevention Branch, we have a very small team that manages the NC-VDRS data collection and analyses— we have very limited capacity for training and technical assistance.

The first thing you should do when you receive the NC-VDRS data is try to recreate some of the analysis reported on past factsheets. This can help to check your understanding of basic variable structures and their meaning. We recommend using an older factsheet because new information about a recent violent death may emerge months after the fatality, causing shifts in more recent data. Even when examining incidents from past years, there may be slight differences in the data between when the factsheet was originally created, and when the data you requested was downloaded. Make sure the descriptive statistics you run are at least close to what is reported on your chosen factsheet.

What are the limitations of working with the NC-VDRS data?

There are a number of limitations with this dataset.

- The context and circumstances of a death may not be known or available for some cases. This may be due to sparse or preliminary reporting in the source documents or there are few facts on the case, in general.
- Toxicology testing is not performed on all people who die from a violent death, and as such, some of this data will be missing.
- Mental and physical health variables are often based on information reported by people who knew the victim personally and reported this information to law enforcement. This information is not usually taken from health care professionals or official medical records.
- Some variables have high levels of missing data (e.g. census tract and block, firearm information, survival time, sexual orientation).
- There is a substantial delay from when a violent death occurs to when it is captured and reported in NC-VDRS. The NC-VDRS system must wait for any criminal cases to be adjudicated before final data can be entered (i.e. many homicide cases involve criminal

proceedings and as such, there can be a lag time before any final information is captured in official reports).

How does NC DPH handle confidentiality?

NC-VDRS data are confidential. Only fully adjudicated records are entered into the NC-VDRS to ensure that no open legal cases related to the violent death are compromised. Anyone who would like to see NC-VDRS data must submit a [Data Use Agreement](#) (DUA, see below) and must gain approval from their institutional review board (IRB), when applicable. Data users cannot disclose the identity of anyone, living or dead, in the data file.

Personally identifiable information will only be available for the purpose of linking the NC-VDRS data with other data sources, and a full justification for the rationale of data linkage activities must be provided in a DUA. Personally identifiable information is not included in the general-use dataset, nor are the qualitative death narratives.

Data must be stored in a secure location according to data security standard. Reporting requirements must be met to ensure that personally identifiable information is not released. For more information, see below and read our full [policy on data release and publication of NC-VDRS data](#).

How do I request access to NC-VDRS data?

To access with NC-VDRS data, set up a Data Use Agreement (DUA). A [form PDF](#) is available on our website. The DUA has numerous components, including:

- The main body of the document – Outlines the parties in the agreement, and the specific provisions and terms of use for the data.
- Attachment A: Data Points – List of requested variables.
- Attachment B: Project Description and Data Use – Outline of the purpose of the project and the researchers involved.
- Attachment C: Data Security Summary – Summary of a data security plan to ensure data are protected and secured responsibly.

In addition to a DUA, you will need to obtain Institutional Review Board (IRB) approval from your organization or institution. For more information, see below.

Do I need IRB approval?

If you are from a research institution or organization that has an IRB (or another oversight committee), you are required to get approval from that review body.

If you do not come from an institution or organization that has an internal review board, then more detail will be required in the DUA. In some circumstances, it may be more appropriate to

request a specific statistic over email from DPH instead of getting access to the dataset itself. This will be decided on a case-by-case basis.

How do I fill out the Data Use Agreement (DUA)?

There are four different components of the DUA, all of which are outlined in detail below

- Data Use Agreement – This is the main body of the DUA.
 - On page 1, include the date, the name of your institution or organization (e.g. “UNC Chapel Hill Gillings School of Public Health”, or “NC Suicide Prevention Resource Center”), and the physical address of the institution or organization. On page 4, fill out your institution/organization name again. For the signature, find an institutional representative to sign, such as someone in leadership or an appropriate representative of the Institutional Review Board (IRB). Note that you should leave the Data Custodian fields at the top of the page empty, these will be filled out by a representative from NC DPH Injury and Violence Prevention Branch.
- Attachment A: Data Points (page 5)
 - Briefly outline which variables you would like access to, including any description or notes about each. If you need more space to list the variables, click the check box in the middle of the page, and specify the name of the attachment where the rest of the variables will be listed (e.g. Attachment D: Data Points Continued). Be as complete as possible. It is best for you to request exactly what you need so that we do not need to modify and re-process to the DUA later. If you would like access to some or all of the variables in the general-use dataset, consider attaching the NC-VDRS general-use dataset codebook.
- Attachment B: Project Description and Data Use (page 6)
 - Provide a brief description of the study, the researchers’ full names and affiliations, the public health significance of your proposed project, and a description of how the results will be used. On the following page (page 7), note the years for the data you are requesting (e.g. data from 2013-2015), and the estimated date that your study will be completed.
- Attachment C: Data Security Summary (page 8)
 - Describe your institution’s policies and procedures for ensuring data security. A signature is required on page 9 both from yourself and if possible, by a supervisor, advisor, or member of the leadership at your organization/institution.

An example of completed attachments A, B, and C is available on our website or by request.

Please be sure to initial the bottom of each page. If possible, have a supervisor, advisor, principal investigator for the study, and/or member of the leadership at your organization/institution initial the bottom of each page as well. Once you have filled out these fields, submit your DUA to a representative from the NC DPH Injury and Violence Prevention Branch. At this time, there may be some correspondence to clarify or adjust the terms of the

agreement. After the NC DPH Injury and Violence Prevention Branch has signed off on the agreement, be sure to submit a final copy to your IRB and keep a copy of the completed and signed DUA for your records.

Where do I store the NC-VDRS data?

Data must be password protected and stored on a secure server at all times. The entire hard drive where the data are stored must be encrypted. Only personnel who are listed on the project's DUA may have access to the data. An example of a satisfactory data use and secure storage policy is available in our example DUA, here [\[LINK\]](#).

Working with the data

For what years is data available?

NC-VDRS was funded in 2003, and NC DPH has been working with the NC State Center for Health Statistics, the Office of the Chief Medical Examiner, and local law enforcement agencies to collect data on all deaths from violence that occur in North Carolina since 2004. Due to the time it takes to collect, process, and clean the data, the most recent data is available 18 months after the end of the prior calendar year. As previously mentioned, law enforcement records are only available after cases are fully adjudicated.

Why are there missing values?

Some variables have high levels of missingness. Make sure to check how many missing values there are in the key variables you intend to use before running analyses. Some variables known to have less than 40% completeness include: census tract and block, firearm information (e.g., gun model, gun owner, gun stolen), survival time, sexual orientation, and external cause codes. In many cases, these are not routinely collected or documented. NC-VDRS does not utilize the CDC's modules on Child Fatality Review or Intimate Partner Violence (only a minority of states do).

The variables in the general-use dataset tend to be fairly complete and will have lower levels of missingness.

How do I read in the formats to SAS?

If you are working with the general-use dataset, you only need to use one format file. Read this into SAS after your initial LIBNAME statement. In the example below, we have named our library "NCVDRSlib" and told SAS to look in that library for our formatting information.

Remember to replace the file pathway in the example with the pathway on your computer for the library you're using.

```
libname NCVDRSlib 'C:\Windows\SASuser\Documents\WCVDRSdata';  
options fmtsearch= (NCVDRSlib);
```

If you request variables that are not included in the general-use dataset, you may need to read in multiple format files.

What is the unique identifier in the data set?

For the general-use dataset, we have this organized as a “flat file”. If you imagine the dataset as a spreadsheet, each line represents the violent death of a single person. For each violent death (or on each line), there will be information on the victim, and if requested/available, the suspect as well. The variable “PersonID” is a unique numeric identifier for each victim or suspect. The variable “IncidentID” is a unique numeric identifier for each incident. Note that there may be multiple victims or suspects associated with a single incident. For example, a mass shooting would have one IncidentID but potentially several PersonIDs. It is also possible that multiple weapons (including multiple drugs) would be listed for any one person.

The raw data is relational, based on a series of tables for incident, victim, weapon, suspect, toxicology. If you receive multiple files, be sure to consult the CDC document, *NVDRS Web Export Files: Record Identifiers, Structure and Linking* so that you are fully informed about the data structure and appropriate steps for linkages.

How do I determine manner of death?

The variable, “deathmannerabstractorlabel” records the primary manner of death (i.e. homicide, suicide, legal intervention, unintentional injury) as assigned by the data abstractor. This value is assigned based on a thorough review of all available data across several data sources. There are very few instances in which manner conflicts between data sources.

What are the narrative variables?

Two variables capture qualitative narratives about each violent death. These narratives are drafted based on detailed information from two similar but different sources. One narrative is based on information gathered and abstracted from the medical examiner report, and the other is written based on the law enforcement report. Each may provide different levels of detail depending on the investigative processes and priorities within those respective agencies, and the partnerships between states and local agencies. Local variation in terms of completeness of information exists and when examining or comparing across jurisdictions should be taken into account. Note that the narrative variables are not always provided in the general-use dataset. This will depend on the nature of your DUA and the purpose of your research project. These qualitative narratives can sometimes contain identifying information and therefore must be used with caution. It is recommended that narrative case information never be presented by county without *tweaking/modifying* information to make it more generic and less specific.

What are the circumstances variables?

Depending on the cause of death, different circumstance variables may be available. For example, in the case of a suicide, if there is any information available about current mental health diagnoses, recent death of a family member, and whether the victim left a suicide note, this will be captured in the NC-VDRS. Different circumstance data are available for homicides, and these circumstances have changed over time (e.g. some added and dropped by CDC). Homicides tend to contain more circumstance information than suicides in general. This is primarily because homicides are more likely to be adjudicated than suicides. Consult the codebook to see which circumstance data may or may not be relevant for different types of violent death and be sure and review completeness of any variable used in data analyses.

When reporting on the percent of deaths that had specific reported circumstances (for example, *tdepres* = "true", the victim had been perceived by self or friends as depressed), be sure that the denominator is for all suicides (*deathmannerabstractorlabel* = "Suicide or intentional self-harm") with known circumstances information (*tcircum* = "true"). It is best to report any of the circumstances variables within the context of how many deaths had known circumstances information available.

For the circumstances variables, the "t" indicates that multiple data sources were consulted to create a single composite variable. For example, the circumstance variable "tschool" is coded 1 ("yes") if school problems were mentioned in either the medical examiner or law enforcement reports.

Sharing findings

Are there any restrictions on how I present my findings?

If you intend to publish or present any findings derived from NC-VDRS data, you must receive clearance from the NC DPH Injury and Violence Prevention Branch. Clearance must be obtained at least 30 days before submitting your findings for publication or at least 30 days before the presentation.

Data can only be presented in aggregate, in a way that no individual can be identified. If no more than 5 deaths are available for a specific county or zip code, then demographic information related to that data cannot be reported due to the risk of deductive disclosure. Similarly, narrative information can be very detailed and specific, providing another potential way for cases to be disclosed. It is recommended that narrative case information never be presented by county without *tweaking/modifying* information to make it more generic and less specific.

When reporting rates or making any comparisons between violent incidents and population, be sure to limit your analysis to NC residents only (*residencestate* = 37). There may be violent deaths recorded from out-of-state individuals (e.g. a college student from South Carolina living in Orange County but still registered as a SC resident). If these deaths are included in analyses,

then the data cannot be accurately reported as a rate using NC population data in the denominator.

If you are reporting on proportions of cases that have certain circumstances, be sure to include only cases with known circumstances information (*tcircum*= "true") in the denominator. See question above.

How do I acknowledge NC-VDRS when I present my findings?

The source of the data must be attributed to the NC DPH. When reporting your findings, include the following disclaimer:

"The NC Division of Public Health (DPH) does not take responsibility for the scientific validity or accuracy of methodology, results, statistical analyses, or conclusions presented. Findings are the authors' and authors' alone."

Finishing up a project

After I've done my proposed project, can I perform new, additional analyses?

You can only use the data for the purposes outlined in your Data Use Agreement (DUA). If there are new purposes or potential projects that arise, you must either submit a new DUA or amend your existing DUA with the NC DPH Injury and Violence Prevention Branch.

What happens after the DUA termination date?

The DUA termination date is usually three (3) years after the DUA effective date. At that time, you must destroy the NC-VDRS data that you received or return it to NC DPH. If neither of these options are possible, then please communicate with a NC DPH Injury and Violence Prevention Branch representative or consult your DUA (if details pertaining data disposal were specified).

If you need to extend the time period that you have access to the data, get in touch with a representative from the NC DPH Injury and Violence Prevention Branch well before the DUA termination date.

Remember to provide NC DPH with written confirmation that the data have been destroyed by the DUA termination date.