

# I. Background

More than 46,000 people die from homicides and suicides each year in the United States.<sup>1</sup> Yet, we lack basic information about the characteristics and circumstances of these violent deaths at the local, state, and national levels that could assist us in learning how to prevent these tragedies.

The benefits of a state-based, national reporting system to track the incidence and characteristics of a health condition have been well established in other areas such as infectious diseases and motor vehicle safety. For example, the Fatality Analysis Reporting System (FARS) captures more than 100 pieces of information about more than 40,000 deaths from motor vehicle crashes annually. The database has facilitated the development and evaluation of science-based policies aimed at creating safer cars, safer drivers and safer roads.<sup>2</sup> The Institute of Medicine's report, *Reducing the Burden of Injury*, has recommended a national data system for homicides and suicides that would provide objective data to monitor trends and to evaluate the effectiveness of prevention programs and policies.<sup>3</sup> Additionally, the Healthy People 2010 report calls for a reduction in homicide and suicide rates over the next decade.<sup>4</sup> The U.S. Surgeon General's Call to Action to Prevent Suicide further recognized that more people die from suicide than homicide in the United States and has called for a "national violent death reporting system that includes suicide,"<sup>5</sup> and, most recently, a *Morbidity and Mortality Weekly Report (MMWR)* publication called for the establishment of a National Violent Death Reporting System (NVDRS).<sup>6</sup>

In 1999, the Harvard Injury Control Research Center launched the National Violent Injury Statistics System (NVISS) with funding from six private foundations to pilot a model injury reporting system and to advocate for its implementation at the national level by the federal government. While the project initially focused on firearm injuries, it expanded to all homicides and suicides by the second year. The Centers for Disease Control and Prevention (CDC) announced its intention in late 2000 to launch a National Violent Death Reporting System (NVDRS).

In FY 2002, Congress appropriated \$2.25 million for CDC to develop the NVDRS. Full implementation funds have not yet been appropriated for the system.

The system, intended to provide a census of violent deaths that occur in the United States, builds on the pilot work begun by Harvard. Information documented by coroners and medical examiners, vital records registries, law enforcement, and crime laboratories for violent deaths will be gathered at the local level, linked in a standardized database, stripped of individual identifiers, and forwarded to the national database. Data will be collected on deaths occurring January 1, 2003 and after.

## II. Introduction

The purpose of this manual is to: (1) assist groups nationwide in developing and maintaining violent death reporting systems in their states and localities; (2) provide information about available resources and sources of technical support for implementing a violent death reporting system; and (3) promote the development of uniform violent death reporting systems so that data can be compared across states and localities. The data collected will help practitioners and policy makers design and evaluate local, regional, and national prevention programs and to make informed decisions about violence prevention.

This manual outlines methods developed primarily by sites around the country that are participating in the National Violent Injury Statistics System (NVISS), and is a training tool for public or private agencies wishing to implement a similar reporting system in their own jurisdiction.

### Existing Injury Surveillance Data

Presently, only basic national and state-level data are available for violence-related deaths and injuries about which to base policies and practice. Current systems are fragmented and provide little information about homicide or suicide circumstances. To address these shortcomings and to facilitate public health and safety efforts to further reduce violent deaths, surveillance systems need to be improved. Surveillance is the “Ongoing and systematic collection, analysis and interpretation of health data needed to plan, implement and evaluate public health programs.”<sup>7</sup> Surveillance data are used to describe the problem, track trends over time, identify risk groups, possible solutions or points of intervention, and to evaluate the effectiveness of prevention programs and policies. Currently, the two national sources of data regarding violent fatalities are the National Center for Health Statistics’ National Vital Statistics System, which is based on death certificate data, and the Federal Bureau of Investigation’s Supplementary Homicide Report (SHR), which is filed by local police departments as part of the FBI Uniform Crime Reporting Program. Some limitations of these data sources include:

- Vital statistics data do not include important information about the circumstances under which homicides or suicides occur or the victim-offender relationship in homicide cases.
- Vital statistics data are victim-based and provide no method of linking multiple victim incidents (e.g., homicides that are followed by the suicide of the offender).
- The SHR is a voluntary system, and not all law enforcement agencies submit SHRs to the FBI’s Uniform Crime Reporting Program.

- SHR data only provide information about homicides; suicide data are not included.
- Vital statistics and SHR data provide very few details about the characteristics of the weapons used in these events.

The SHR and vital statistics databases each contain valuable information that the other source does not contain. But the two databases cannot currently be linked because they share too few identifiers. The purpose of NVDRS is to link these and other sources together at the local level to create comprehensive data about all violent deaths.

## The National Violent Death Reporting System (NVDRS)

Drawing on the public health approach for injury control, the essence of the NVDRS is to collect and link fatality data from multiple sources which, when analyzed as a whole, will contribute to a fuller understanding of the scope and nature of violent deaths. All homicides (the killing of one person by another that results from the intentional use of any means to injure, poison, or threaten another person), suicides (taking one’s own life intentionally and voluntarily), legal intervention deaths, undetermined intent deaths and unintentional deaths from a firearm are included in the NVDRS.

**Table 1: Violent Deaths Eligible for the National Violent Death Reporting System, U.S., 2000**

CAUSE OF DEATH	Number	Percent
Suicide	29,350	57.6
Homicide	16,765	32.9
Legal intervention	274	0.5
Undetermined cause	3,819	7.5
Unintentional firearm	776	1.5
<b>TOTAL</b>	<b>50,984</b>	<b>100.0</b>

ICD-10 Codes: *Suicide*: X60-84, Y87.0, U03\*

*Homicide*: X85-Y09, Y87.1, U01-02\*

*Legal intervention*: Y35, Y89.0

*Undetermined*: Y10-Y34, Y87.2

*Unintentional firearm*: W32-34, Y86 restricted to firearm “accidents.”

\* *Terrorism*: U01-U03

The reporting system draws from four major reporting sources: death certificates, coroners/medical examiners, Supplemental Homicide Reports and/or police case reports, and crime laboratories. Information is collected on:

INCIDENT	Date Incident Type Incident Location Type Death Investigation Sources Incident Address
PERSON (Victim & Suspect)	Demographics Circumstances Toxicology Results
WEAPONS	Weapon Type/Characteristics
RELATIONSHIP	Suspect-Victim Person-Weapon

Information (data) about the host (victim), agent/vehicle (mechanism of injury/death) and the environment (circumstances and potential suspects), can be used to better understand the potentials and limits of education, mental health and social services, safety regulation, and criminal prosecution in reducing and preventing various types of violent injuries.

Because of the complex structure of this incident-based system, which captures information about multiple victims, suspects, circumstances and weapons per incident, it is not recommended for nonfatal violent injury reporting.

Groups implementing a new reporting system may be starting the process from different points, therefore, this manual is intended less as a recipe and more as a coherent collection of advice based on the experience of the NVISS pilot sites.

## III. Planning for a Violent Death Reporting System

### Holding a Stakeholder Meeting

Initial challenges include obtaining community and collaborator support. Institutional and political support will vary greatly from site to site. Strategies for addressing these challenges will vary.

Pilot sites have successfully used stakeholder meetings before or at the initiation of their reporting system project to promote support among participating agencies, to recruit expertise, and to address objections and concerns that stakeholders may have before they become obstacles (e.g., Why should we be interested in the reporting system, and how will this benefit me or my local community?). The stakeholder information meeting can happen from a variety of platforms, for example, as part of a larger conference about violence or as a dedicated meeting. It may have local, regional, and statewide constituencies. A neutral location for the meeting such as a local college or hotel meeting room is a good idea.

While the department of health may want to host or convene an initial meeting, the convener/chair should be carefully selected (e.g. judge or district attorney, faith community leader, a university president, respected physician, or a legislator).

In addition to staff from state government, invite persons with knowledge about and an interest in the recommended data sources and in issues of violence. Leaders in the fields of law enforcement, criminal justice, health and mental health can become valuable advocates for the project.

A good practice is to call participants ahead of time to discuss the meeting agenda items to identify any reservations they may have about the project. Ask them to suggest other participants who should be present. When extending the invitation, have a clear statement of the role of public health agencies in violence prevention and note your federal funding.

At the initial stakeholder meeting, consider the following agenda:

- Explain why the reporting system is needed. Describe what is known and not known about the problem of violent injuries in your state or community. Discuss the opportunities a violent death reporting system offers to combat myths and misunderstandings, to develop and refine prevention programs and to evaluate programs and strategies. (References in the bibliography may be helpful for this task.)
- Describe the challenges and obstacles to success as well as key contacts and resources.
- Achieve buy-in from agencies and individuals who may provide data by identifying the benefits of a violent death reporting system.
- Establish a list of next steps for participants, including the development of an advisory board.

### **Do reporting sites need a mission statement?**

A mission or vision statement may be useful in a letter of introduction or invitation, or a draft mission statement may be one agenda item for discussion at a stakeholder meeting.

A mission statement may be informed by state statute or developed independently. For instance, several states have legislation authorizing injury prevention programs that include injury surveillance or reporting. This type of legislation can be referred to in a mission statement. Injury prevention is a goal that offers common ground for parties who might not otherwise agree about issues involving violence, especially firearm violence.

## **HELPFUL HINTS**

- **Appendix A:** Sample Mission Statements

### **Developing an Advisory Board**

#### **Why have an advisory board?**

Whether identified as a steering committee, technical board, advisory group or otherwise, this board can offer technical advice, strategic planning, and support for the reporting system's success. The goal of an advisory board is to advise about the establishment and scientific integrity of a violent death reporting system, act as a vehicle for information dissemination, and to help leverage the support of new organizations and resources. Those who have a real voice in the direction of the program are more likely to offer assistance and resources.

Be clear about the expectations for members and their initial term of membership, including an explanation of the board's advisory and policy roles. Note: It is important to be clear that the state health department has final responsibility for policy decisions.

#### **Who should be on the board?**

Board members should include persons who are associated with and knowledgeable about the data sources, are interested in using/analyzing the information, have expertise in data collection, will come to meetings, represent local/state agencies, and can influence agency decisions and cooperation (or effectively communicate reporting system concerns back to the decision makers).

Ideally, the board should consist of leaders from the following domains:

- Law enforcement
- Coroner/Medical examiners (C/MEs)
- Vital registrars
- Health care (including health departments)
- Policymakers/Advocacy groups
- Business
- Community organizations (including the faith community)
- Researchers/Educators

A subcommittee (law enforcement, coroners/medical examiners, vital records and public health officials) can provide guidance and expertise about the data collection process. When data reports are ready for distribution, leaders from all the above listed domains can help share/use the information to develop more effective prevention strategies.

#### **What will the advisory board do?**

- Review and advise policies and procedures regarding data collection, linkage, and publication and mechanisms for implementing the reporting system.
- Provide technical advice.
- Identify the best uses of the data.
- Strategize about how to remove obstacles and inefficiencies, be they political, legal or technical.
- Provide speaking opportunities with professional organizations.
- Obtain or sign data-sharing agreements.
- Serve as evidence of broad, high-level support for the system.

#### **HELPFUL HINTS**

- **Appendix B:** Letter of Invitation for Advisory Board Members
- **Appendix C:** Suggested List of Advisory Board Members

#### **Privacy Protection and Information Policies**

A system of linked information about violent fatal injuries raises a variety of concerns involving the collection and protection of information about individuals. Issues include:

- Collecting information from restricted sources.
- Sharing and publishing data locally.
- Providing data to a national system.
- Preventing the unauthorized access and release of data.
- Protecting information from release in legal processes.
- Preventing the loss, distortion, or inappropriate alteration of data.

Concerns about protecting health and mental health information, juvenile records and sensitive information in criminal investigations are heightened by how easily electronic data can be transmitted and altered. A successful reporting system will have clear policies that protect the integrity of information. Policies and procedures also need to protect sensitive or personally-identifying information from being disclosed.

Most sources of information included or linked in the reporting system will be governed by state and local laws or government agency policies and practices that protect information about individuals and about open investigations. State and local confidentiality and disclosure laws vary widely. Projects sponsored by public agencies will have statutory and regulatory authorization for collecting information and provisions restricting disclosure of information that tends to identify individuals.

Federally-regulated research involving human subjects requires that medical and academic institutions receiving federal funds implement a program of protection for affected individuals that includes privacy protections. This is sometimes referred to as the IRB (Institutional Review Board) process. Many state agencies consider public health surveillance to be exempt from the IRB process. Each project must consider the most appropriate manner in which to protect individually-identifying information from unauthorized disclosure.

New federal laws such as the recently adopted Health Insurance Portability and Accountability Act (HIPAA) regulations, though they contain exceptions for public health surveillance, may also affect the availability of broadly-defined health information after the death of an injury victim. HIPAA privacy regulations permit the release of health care information to public health authorities for public health purposes without consent or authorization, but such information must be protected from further disclosure. A local fatality reporting system that also collects background information about violent perpetrators or victims, or collects information about victims of nonfatal injuries associated with fatal events must assure that identifying health information is managed according to health regulations and human subjects protocols where appropriate. NVDRS projects collect personal identifiers in cases only for the purpose of linking data from different data sources. Data transmitted to CDC must have personal identifiers removed. Projects are not prohibited from retaining identifiers in project records.

The following questions and answers provide a basic checklist for developing local information policies.

**What is the difference between privacy and confidentiality?**

The term “privacy” refers to the rights of an individual to be free from physical and informational intrusion by others, while the term “confidentiality” refers to the obligation of a party to protect the private information they have been given about an individual from disclosure to others without permission.

**Why protect confidentiality in National Violent Death Reporting System projects?**

In addition to legal responsibilities required under widely varying state and local laws and ethical obligations, protecting private or otherwise sensitive information from disclosure serves several practical concerns faced by reporting projects. This is true even where personally identifying information is not directly implicated. For instance, most



law enforcement agencies are reluctant to divulge information that could even remotely compromise pending investigations. Law enforcement may be particularly sensitive about “legal” homicides or deaths that occur in the course of duty. Protecting confidences and assuring that data will not be reported in a manner that could lead to distortion or misunderstanding can contribute to the level of trust necessary for timely and comprehensive cooperation from data providers. In this respect, confidentiality also involves assurance to reporting agencies that rigorous security standards are in place.

The privacy rights of living suspects and alleged perpetrators associated with violent deaths include the right to be free from defamation. The duty of law enforcement agencies to thoroughly investigate homicides and to apprehend perpetrators requires agencies to protect information from disclosure in many open or pending cases. This duty to protect investigations and prosecutions is sometimes also referred to in terms of confidentiality. State statutes almost universally protect juvenile information. Juveniles are treated differently than adults based on the philosophy that juveniles should receive rehabilitation and services as opposed to punishment. In some instances, juvenile records are expunged in order to provide “a second chance.” A project with access to law enforcement information will be responsible for maintaining such information in confidence. Note: Some law enforcement information, such as the Uniform Crime Reports or Supplementary Homicide Reports as submitted to the FBI is public information, which can be freely shared, as it does not contain information that uniquely identifies an individual (e.g., case number, name of victim, etc.). However, the data as originally collected by the state crime reporting program may contain other data elements, not submitted to the federal program, that could be unique identifiers. In those cases, the data may be considered confidential or otherwise covered by state level statutes that might restrict dissemination. This will need to be determined on a state-by-state basis.

### **How can a reporting site protect confidentiality?**

Successful projects will have clearly written procedures for securing both physical and electronic records and controlling access to and production of records. Procedures may include limiting access to those involved in data collection and analysis. Rules for data storage can be as basic as locking cabinets containing records, instituting a sign-out sheet for researchers who are using case files, having password protection for computer files, or performing regular computer back-ups of database files.

Existing laws that enforce confidentiality will generally cover projects sponsored by state and local governmental agencies. However, a reporting system that is sponsored or conducted under the auspices of state or local government may be subject to open records laws. Each state’s laws are different and should be reviewed to determine what information must be released when an open records request is received. Many states allow for a balancing test (weighing the public’s right for information versus the harm that may be caused to an individual with the release of information) when determining

the ability to release personal information. Note: Most "Open Records" laws do not require an agency to actually create a new record but to simply provide a copy of an existing record or document.

NVDRS is developing a data dissemination policy designed to maximize data access for researchers and the public, while suppressing information that would enable users to identify individual cases from the records.

**Will the new HIPAA (Health Insurance Portability and Accountability Act) regulations have an impact?**

The new HIPAA privacy regulations, effective April 14, 2003, govern access to and release of individually-identifying health care information and supersede state laws. The regulations apply directly to health-care providers including hospitals, clinics, paramedic and EMS programs, and most private health practitioners. It will be important for NVDRS projects to educate their data sources about the exceptions in the HIPAA regulations that expressly authorize disclosure of this information for purposes of public health surveillance. Police, coroners, medical examiners, and other sources of data are therefore not prohibited from contributing to NVDRS by HIPAA.

**What is IRB (Institutional Review Board) clearance and how does it apply?**

In 1974, the U.S. Department of Health, Education and Welfare (now Health and Human Services) published regulations for the protection of human subjects in research projects conducted at institutions receiving federal support. These regulations are codified at Title 45 Part 46 of the Code of Federal Regulations. Human subjects research is defined broadly to include investigations that result in "generalizable knowledge." The rules of Part 46 require that research involving human subjects be approved by a duly-constituted Institutional Review Board that reviews proposed protocols and procedures.

Public health surveillance has not traditionally been viewed as "research." Its primary purpose, like all public health practice, is to benefit the population under surveillance rather than to generate new knowledge. CDC's view is that NVDRS is surveillance rather than research and therefore does not require IRB clearance. However, use of personal identifiers about living individuals in NVDRS data for studies that qualify as research would require IRB clearance for each such study. In addition, individual states may have different policies and require state IRB clearance for all projects using identifiable data, no matter what their purpose. State surveillance staffs should consult with their state privacy boards or IRB to determine whether local review will be required.

Whether or not local IRB review is required, the following questions may provide useful guidance for maintaining the confidentiality of the data.

### **What is included in an application for IRB approval?**

The IRB protocol should address the following elements: level of intrusion; the need for the research and its potential benefits; and a request for exemption in some cases or for expedited review in other cases. IRBs may set higher standards for applications than are required under the federal rules. A formal presentation before an IRB panel may be required.

### **What are some of the questions an IRB might ask?**

Many of the questions commonly asked by IRB committees and members have been developed for the protection of human subjects in clinical trials and studies. The differences between the type of “human subjects research” involved in a clinical trial and research involving population surveillance should be clarified early in the IRB process. Here are examples of questions and suggested responses:

#### **1. Who will have access to the data?**

Only those employed or under contract or other agreement with the project with a legitimate and reasonable need for access to identifying information will be authorized. All such persons, including computer programmers and other service contractors, will agree in writing to maintain confidentiality, and all employees of the project and all contractors will be subject to disciplinary measures including discharge for violations of confidentiality. All other project staff who receive identifying information inadvertently, shall agree to maintain confidentiality and to report the inadvertent disclosure to the appropriate supervisor or data custodian.

#### **2. How will data be used? Reported?**

Information obtained and linked in the project is intended to be available for policy and program analysis, development, and evaluation. The potential use of this information and analysis for reducing and preventing violent injuries and death is the primary purpose for surveillance. Therefore, aggregate data and analyses will be published broadly. Mechanisms and review procedures will be adopted for written publications, developing fact sheets, and electronic and web-based dissemination that are consistent with standards of reporting by health and public health institutions to prevent inadvertent disclosure of identifying information.

#### **3. How will data be maintained and secured?**

Hard files and tangible documents with identifying information will be maintained in locked storage spaces within locked offices and in facilities that are monitored for security on a 24-hour basis. Access will be provided on a “need to know” basis. Plans will be adopted for fire, flood, and other risks of destruction or record removal. Electronically-stored data will be firewall- and password-protected and maintained in hardware that is also kept in locked, access-controlled facilities.

#### **4. Who “owns” the data?**

Unless otherwise specified in legislation or in agreements for receipt of public funding, and unless ownership is expressly retained by a contributing agency (e.g., medical examiner), the information collected and maintained by the project and the institution where the project is located (e.g., sponsoring hospital, university, health agency) is considered the property of the project.

#### **5. After confidential data are linked and analyzed, how will personal identifiers be “destroyed?”**

Reporting sites should ideally maintain personal identifiers for two years following a violent death so that late information can be included. Data needs, sensitivity, and risks of disclosure will be evaluated periodically. Plans for purging identifiers will be addressed in IRB protocols if such approval is required. State projects are not required by cooperative agreements with CDC to purge data or identifiers and may retain such information for longer periods of time when justified for legitimate research purposes.

#### **6. What is the length of the study?**

While the NVDRS sites will continue to collect data indefinitely, data collection will terminate if current funds are exhausted and not renewed. Provisions will be made when possible and appropriate at the end of the study to make the data available for analysis by other researchers who will also be subject to confidentiality protections and human subjects review.

#### **7. What are the “hypotheses”?**

The NVDRS is not designed to test specific hypotheses. However, the primary rationale underlying the pilot reporting system is that linked injury surveillance information and analysis over time involving data from death investigators, law enforcement agencies and forensic laboratories, will provide useful tools for developing and evaluating policies and strategies to reduce and prevent violent injuries.

#### **Do reporting sites need a lawyer?**

Most health departments have legal counsel available to assist in compiling and analyzing the state and local laws that apply. Projects may reduce the need for counsel’s time by using the services of law students and other volunteers to compile information and legal references before presenting questions and issues to staff counsel. Requesting information about confidentiality policies from the agencies the project intends to work with is a recommended first step.

### **HELPFUL HINTS**

- Allow sufficient lead-time to obtain IRB approval, if necessary. In some cases, the process may take many months.

- Discuss your project with one or more members of your IRB to familiarize yourself with the process and to identify and educate members who can champion your proposal.
- A guidebook about the IRB process is available at:  
[http://ohrp.osophs.dhhs.gov/irb/irb\\_guidebook.htm](http://ohrp.osophs.dhhs.gov/irb/irb_guidebook.htm).
- For more details about the IRB process see:  
<http://ohrp.osophs.dhhs.gov/humansubjects/guidance/certconpriv.htm>.
- For more information about privacy and information policies see the Report of the National Task Force on Privacy, Technology, and Criminal Justice Information:  
[www.ojp.usdoj.gov/bjs/abstract/rntfptcj.htm](http://www.ojp.usdoj.gov/bjs/abstract/rntfptcj.htm).
- Prepare working definitions of privacy, confidentiality, health records, juvenile records, criminal records, etc., for your local reporting system. These definitions will vary among project sites.
- Prepare an inventory or checklist of legal requirements regarding information acquisition and protection.
- For a broad discussion about privacy, see the American Civil Liberties resource page at:  
[www.aclu.org/issues/privacy/hmprivacy.html](http://www.aclu.org/issues/privacy/hmprivacy.html).
- New HIPAA regulations, though limited to personal health care information, provide useful guidance about the kinds of measures appropriate for protecting the security of sensitive information. For more information about HIPAA regulations, see:  
[www.hhs.gov/ocr/hipaareg.html](http://www.hhs.gov/ocr/hipaareg.html).
- Most state statutes may be found electronically at:  
[www.law.cornell.edu/](http://www.law.cornell.edu/) and [www.prairienet.org/~scruffy/f.htm](http://www.prairienet.org/~scruffy/f.htm).
- **Appendix D:** Sample Summary Elements for an IRB Protocol

## Software

The NVDRS has developed a relational database program for data collection. Sites beginning to develop a reporting system in their state or locale must use this software so that data structures are consistent across reporting sites.

The software is convenient for use on a desktop or on a laptop. Almost all NVISS variables, their code values, and logic controls are included. For sites interested in capturing other data variables that are not currently part of the software, a discussion is under way on how to add them.

**How much does the program cost?**

The data entry program is available free of charge. However, to run the program connected to a case database, states must purchase Sequel Server 2000 software.

**Is technical support available?**

Yes, to sites that join the NVDRS, technical support for installing and using the program is available through the NVDRS contractor via email at [help@nvdrs.com](mailto:help@nvdrs.com).

**What hardware, software, and computer skills are needed to support this software?**

A personal computer with internet access is needed. System software will be provided. Reporting site personnel should include someone with computer and data management skills in a Windows environment.

**Can a site use its own software?**

No, all sites must put data into the CDC software.

**What if a pilot site receives electronic data from some data providers?**

Electronic data from death certificates can be imported directly. Data from other sources may have to be converted prior to importation.

**How does local data become part of the national database?**

The software provides an export function for creating files that contain only the national variables. CDC's contractor will retrieve data nightly via the internet without personal identifiers.

**HELPFUL HINTS**

- Share the list of required data elements with reporting sources in advance. Determine if they are willing to collect their data on a standardized form that includes the required data elements.

**Associated Costs**

Costs associated with a local reporting system are estimated here based on the pilot sites' experience.

**How much time does each case require?**

The time necessary for each case will vary for each reporting site depending on: (1) the caseload; (2) whether data are centralized; and (3) whether data are available electronically or manually. NVISS pilot sites reported that the average case takes 2.1 hours to complete. This includes data collection, data entry, and edit checks. In-depth data analysis is not included. The experience of two NVISS pilot sites is detailed below:

	Hours per Case	Cases per Year	Total Hours	# of FTEs
<b>WISCONSIN</b>				
Firearm Fatalities	1.5-3.0	418	627-1254	0.3-0.6
Additional Links:				
<i>Firearm Traces</i>	0.7	350	233	0.1
<i>Criminal History</i>	0.7	1337	1002	0.5
Violent Fatalities	1.5-3.0	805	1207-2415	0.6-1.2
<b>MARYLAND</b>				
Firearm Fatalities	1.5-2.0	600	1050	0.5
Violent Fatalities	3.0-5.0	1000	3000-5000	1.4-2.4

- Wisconsin manually searches and abstracts death certificate information and abstracts coroner/medical examiner (C/ME) data and police case report information for homicides and suicides and all other firearm deaths, and crime laboratory cases for all firearm homicides. Wisconsin also receives hard copies of Supplemental Homicide Reports (SHRs) (for homicides). In addition, Wisconsin routinely obtains data from two optional sources (criminal history and firearm trace information). Including these linkages adds additional time per case. Requests for firearm trace and criminal history data are submitted electronically, hard copy records are returned, and information is entered into a database.

- Maryland’s system has evolved from a passive surveillance system of only firearm deaths to an active system that manually abstracts information for all violence-related deaths. In the earlier system, statewide electronic medical examiner data were linked with electronic death certificate data and (for homicides) hardcopy Supplementary Homicide Report data supplied by the State Police. For two jurisdictions (Baltimore and Prince George’s County), electronic data from firearm identification units were also linked. No information about suicide circumstances was collected because no existing electronic data included it. The evolved system entails manual abstraction of circumstances and other characteristics that are only available in hardcopy medical examiner and police reports. The system begins, as before, with electronically-linked information from the various sources, but cases are now confirmed and augmented by coders reviewing each case file manually. The new system also includes all violent deaths, regardless of the weapon used, and collects information about all NVISS “essential” variables and a majority of the “non-essential” ones.

**How many employees are required?**

The number of employees will vary by site, and is determined by the number of cases and the time required to complete data collection, entry, and management for one year. (See above table). As the system matures and the data acquisition process is streamlined, the cost for obtaining data will decrease; however, costs for analysis and dissemination need to be factored in.

**Are there hidden or other fees to plan for?**

Data sources may require compensation for sharing their records. Additional fees may be applied to data sources such as criminal history background checks or hard copies of death certificates. To avoid charges, on-site review may be an option.

- Wisconsin: The Department of Justice charges a \$2 fee to process criminal background checks on each person.
- Utah: By waiting for electronic death certificate data, charges are avoided. Data on a fatality are usually available 4 to 5 months after the death.

**Is there a core set of skills that personnel should have at the local level?**

Staffing needs will vary depending on: (1) the size of the caseload; (2) the type of sponsoring institution (public/private); (3) access to resources (e.g., an information systems department); and (4) if data are centrally located and available electronically or not. A core staff (part-time or full time) may include: Program Manager, Data Manager, Research Analyst, and Principal Investigator (e.g., Director of Health Statistics or equivalent) to negotiate contracts and to secure funding.

Sites may have different combinations of the above core staff and may have one or more persons who perform a variety of duties.

**HELPFUL HINTS**

- The average fraction of a full-time employee dedicated to a NVISS pilot site is 0.9. The average number of violent deaths per year captured by NVISS sites is 448.

**Funding**

In 2002, only very limited start-up funds were earmarked by Congress for the NVDRS. Because an appropriation for national implementation is not necessarily assured, the remaining information in this section addresses funding sources other than CDC. Statewide programs funded by non-federal sources can join the NVDRS if they use its software and their data meet quality-control standards.



Most successful NVISS projects started small and grew as they developed linkages and capacity. Demonstrated success in selected major cities or portions of a state can expedite relationships with other law enforcement agencies, crime labs, and C/MEs as the project expands. Ideally, a strategic plan would build toward a statewide linked system for all violent deaths.

Demonstration grants and appropriations for pilot programs may be forthcoming from non-federal sources, especially for projects that collaborate with child fatality review boards, domestic violence prevention programs, and other groups that can demonstrate a need for the linked data offered by a violent death reporting system. Foundations that have supported the development of NVISS may have seed money that can match local funds. Some cities fund injury prevention and control programs. In addition, local hospital foundations may offer seed monies to projects.

Program officers at foundations such as the Joyce Foundation, the Open Society Institute, the Annie E. Casey Foundation, and the John D. and Catherine T. MacArthur Foundation have experience with reporting systems and may offer advice about how to approach other national and local foundations.

#### **How do you approach potential funders?**

Provide potential investors with the big picture of lives to be saved and of social and economic costs to be avoided. But also provide concrete examples from a local community and ask the question, “Could this personal tragedy have been avoided?” Suggest that a project can be rolled out in phases and provide options and alternatives. Research potential funding sources to determine program and focus areas, the types of projects funded, and the typical amounts of grants. There are a number of web-based resources and standard references that provide excellent information about foundation funding. Contact one of the grantees to learn more about how the source, foundation or agency actually operates. Learn to speak their language. Often, a call and conversation with a program officer will save valuable time.

#### **What if there are strings attached?**

Whether funding is received through public appropriations or private grants, there are always conditions. The most obvious are reporting and auditing requirements. Ensure that the project does not over-extend or over-commit the resources requested. Be cautious about potential censorship issues or undue pressures to characterize results in a manner that supports a particular point of view or outcome.

# IV. Implementing a Violent Death Reporting System

This section describes data access issues common to all of the data providers and offers some comments about data linkage. Several tools for system implementation are listed throughout this section. They can be found in the appendix.

## Working with Data Providers

The first step in developing a successful linked data system is to establish cooperative and mutually-beneficial relationships with the data providers and organizations involved in the initial stages of data collection.

There are several ways to approach data providers:

- Speak directly with the local agencies (coroner/medical examiner (C/ME) or law enforcement).
- Speak with someone at the state level (state police, medical examiner's office, or crime laboratory).
- Get involved with the data provider's professional organization (C/ME Association/Police Chiefs Association).
- Approach an advisory board member to help identify the appropriate contact person.

Once contact is made, set up a meeting either in person or over the phone to discuss the type of data elements needed, data confidentiality, how the data can be collaboratively used and in what form the data are available (electronic files or hard copy reports). A protocol for data-related projects might already exist for some data providers (e.g., C/ME offices have historically worked on data-related projects, such as child fatality reviews or Sudden Infant Death Syndrome projects).

Some data providers have electronic data systems, and information is transferred easily by disk or email. There may be some providers who are willing to modify their electronic data collection process to accommodate information collected for the NVDRS. Other data providers rely on paper filing systems. In these situations, data providers may be willing to complete data collection forms. Be sure that the forms are easy to understand and that there is ample space to write a narrative about the circumstances of the incident. Provide

the option of mailing or faxing in the form while ensuring confidentiality. When data providers have a substantial number of cases, consider traveling to do on-site data collection. One alternative is to ask agencies to mail/fax copies of their reports and abstract data yourself.

There are pros and cons to manual versus electronic data collection. In general, if the necessary data are available electronically, advocate for electronic transmission. Electronic transmission is less labor-intensive, but the data may be less detailed than what is available through manual abstraction. Sites that rely on agencies to conduct their own manual abstraction, however, may receive less detailed and less reliable information.

There are several options when defining the scope of a reporting system. Some NVISS pilot sites have found it helpful to start small and slowly expand. Consider targeting large cities or regions of the state with centralized data. Alternatively, target regions with computerized data. If electronic data are not available, at least manual abstraction will be concentrated in a specific geographic location.

If access is restricted, call on the relationships built with advisory board members and other data providers, since their connections or experience in a community may provide access. One of the barriers to access is often that the data provider is busy accommodating other data requests and does not have time for yet another. Offer to help with an existing fatality research project and concurrently capture the data you need. This provides a win-win situation for both the reporting system and the data provider. If resistance continues, appeal to the agency that oversees the particular data provider or consider submitting an “Open Records” or “Freedom of Information Act” (FOIA) request. These types of requests vary from state to state, but almost all contain exceptions for certain kinds of sensitive identifying information. Information from completed law enforcement investigations may be subject to an “Open Records” or a state “FOIA” request. It is always better to have a working relationship with the agency, rather than to try to compel their disclosure of data. Some law enforcement and C/ME offices may wish to have a written request in their files for political or public relations reasons or legal protection. Alternatively or in addition, review the state statutes regarding the release of violent death records in your state for any exceptions that apply to public health efforts. If no exception exists, explore a legislative proposal.

Once relationships are established, sites should work to ensure good, ongoing communication with data providers:

- Put contributing data providers on a mailing list to receive data findings and pertinent information.

- Inquire about the various professional associations. There may be opportunities to present collaborative work, provide trainings about the data collection process, or to have an informational booth about the reporting system at the next association meeting.
- Offer to contribute to an association newsletter.
- Build relationships with several people in an office. Plan on personnel turnover. The more people who know you and the importance of the project, the easier the transition will be when a contact leaves.

## **HELPFUL HINTS**

- **Appendix E:** Open Records Request
- **Appendix F:** Summary of Data Sources Used by NVISS Pilot Sites
- **Appendix G:** Sample NVISS Case Flow Chart
- **Appendix H:** Letter for Contacting Data Providers

## **Identifying Multiple-Victim Incidents**

Linking victims who die in a multiple-victim incident is a challenge since most data sources are victim-based, and not incident-based. There are several ways to link cases, none of which are foolproof. For homicides, the Supplementary Homicide Report (SHR) of the Uniform Crime Reporting Program has a field called Situation, which indicates whether the victim died in a single- or multiple-victim incident. The police report offers another opportunity to link deaths, as it may refer to other related deaths. Finally, the C/ME report may list other related fatalities in multiple-death incidents. Linkage is more difficult when only electronic data are received from data sources. In these cases, work with local law enforcement or the C/ME to ensure that the incident number and linked fatalities are included in the transmitted data. Querying your data for cases that occur in the same county on the same day may also identify missed linkages.

## **Death Certificates**

The death certificate is the “gold standard” for identifying a fatal event and the first step in the data collection process. Because death registration is mandatory in all states, using the state’s vital records office to identify cases is the best way to ensure that intentional deaths are captured. Each state has unique laws for accessing death certificate data, so meet with the state’s registrar’s office to find out what the laws are in your area.

Several individuals actually fill out a death certificate. When a death occurs, the funeral director obtains information from the family about the decedent's education, occupation, birthplace, racial identity, etc. The local C/ME supplies cause of death and basic scene information. The certificate is then filed with the local or state health department. For most states, a nosologist at the state health department registry of vital records assigns the International Classification of Diseases (ICD) cause of death codes, usually with software assistance. Other coders code and enter the remaining information, and in some states, assign codes for the victim's usual occupation and industry.

The International Classification of Disease (ICD) is used internationally for classifying cause of death and is maintained by the World Health Organization. It was launched in 1893 and is revised approximately every 10 years. The 10th revision<sup>8</sup> (ICD-10) is used in the U.S. for deaths occurring in 1999 and beyond. Deaths occurring between 1979-1998 were coded using the ICD-9.<sup>9</sup> The International Classification of Disease, Ninth Revision, Clinical Modification<sup>10</sup> (ICD-9-CM) was developed by the U.S. National Center for Health Statistics to classify morbidity information. Hospital discharge data are still coded using ICD-9-CM. Both ICD-9 and ICD-10 contain codes specifying the nature of a disease or injury and codes classifying the external causes of injuries. These external causes of injury codes provide information about whether the injury was violence-related, the mechanism of injury (e.g. motor vehicle, fall, poisoning), and information about the location (e.g. home, farm) for unintentional injuries and assaults. The first three numeric digits give the major grouping, and the fourth digit, when present, provides further detail. (See Table 1 in the Introduction for the ranges of codes for ICD-10 violence-related deaths.)

ICD-10 is generally more detailed than ICD-9, containing about 8,000 categories compared with 5,000 in ICD-9-CM. However, in some cases, less detail is captured, such as not distinguishing rifles from shotguns. Preliminary comparability ratios (number of deaths due to specific cause by ICD-10 divided by number of deaths for same cause by ICD-9) are close to 1.0 for intentional self-harm and assault.<sup>11</sup>

There are three types of state death certificate data. First, there is the death certificate itself, which is usually available within a few weeks after the death. The certifier enters the information about the cause of death and nature of injury, but may or may not have coded it.

The second type is preliminary electronic data, either in electronic form or a hard copy printout. Sometimes these preliminary electronic data are available within weeks of the certificate being filed. Some states have a portion of their death registration system in electronic form, which can save the time of manual abstraction. A few states now have electronic registration systems, which allow the medical certifier to directly enter the cause of death data, which may speed up the accessibility to cause of death information. However, in most states, registrar personnel still enter data from hard copies.

The third type is final death certificate data that are cleaned and fully coded. This level of data may not be available for a long time, as much as a year and a half after the close of a data year. In most states these data can be released to the public. A written request and, in some cases, submission of an IRB application (see section on Privacy Protection and Information Policies) may be required before access to individual level records containing personal identifiers can be granted.

All death certificates will identify both a Manner of Death (natural, accident, suicide, homicide, pending investigation, or "could not be determined.") and a Cause of Death. The Cause of Death section consists of two parts. Part I is for reporting a chain of events leading directly to death, with the immediate cause of death on line "a" and the underlying cause of death on the lowest used line. Part II is for reporting all other conditions that contributed to death but did not result in the underlying cause.

Some injury deaths are coded as "Pending" for manner of death because they are still under investigation. Periodically check on the status of these cases by referring back to the certificate.

#### **How do you begin accessing death certificate data?**

Contact the state vital records office. Many offices will not have extra personnel to take on additional projects. Accessing the data may require a memorandum of understanding even if the vital records office is within the state health department. Paying for vital records may be necessary. There are a number of ways to collaborate with vital records.

- Wisconsin: A memorandum of understanding with vital records allows manual searches of death certificates for all intentional injury fatalities.
- Connecticut: Preliminary death certificate information is gathered from the medical examiner's file. This information supplements the electronic death certificate data that are reviewed much later.
- Maryland: The Maryland project partners with the Office of Injury and Disability Prevention in the state health department. Accessing electronic death certificate data involves an interoffice request for data and references the IRB. On occasion, the electronic death certificate data will need to be supplemented with information from paper records. A similar memorandum is required for paper records, and no costs are involved.
- Michigan: An electronic death certificate file is released about nine months after the end of the data reporting year. Michigan pays an annual fee of \$120 for each year's file.

### **What are the pros and cons of manual versus electronic death certificates?**

For states without electronic registration, the delays between the occurrence of a death and the release of electronic data may be considerable. Searching through paper records may be required to identify violent deaths in a timely way. However, cause of death, occupation, and industry may not be coded on these reports.

- Wisconsin: The state vital records office generates a list of all violent deaths, and staff from the Wisconsin reporting system manually review those death certificates. This review process takes a couple of weeks and does not include coded information.
- Utah: Coded and cleaned electronic death certificate data are shared with the reporting system because of a pre-existing relationship with vital records.

### **Why are both death certificates and C/ME records reviewed?**

Reviewing death certificates provides an accurate death count. This will guard against missing cases whose C/ME files were overlooked. Conversely, death certificates will not contain information that C/ME records have, such as codes for underlying cause of death or coded occupation and industry information about the victim.

If death certificates are reviewed prior to C/ME records, the abstractor will have case names, and, for a C/ME without a computerized data system, this makes the process of manually pulling cases for review much easier.

### **How do reporting sites handle deaths when the victim's county or state of injury is different from the county or state of residence?**

While the process of filing death certificates is standard (death certificates are filed in the county where the decedent is pronounced), the process of who investigates deaths varies. Some deaths are investigated in the county where the injury occurs, and others where the decedent is pronounced. Check with your state vital records office to determine who investigates and signs death certificates.

Traditionally, epidemiologic studies use the victim's community of residence, and criminologic studies use community of occurrence. Data from the NVDRS will enable researchers to use either method depending on the research question. NVDRS sites are asked to collect information about all of their residents' violent deaths (wherever the injuries occur), and all fatal violent injuries that occur in their state regardless of the location of death.

- Wisconsin: Death certificates are signed by the investigating C/ME in the county of injury. In cases where the injured person dies from injuries in a county different from where they are injured, the death certificate is filed in the county of death.

If a person sustains an injury in Wisconsin and is pronounced dead in another state, the C/ME in the other state will sign the death certificate, using information from Wisconsin law enforcement.

- Maryland: The Office of the Chief Medical Examiner investigates all homicides and other deaths of questionable cause occurring in the state. In cases where suicide seems clear, a Deputy Medical Examiner located in the county where the death occurs may complete a death investigation report and forward it to the Chief Medical Examiner. There are cases when a person is injured in Maryland but hospitalized in Washington, D.C. The death certificate is filled out and signed in Washington D.C. In these types of cases, law enforcement is the primary data source. Suicides can be more problematic as law enforcement is not as involved in those investigations as they are in homicides.
- Utah: Death certificates are signed and filed based on where the decedent is pronounced dead.
- East Central Pennsylvania, Northeastern Ohio, Southeastern Iowa: The death certificate is signed by the C/ME in the county of injury for all three reporting sites.

#### **How long does it take for a death certificate to become available?**

Each state has laws requiring that death certificates be submitted to a specific agency within a certain number of days after the pronouncement of death. There may also be a policy requiring that all deaths for a given year be submitted within a certain amount of time after the year's end (e.g., three months). Check with the state vital records office for specific time requirements.

- Maryland: Electronic versions of death certificates are available only as annual files and the most recent files are often accessible no sooner than 18 months after the end of that calendar year. This tardiness prompted Maryland to use medical examiner data, rather than vital records data as the core source of their reporting system.
- Utah: Electronic death certificate data are available in an average of 4 to 5 months. The funeral director or medical examiner completes the death certificates, which are forwarded to the county records office and then sent to vital records every other week. Once a death certificate is on file with the state, the information from the death certificate is double keyed into the state database.

#### **Do “Pending” Manners of Death get updated?**

Yes, vital records may make changes directly to the certificate or electronic database. A case might be listed as “Pending” for as long as it takes the investigators to make a determination. Some cases may remain pending indefinitely, while others are eventually



assigned a manner of death, however, the time delay is such that the updated information may not be captured in that state's reported statistics. Develop a procedure for monitoring "Pending" cases and for re-checking with vital records.

## **HELPFUL HINTS**

- Having a list of death certificates from vital records helps identify some cases that are not initially identified by the C/ME. The list of death certificates allows for double checking cases with the C/ME.
- Vital records may charge a fee for making photocopies of death certificates to cover administrative costs.
- Occasionally the medical examiner reports an intentional death that was reported in vital statistics as a natural cause (e.g., a SIDS case that the medical examiner later determined was a homicide). Contact vital records and ask that the death certificate be updated in their files.
- Purchase an ICD-10 reference book. For a list of ICD-10 codes see: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Publications/ICD10/](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/ICD10/).
- Vital records offices in each state are supposed to receive copies of death certificates of their residents who die out of state (per interstate agreements). Because of differences in confidentiality laws, states need only report information about the decedent that follow their own state's reporting statute. Note: Information about deaths of non-residents in these states will eventually be available on the NCHS mortality tape (without personal identifiers).
- All vital records offices report their annual mortality statistics based on residence.
- General information about mortality data is available at: [www.cdc.gov/nchs/about/major/dvs/mortdata.htm](http://www.cdc.gov/nchs/about/major/dvs/mortdata.htm).
- **Appendix I: Death Certificate**

## **Coroners/Medical Examiners (C/ME)**

C/MEs are responsible for investigating violent or sudden deaths and for providing an official determination of the cause of death. Because of their relationship with law enforcement, district attorneys, or other mandatory reporting systems, C/MEs straddle both the judicial system and public health/medical arenas. Specific responsibilities may include: (1) determining the circumstances surrounding the death; (2) investigating the

Scene; (3) arranging for or conducting postmortem exams or autopsies; (4) toxicology testing; and (5) certifying the cause of death. Death investigation practices vary widely across states. Some states use a medical examiner system, others use a coroner system, and some use a combination of both. Medical examiners are usually appointed officials, have jurisdiction in states, districts or counties, and in most states (but not all), hold a medical degree. Coroners are usually elected and have jurisdiction in counties or districts. In many states, coroners are not required to have medical knowledge or experience in death investigation. However, they are typically required to be a resident of the county in which they practice, and they must be 18 years of age or older.

Historically, a C/ME did not need to be a pathologist to perform autopsies. However, now, state medical examiner systems require that the medical examiner be a physician, although they are typically forensic pathologists, especially in major metropolitan areas in states where there is a combination of C/MEs. Simply being a physician does not necessarily qualify one to perform autopsies. In states where the C/ME is not a pathologist, autopsies are contracted out to an office with one.

A second variation involves the type of deaths that are investigated. Twenty percent of deaths in the U.S. are investigated by C/ME offices, although that proportion varies from state to state. Death investigation guidelines vary between states, but C/MEs typically investigate deaths due to homicide, suicide, or unintentional injury.<sup>12</sup>

Third, the completeness or thoroughness of C/ME death investigation records may vary. One influencing factor is the level of funding that county versus state-based systems receive. Funding can affect toxicology and autopsy practices. Some C/ME offices may have multiple investigators, computerized data systems, and full service morgue facilities, while others may have a single investigator with no office or sophisticated database. Additionally, while there are recommended protocols and training approaches for death investigation, there is no universally-accepted or adhered-to standard.

The information that C/MEs collect during death investigations provides important information for the study of mortality trends in the U.S., and has long been recognized as a good source of data for public health surveillance. C/MEs provide the reporting system with very valuable information about the victim, the results of toxicology tests and the circumstances surrounding the incident.

#### **How do you begin accessing C/ME data?**

After identifying all violent deaths through vital records, consult the death certificate to find which C/ME investigated the death. In some states this information is listed on the death certificate; in others, the county of injury indicates the C/ME to contact. Once contact is made with the correct person, determine the office's protocol for data abstraction.

- Wisconsin: Most counties send in case information. When counties cannot fill out forms, abstraction is done on-site. The counties that do provide information either send copies of the narrative report, toxicology findings, and autopsy report, or send a completed data collection form.
- East Central Pennsylvania: One of the coroners does not want researchers on-site collecting data, so the coroner assigned an internal administrative assistant the task of filling out data forms.

### **What if access to records is denied?**

Find out what the C/ME's concerns are and see if there are ways to address those issues to everyone's satisfaction. There may be an opportunity to help with another fatality review project while collecting violent death data. This will help cut down on the number of people requesting information from the C/ME. If there is continued resistance, assess the possibility of a legislative initiative for mandatory reporting.

- Wisconsin: When a C/ME office cannot fill out a data collection form, data are abstracted on-site. The reporting system has been collaborating with C/ME offices in certain counties for eight years; one result of that long-term relationship is improved reporting.

### **If the county of injury and death are different, how does one determine which C/ME investigated the case?**

This process will depend on the type of C/ME system in each jurisdiction. Check with state vital records to determine who investigates and signs death certificates. Also, refer back to the death certificate section of this manual for more information about how cases are handled when county of residence, county of injury, and county of death differ.

### **Are financial incentives a good idea?**

This is one solution, albeit an expensive one. Alternative suggestions include: (1) making the process of completing and sending data collection forms as simple as possible, (2) traveling to the C/ME office to gather the information; or (3) offering to purchase computer equipment so that data can be transferred electronically.

- Maryland: Simply providing computer disks was helpful in obtaining electronic data from the medical examiner's office.

### **How often should C/ME data be collected?**

It varies from state to state and office to office and can depend on whether the C/ME system is centralized, and on available resources in the office. States with a couple of regional medical examiner offices or a single state medical examiner office may want to

meet to determine the most efficient process for obtaining information. It may be more realistic for states with a lot of C/ME offices to use the phone, fax, and mail to work out reporting time frames. If there is limited information in case records, it might be wise to advocate for electronic data transmission.

- Maryland: Medical examiner data are typically obtained quarterly. If more timely information is needed, electronic data are available with a few days notice.
- Wisconsin: The data collection timeline varies greatly. In the largest metropolitan area, data are electronic and the medical examiner has a laboratory for autopsy and toxicology testing. Therefore, the data are available very quickly. In smaller, more rural counties, there are fewer office staff and the toxicology testing is sent out for analysis. The data may not be available for several months. C/MEs who do not have their own labs send specimens to the state hygiene lab, an independent laboratory, or a laboratory in St. Louis. Depending on the backlog of cases at any of these labs, the delay in receiving toxicology data can be six months.
- Connecticut: Medical examiner data are collected monthly. It seems to be a good way to stay on top of the manual data collection process.

#### **What are the pros and cons of manual versus electronic C/ME data?**

Frequently, only manual reports are available from C/MEs. Because these reports are the richest source of information for the reporting system, the investment of time required to abstract data manually from the reports is worthwhile. Many state medical examiner offices or larger C/ME offices have electronic databases. If these databases include a narrative section about how the death occurred, they will be an efficient source of information. If the database does not include narrative sections, and if the variables essential to the NVDRS are excluded, the greater efficiency of the electronic database may not be worth the limited information available. It may be wise in that case to request access to the narrative report and to invest the time to abstract the data.

- Michigan: An internet-based database is provided free of charge to medical examiner offices and is accessible from any computer with internet capability. The database currently contains medical examiner data from about half of the state's 83 counties. A letter and consent form is sent to each county medical examiner who contributes data to the system requesting permission to access the data. Once permission is granted, a query is conducted on the database to extract the required data. Counties that are not participating in the database are approached individually.
- Allegheny: While electronic data are helpful, they are not always updated in an efficient manner. It can be difficult to determine cases in which the cause of death has changed or been updated. By reviewing hard copy reports, more information is available, especially if there is an inquest hearing regarding the case.

Note: Many states do have inquest hearings, however, these are done in a minority of cases and for a number of different reasons.

### **How long before a case is available?**

Actual investigative reports may be available right away. However, toxicology and autopsy findings may take much longer as they are subject to staff availability. There may be situations in which no part of the C/ME case is available until the investigation is completed and a determination of death is made. Additionally, the time frame for data turnaround can vary even within the same state.

- East Central Pennsylvania: There is a six-month waiting period before manual data abstraction can take place in Lehigh Valley.
- Allegheny: General coroner case information is available immediately, however other information is dependent upon whether the case is open or still under investigation. Additionally, toxicology reports can take up to eight weeks to be returned and filed.
- Wisconsin: The majority of cases are available within a few weeks of the incident, however some cases are not available for review for 6 to 12 months. The variability depends on whether toxicology results are sent out for analysis, C/ME resources, and the ability to do on-site abstraction when the C/ME is unable to send copies of the report.
- Maryland: Homicides are entered into the medical examiner data system within a few days of the death, while suicides may be entered up to three months after the death. This is because county-based deputy medical examiners investigate most suicides while the centralized Office of the Medical Examiner investigates homicides.
- Miami: The medical examiner is very good about allowing record review within a week of the event, however there are delays for obtaining toxicology reports.

### **Why are some accidental (unintentional) deaths coded as homicides or suicides by C/MEs?**

Working definitions of homicide and suicide vary across jurisdictions. Some C/MEs define homicide as the killing of one person by another, regardless of intent, while others include only killings that resulted from intentional harm. An incident in which one child unintentionally shoots another may be coded as a homicide by one medical examiner and coded as an accident by another, even if the facts establishing the shooting as unintentional are not in dispute. The NVISS coordinating center linked 1997 Supplementary Homicide Report data on unintentional shooting deaths with the decedent's death certificate, and found that 75% were coded as homicides, not accidents, for underlying cause of death.

C/ME coding may also vary regarding definitions of suicide. For example, a person who died while playing Russian roulette may be coded as a suicide by one coroner, and ruled an accident by another. Even in cases in which a wound was clearly inflicted unintentionally (as in the case of a Fourth of July celebrant who fires a gun in the air and is killed when the falling bullet strikes his head), some C/MEs will code the case as a suicide as long as the wound was self-inflicted (although this seems to occur less often than for unintentional homicides).

The C/ME assigns the manner of death on the death certificate. This variable is part of the reporting system. In addition, reporting sites assign a manner of death (which may contradict the C/ME manner of death code) based on reading reports from all the data sources. The assigned manner of death is based on uniform protocols for defining intent. See the NVDRS coding manual for the protocol.<sup>13</sup>

### **HELPFUL HINTS:**

- The Attorney General may help facilitate access to important information from death investigators.
- Offer to pay (or provide supplies) for copying records.
- C/ME offices are usually under-funded and under-staffed. Keeping the process of data collection as simple and efficient as possible will go a long way toward achieving buy-in. Avoid a process that requires multiple staff and long meetings.
- Start attending the state coroner association meetings. Coroners may be more likely to respond to inquiries from people they have met.
- Provide training opportunities for C/ME investigators about the reporting system and the type of information needed. This will help to assure that C/ME reports are complete and accurate.
- For more information about the differences between coroners and medical examiners and death investigation regulation, see: [www.cdc.gov/epo/dphsi/mecisp/index.htm](http://www.cdc.gov/epo/dphsi/mecisp/index.htm).<sup>12</sup>
- Alcestis is an internet-based mortality data collection system that provides C/MEs with an internet-based database to electronically manage case information. It has been built using technology developed by the Michigan Medical Examiner Database Initiative, a statewide, comprehensive, uniform database for use by county-based medical examiners. Alcestis is available to all C/ME offices throughout the U.S. Additional information can be obtained from the Center for Collaborative Research in Health Outcomes and Policy (CCRHOP) at the Michigan Public Health Institute or by emailing: [ccrhop@mphi.org](mailto:ccrhop@mphi.org).

## Law Enforcement

Law enforcement records provide a rich source of information about the environment in which a fatality takes place. Law enforcement usually play more of a role in homicide investigations than in suicides. However, depending on the jurisdiction, there may be some good information about suicides. There are two types of police data to consider when implementing a reporting system. Both originate from local law enforcement:

### 1) UCR: Supplementary Homicide Reports/NIBRS: Homicide Reports

The Uniform Crime Reporting Program (UCR) of the Federal Bureau of Investigation (FBI) was developed in the 1930s and is an aggregate crime reporting system used to assess the nature and type of crime in the nation. From that reporting system, reliable sets of criminal statistics can be generated and used by law enforcement administration, operation, and management. State and local law enforcement voluntarily report UCR data on a monthly basis. The Supplementary Homicide Report (SHR) is a voluntarily-submitted report that was added to the UCR to capture standardized, incident-based information about homicides. The SHR includes category 1A homicides (murder and non-negligent manslaughter) and Category 1B homicides (negligent manslaughter). Category 1B cases are usually unintentional shootings of one person by another. However, starting in 1984, negligent manslaughter became an optional component of the SHR, so reporting compliance may be low.

Most states submit data to the SHR/UCR system, however some states are transitioning to a newer system called the National Incident Based Reporting System (NIBRS). Few states have been certified as NIBRS states. The move toward the NIBRS began in the late 70s when the quantity, quality, and timeliness of UCR data needed enhancement. The NIBRS improves the methodology for compiling, analyzing, auditing, and publishing the collected crime data, and gathers crime information about 46 specific crimes voluntarily-reported by state and local law enforcement agencies. Both the SHR and homicide reports within NIBRS are incident-based and are voluntarily-reported to a state UCR office or directly to the FBI (for states without UCR offices) on a monthly basis. Both reports contain information about age, race, and sex of the victim and offender, victim-offender relationship, precipitating circumstances, weapon type, jurisdiction, and month/year of offense. However, the NIBRS has several advantages:

- Information is reported about the particular crime rather than in aggregate.
- More specific information is reported about assaults, sex offenses and homicides by increasing the number of reportable offenses in an incident.
- Information is submitted electronically.

- NIBRS data are captured in a relational database and can therefore capture multiple circumstance codes (the SHR captures only one) and victim-offender relationship for each victim-offender pair in an incident (SHR data only captures relationship information about the first victim).
- NIBRS has standard fields for personal identifiers.

### **How do you begin accessing SHR data?**

Talk to local law enforcement and determine which state agency is the repository for SHR data. It is typically located in the state police or public safety department.

Data access may be granted through each local agency or the state agency acting as the repository for SHR data depending on whether it is collected for a state or local area. In some state-based systems, SHRs may contain other identifying information (i.e., victim name, incident report number, date of injury, and time of homicide) or added state codes for describing circumstances or relationships. This information may be dropped or collapsed once it is forwarded to the federal repository.

If a state does not have a state UCR program, local offices report SHR data directly to the FBI. Make contact with the federal UCR program (304-625-4830) to determine who the state representative is at the national level and how to obtain the local data.

### **What if access to SHR data is denied?**

If the state UCR program is unwilling to make electronic data available, they may be willing to photocopy the SHR forms filed by the police. If there is continued resistance, work with a local police chief who may be able to help facilitate a meeting with the UCR program coordinator. Additionally, sites may need to appeal to the agency that oversees the state UCR program.

### **What information is needed to link victims to an SHR?**

Unfortunately, there is not a standard linking variable that works for all states. Some states add identifiers (name, social security number, etc.) to the SHR, and matching is not a problem. For states that do not have identifiers, there are a number of linking variables to consider:

- Month of event, age, race and sex of the victim can help link cases in jurisdictions when there is not more than one homicide involving victims of the same age, race, and sex in the same month. (Some states add date of event to the record, which improves linkage ability).
- If there are too many cases and no unique identifiers, develop a relationship with the submitting law enforcement agency. Law enforcement may help figure out how to make the linkage.



- SHR may list a law enforcement incident number (this only works in a small portion of cases).
- Michigan: This is a very difficult task because the electronic data file does not contain actual dates of death, only the month of the death. This means that data have to be linked by month and county of death, then age, sex, and race of victim, which, in metropolitan counties, can result in six or more cases with potential matches. Additionally, there is no incident number reported on the SHR. When multiple matches are found, extra information is gathered and matched with other data sources, such as the C/ME.
- Wisconsin: Because electronic access to SHR is not yet available, the system for linking SHR data to other reports varies depending on the county: (1) In Milwaukee County, the law enforcement incident number is listed in the C/ME report and on the SHR form. (2) For cases outside Milwaukee County when the incident number may or may not be listed in either the C/ME report or SHR form, cases are matched based on county of death, date of homicide, and age, sex, and race of the victim. A match is assumed if all but one set of criteria match. In cases where there are two or more discrepancies, vital records and/or local law enforcement may be called to see if any information has been updated or corrected. An additional check is done to see if the cause of death (from the C/ME) is in keeping with the type of weapon used (found on the SHR report).
- Maryland: The two jurisdictions with the highest incidence of homicide voluntarily write an internal incident number on the paper SHR form in the blank containing the circumstances narrative. This number is often entered in the medical examiner database for linkage purposes. This is the principal reason for acquiring copies of the paper SHR from the state police rather than relying on electronic versions of the data (which do not include the narrative material). The frequency of homicide is low enough in other areas of the state to permit successful linkage with medical examiner and vital records data by using date of incident, county of injury, age, race, and sex of the victim.

**What are the pros and cons of electronic files versus manual reports?**

An advantage of paper reports is that most states use a form that has space for a brief sentence about the homicide. This type of information is generally not part of a state SHR database and is not included in the national SHR database. The disadvantage is keeping up with the paperwork.

While it may be easier to review electronic SHR information, electronic data may or may not be more timely, depending on how quickly law enforcement agencies submit their reports, and how soon the state or federal repository reviews them and makes them available. Additionally, electronic SHR data may not contain identifying information for linkage. However, some electronic SHR systems can transfer some identifying information useful for linkage purposes. Check with your state’s SHR contact.

**How long, on average before SHR data are available?**

Data are generally submitted on a monthly basis to a state/federal agency; revisions to previous submissions are also forwarded monthly. States have different protocols regarding the stage at which data can be released. Sites need to work with their state or federal contact to receive SHR data (electronic or hard copies) when it is first available. Reporting systems in states with manual SHR need to continue to advocate for timely electronic data.

- Wisconsin: A manual review of SHR data is done anytime after local law enforcement submits a report. Reports are reviewed on an annual basis. Subsequent reports are compared to see if any codes were changed on previously reported homicides. Any updates are recorded.
- Michigan: SHR data are accessible after it has been returned from the FBI. Some police departments report directly to the FBI, while others send their reports to the state police, who then forward them to the FBI. Once the FBI has the data, they have another 3 to 4 cleaning steps before the data are released. Generally, the Michigan system waits 8 to 9 months after the end of a reporting year to receive electronic data.
- Utah: Data are available 2 to 3 months after the end of a reporting year. Therefore, electronic SHR data are requested from the Utah State Bureau of Criminal Investigation once a year.
- San Francisco: SHR data are reviewed one year after the prior fiscal year.
- Connecticut: Generally, SHR data are received and reviewed annually. Occasionally, SHR are contained in the police case report, and in those cases the report is reviewed sooner. Because of the time delay, SHR data are a secondary data source to police case reports.
- Maryland: Copies of SHR are mailed to the Maryland project and entered into the state police system. The time lag is between three months and one year after the incident.

**If SHR data are obtained are police case reports necessary?**

The SHR provides basic data for a reporting system. Police reports provide much greater detail. One advantage of reading case reports is the ability to capture and code multiple circumstances (e.g., burglary, juvenile gang violence, and suspected offender shot by police may apply to one incident). Therefore, sites should seek access to the original police reports whenever possible.

- Wisconsin: Both SHR and police case reports are reviewed. The state SHR data allows three weapon codes and two circumstance codes per incident; the national SHR captures one code each for weapon type and circumstances. Additionally, by reviewing case reports and assigning circumstance codes, comparisons can be done between police case report data and SHR data.

### **Will the number of homicides from death certificates match the numbers reported by the SHR?**

Traditionally, death certificates report a greater number of homicides than SHR. The numbers may not match because: SHR is a voluntary reporting program and not all law enforcement agencies participate, and those who do participate may not consistently report all cases. Nationwide, the SHR misses at least 20% of all homicides.

## **HELPFUL HINTS**

- Make sure that when requesting data from UCR, Category 1A and Category 1B homicides are included. This way, some unintentional but negligent deaths may be captured.
- For more information about data collection guidelines for UCR/NIBRS visit: [www.fbi.gov/ucr/nibrs/manuals/v1all.pdf](http://www.fbi.gov/ucr/nibrs/manuals/v1all.pdf).
- For a list of state UCR programs, check the Appendix section of the following document: [www.fbi.gov/ucr/Cius\\_99/99crime/99cius7.pdf](http://www.fbi.gov/ucr/Cius_99/99crime/99cius7.pdf).
- **Appendix J:** Supplementary Homicide Report
- **Appendix K:** National Incident Based Reporting System Form

## **2) Police Case Reports**

Police case reports are found in police files and provide an overview of the type and location of the incident, circumstances, victim(s), suspect(s), and weapons recovered. Reviewing case reports can be labor-intensive, however it provides an opportunity to obtain rich data.

### **How do you begin accessing police data?**

Contact law enforcement (either directly, through the C/ME, or through an advisory board member), and organize a meeting with police management to discuss the mission and objectives of the project. Once law enforcement is supportive, discuss the data elements needed, data confidentiality, how the data may help them, and in what form the data are available.

Review the procedures for data access with each jurisdiction. When inquiring about a case, provide a case number if possible, otherwise provide the victim's name, date of birth and date of incident. Data can be obtained either from an electronic database or from a manual review of cases.

- Maryland: Gaining police cooperation has been very difficult, most likely because of all the requests for information from a variety of research groups and because the police cannot control how the information is used once it leaves their office. It has been important to establish a high level of trust by communicating experience, professionalism, and the willingness to cooperate with law enforcement needs, goals, and procedures.
- Wisconsin: Most law enforcement agencies like a written request for their reports. Once law enforcement receives a request, the information is faxed, mailed, or phoned in depending on the agency. The largest police department in the state does not have the personnel to pull, copy, and send requested cases. Therefore, data are gathered through on-site case abstraction.
- Utah: A combination of on-site case review, phone calls, and faxes are used to obtain police case reports. Records are released under the state Governmental Records Access Management Act (GRAMA), which allows the exchange of confidential information between state governmental agencies. Most agencies still request reimbursement for copying costs and postage.
- Miami: A close working relationship with two law enforcement agencies provides nearly 80% to 90% of the county's firearm deaths.

#### **What if access to records is denied?**

There are several ways to build relationships with law enforcement:

- If you have a good relationship with the C/ME, ask them to call or write a letter of support.
- Consult with the law enforcement representative on your advisory board.
- Become involved with the Police Chiefs' Association and get to know local law enforcement.
- Collaborate. Find out if there is another death investigation project that you can provide assistance.

- Consider filing an open records request. However, be prepared to pay for copies and mailing. Agencies must cover their administrative costs.
- Wisconsin: One law enforcement agency did not want to participate in providing information, so a formal records request was filed with the police chief (Wis. Stats. Sec 19.35). The agency sent the requested information for a fee to cover the cost of copies made.
- Connecticut: To date, only one local law enforcement agency has denied a request for data. The agency felt that the record in question contained confidential medical information they did not want to divulge. However, the agency was willing to allow access to other cases. Other urban law enforcement departments verbally summarize the case report, providing the information without compromising confidentiality.

**Should information be manually abstracted if law enforcement does not have electronic data?**

If sites have the resources, data obtained through manual case abstraction can be very valuable. Detailed information about the mechanism of injury, circumstances, and suspect(s) is usually helpful for describing the incident and useful for comparisons with SHR data.

Since a majority of homicides occur in a handful of large cities, some sites find that it is more efficient to develop relationships with those agencies, rather than with the hundreds of other smaller police departments in the state.

**What are the pros and cons of getting electronic versus hand abstracted data?**

(See previous question and response.) As with other data providers, electronic transmission is preferred. However, with manual case abstraction, there is an opportunity to capture case numbers linking to other data sources, such as the crime lab. Electronic data transmission may not have linking case numbers. If this is the case, work with law enforcement to add these fields to their database.

**Does law enforcement provide additional data on suicides or unintentional firearm fatalities?**

Yes, law enforcement may provide additional information about the weapon used and the events leading up to the event that may not routinely be in C/ME reports. One of the reasons police arrive on the scene is to rule out foul play.

- Wisconsin: After several years of data collection, the reporting system decided to review police case reports on all homicides, suicides, and other firearm deaths. The case reports provided additional information about the weapon and circumstances not always captured by the C/ME.

- Utah: In 10% to 20% of suicide cases law enforcement reports have additional information that supplements the incident narrative, or provides more details about firearm-related evidence.

**How long, on average does it take for a law enforcement case to clear?**

The time it takes for a case to clear varies, and some cases never clear. A law enforcement case “clears” when an offender is arrested, there is a determination of self-defense, the offender dies, etc. Sites may be allowed to review part or all of a police case report once it clears. Sites need to set up a protocol for checking back with law enforcement to see when cases “clear.”

- Wisconsin: As a general rule of thumb, most cases clear in nine months.

**Is it standard practice for law enforcement to allow only cleared cases to be reviewed?**

Yes, cases still under investigation are generally not available. Sites need to develop a procedure for checking back with law enforcement.

- Wisconsin: Follow-up on cases is done quarterly. If a fatality does not clear after two years, it is considered lost-to-follow-up. Only vital records, C/ME, SHR, and crime laboratory data (if applicable) are entered into the database.

**Is it normal to be denied access to police-related shootings?**

This will depend on the jurisdiction. It is possible that only limited information will be available.

- Utah: There is no access to records for police-involved shootings.
- Wisconsin: In the largest metropolitan county in the state, no specific information is obtained about the shooter (the officer). Since all police-related shootings are kept in a different section of the building, basic information about the case is obtained by speaking with the head detective. In these cases, SHR data provide information about the weapon type, circumstances, and age, race, and sex of offender/shooter(s) and victim(s). More specific firearm information may be available at the crime lab.

**Are juvenile records routinely available for review?**

Juvenile records can be difficult to access because of the protective philosophy of juvenile law. The laws protect minors and in some cases criminal records are expunged. Many sites may be unable to access them at all. There may be special circumstances for research groups to obtain this data, however it is different in each jurisdiction.

### **Should sites use SHR or police case reports as the source for law enforcement data?**

Sites need to determine which type of law enforcement data collection is feasible. At the very least, sites need SHR data to describe the event. The NVISS sites propose some steps to consider when determining the extent to which police case reports and SHR data are included in a reporting system:

- Determine if law enforcement can provide detailed electronic data on violent deaths.
- Review police case reports if resources permit. Case reports tend to be more comprehensive than standard coded information obtained through the SHR and include information about suicides.
- SHR, depending on whether it is available electronically, may be more feasible. Check with the state or federal UCR program coordinator to determine whether state-level electronic SHR data are available. (Eventually, all state SHR data are available without identifiers in the national database). And if it is a question of electronic or hard copy reports of SHR, try to obtain both. A state's SHR hard copy may include a narrative statement about the event that is helpful.
- Focus resources in large cities or metropolitan areas that make up the majority of homicides and may be accessed more efficiently.
- Ask local law enforcement to include the case report in the C/ME file. If they do, check to see if reviewing the report at the C/ME office is possible. This may save data abstractors a trip to the local law enforcement agency.

### **HELPFUL HINTS**

- It is important to recognize that law enforcement's goal for data gathering is to prevent and solve crimes. If police perceive that collaborative data efforts will compromise their mission, cooperation will not be forthcoming.

### **Crime Laboratory (or Ballistics Lab)**

The Crime Lab reviews physical evidence from crime or injury scenes. The crime lab is the gold standard for detailed information about the firearms, bullets and casings involved in firearm injuries and fatalities. Often, there are only a few crime labs in each state, making it a very efficient data source. Crime labs can vary in their structure: some laboratories are part of local law enforcement, state police, or C/ME offices, while others are run by a large state agency or a private company.

Crime lab data differ from law enforcement information in several ways: (1) Crime labs may have more detailed firearm information, while law enforcement has more information about circumstances; (2) Crime labs examine evidence with the goal of documenting evidence for court records while police data are used for solving crimes and making arrests; (3) Firearm and tool mark examiners have specific training in firearms and tool marking and do ballistics testing (e.g., determine if a bullet/casing was fired from the gun, calculate the distance between the firearm and the victim, etc.) which is outside the normal scope of a police department.

### **How do you begin accessing crime lab data?**

Contact the crime lab director or firearms examiner and ask for a meeting to discuss the project, the data elements needed and what is available. If there is no response, use local law enforcement (they may be the best point of reference as they consistently work with crime labs to solve crimes) or the C/ME to arrange a meeting with crime lab management.

### **What if access to crime lab data is denied?**

If appealing to other agencies such as law enforcement, C/MEs, or advisory board members isn't helpful, contact the governing agency of the crime lab (Department of Justice, State Police or Public Safety). Additionally, review the state statutes regarding violent death reporting for any exceptions that apply to public health activities. If no exception, exist, explore a legislative proposal. Because bills are sometimes submitted to the legislature addressing particular classes of weapons or specific safety features, legislators on both sides of the debate may be interested in having access to statewide data on guns used in fatalities. They may, therefore be receptive to initiatives that would centralize the data.

- Wisconsin: The crime lab was happy to provide access to records, however a state statute prohibited them from providing the information until the respective county prosecutor authorized the record review. County prosecutors have had to sign a letter authorizing the review of county records at the crime lab. This process took eight weeks to complete with over 90% of the prosecutors signing the authorization form. Crime lab cases are not reviewed for the few counties that did not return an authorization letter.
- Connecticut: Crime lab information is seen as the property of local law enforcement and not the crime lab, therefore there is no access to this data directly through the lab.
- Michigan: A large metropolitan police department was reluctant to provide access to crime lab data due to the added burden of work for personnel. However, when the police department wanted to convert a database into Access, the Michigan project offered to do programming in exchange for data. Working together on the conversion provided the opportunity to get to know crime lab personnel. The collaboration has greatly enhanced the relationship.



What are the pros and cons of electronic and manually abstracted data?

Electronic data may or may not be faster depending on how quickly the lab finishes a case and enters it into a computer system. The information a site wants might not be available in an electronic format. Some sites however, have worked with a crime lab to include additional pieces of data in the electronic database.

- Michigan: Because of the collaboration on the database conversion, the crime lab agreed to add additional coding categories and some new variables to facilitate the needs of the Michigan pilot. Most of the variables requested were already used, but not previously included in the database.
- Wisconsin: There is no access to electronic data. By the time all other case information is collected (death certificate, C/ME, law enforcement), the crime lab report is usually finished and can be reviewed. Manual data collection is more time consuming, but the specificity of the data surpasses what could be downloaded from a database.

**Will crime laboratories have all firearm cases?**

Not necessarily, it depends on the lab.

- Wisconsin: Local law enforcement decides which confiscated evidence to forward to the crime lab during an investigation. Therefore, the lab may not receive evidence in all homicides or suicides. In cases of firearm suicide, the gun is generally left at the scene and law enforcement usually obtain enough information off the gun to determine if it was the one fired in the suicide. Therefore, only a small portion of guns used in suicide are forwarded to the crime lab.
- Utah: Only 10% of firearm cases are actually seen at the crime lab, therefore it does not appear to be a good use of time to collect data there. Crime lab-like data are obtained from the local law enforcement report.

**What type of information is necessary to link with a crime lab case?**

A crime lab number may be obtained when reviewing a police case report. Cases may also be identified by name, date of birth and/or date of death of the victim or by a police case number.

**Is it standard practice to be denied access to crime lab reports until the case is closed?**

It depends on the jurisdiction, but it is likely that cases still under investigation by police may not be available at the crime laboratory either. It may be worth asking if preliminary information is available to review until the investigation is complete. Similar to uncleared police reports, set up a protocol for checking back with the crime lab to see when cases can be reviewed.

## HELPFUL HINTS

- Develop a relationship with your firearm and tool mark examiner. They can be very helpful in interpreting some of the firearm and ballistic information.
- While not routine, some crime lab personnel go to crime scenes in the many of violent death cases, including suicides and firearm-related injuries, to gather evidence and to examine the scene.

## Bureau of Alcohol, Tobacco and Firearms (ATF)

The Bureau of Alcohol, Tobacco and Firearms (ATF) provides information about the first retail sale of a firearm. The National Tracing Center, in Falling Waters, WV, conducts all traces. The tracing process works two ways: (1) a local law enforcement agency can submit traces to the National Tracing Center, or (2) local law enforcement can request that their regional ATF office submit a trace to the National Center.

In addition to a trace number and request date, a firearm trace report may include **purchaser information** (name, address, purchase date, purchaser date of birth, race, sex, height, weight, sex, and two forms of identification such as a drivers license); **firearm information** (manufacturer, model, caliber, serial number, type, country, importer, identifying marks, etc.); **recovery information** (recovery date, time from purchase to recovery, possessor, and possessor date of birth); and **dealer information** (ship date, phone number, and whether the dealer was out of business).

During a trace, ATF tracks a gun's history from its source in this country (the manufacturer or importer) to its first purchase by an individual. An importer is any person engaged in the business of importing or bringing firearms or ammunition into the U.S. for the purposes of sale or distribution. When the National Tracing Center receives a trace request, it contacts the firearm manufacturer or importer. The manufacturer or importer then identifies which federal firearm licensee (FFL) the gun was shipped to and the shipping date. An FFL is a person, corporation, or retail business that is licensed by ATF to sell, deal, manufacture, repair, or broker firearms. By law, FFLs must keep records of their firearms transactions and forward their records to ATF upon going out of business. If the first firearm transfer was to a wholesaler, ATF contacts the wholesaler to learn which dealer the gun was transferred to. ATF then contacts the dealer and requests information about the individual who purchased the gun. In most states, it is not possible to trace gun transfers beyond the first retail sale because there are no laws or regulations that require record keeping for those transfers (as there are for motor vehicles). If the first purchaser sells the gun to another buyer, the gun's path will be lost from that point forward.

Collecting gun tracing information is an optional component of NVDRS. There are questions related to the gun purchase in NVDRS: Whether the victim or suspect (or a household member) was the original purchaser of the gun (the name of the purchaser is not collected); whether the gun was first purchased in the same city and state where the incident occurred; and the period of time between when the gun was first purchased and the date of fatal injury. These questions may be completed in some cases without tracing information.

**How is firearm tracing information useful?**

Tracing helps indicate if firearms are being obtained on the secondary market and helps to evaluate the effectiveness of prevention strategies (such as waiting periods).

- Wisconsin: Working with ATF data provided important information regarding suicide risk and the time between gun purchase and the fatal event.

**How to begin accessing firearm trace data:**

Work with law enforcement, either at the local or state level (depending on the reporting region) to obtain firearm trace results. There is no method for health departments or academic institutions to directly submit trace requests to the ATF. Traces must be submitted by a law enforcement agency. In addition, the ATF can only release trace results to law enforcement agencies. Once a trace request is filed and given to law enforcement, the trace is the property of that law enforcement agency and may be distributed at their discretion.

- Allegheny: Because of the limitation of who can release this type of data, the only way to obtain the information is to go to each law enforcement agency. Two main law enforcement agencies investigate the majority of cases. One of the agencies has a special firearms tracking unit and is able to send electronic data.
- Wisconsin: Because of the constraints on who can submit and receive trace information, the Wisconsin project works with the State Department of Justice. The Department of Justice is the submitting and receiving agency for the traces. Once the traces are complete, the Department of Justice forwards a hard copy of the trace to the Wisconsin reporting system.
- Connecticut: Trace information is obtained at the time the law enforcement report is reviewed. If the gun is traced, the related information is in the police report. However, not all guns are traced. For example, suicide guns are generally only traced when the family requests it or if the same gun was also used in a homicide such as a murder/suicide.

### **What firearm information is needed to submit a trace?**

The following information is needed for each firearm trace: manufacturer, model, caliber, serial number, and if the firearm manufacturer is foreign, the importer name, city and state. Importer information is stamped on the firearm. There are some cases where the barrel length may also be required for tracing.

### **What does it mean when a firearm trace comes back “trace already done?”**

Traces may have already been requested by the local law enforcement agency. ATF will not duplicate the trace but will send a confirmation that the trace was already requested. Work with local law enforcement or the regional ATF office to request a copy of results.

## **HELPFUL HINTS**

- A trace may come back incomplete if the firearm: Was manufactured prior to 1969; has an invalid serial number; cannot be located; there is no FFL record for that time or the FFL is out of business; or if there is no importer information. Note: Firearms predating the enactment of the 1968 Gun Control Act are generally untraceable through the National Tracing Center. Additionally, FFLs are not required to retain records for more than 20 years, which explains why some older firearms are untraceable.

- More information about gun tracing can be found at:  
[www.atf.treas.gov/about/programs/tracing.htm](http://www.atf.treas.gov/about/programs/tracing.htm).

- **Appendix L:** Firearm Trace Report

## **V. Evaluating a Violent Death Reporting System**

A surveillance system must be evaluated periodically to assess the quality and representativeness of the data it produces. This is particularly true in a new system that taps into multiple, non-traditional sources of information. There are many potential sources of error in such a system.

What follows here is a brief discussion about conducting a basic evaluation of the data quality of local reporting systems. For information about conducting a more multifaceted evaluation, a definitive and in-depth guide appears in *Morbidity and Mortality Weekly Reports* (“Updated Guidelines for Evaluating Public Health Surveillance Systems”).<sup>14</sup>

### **Does the system capture the cases it should?**

There are really two questions here: first, what proportion of the cases that should be captured are being captured ("sensitivity" rate); second, what proportion of the cases reported are true cases vs. false positives ("predictive value positive" rate). To illustrate the concept of measuring system sensitivity, take the fictional example of a statewide reporting system that used the state medical examiner's office for initial case identification. The medical examiner's office received copies of all death investigations conducted by its regional offices. Medical examiner personnel agreed to transmit these reports electronically to the reporting program on a monthly basis. The reporting program then contacted vital records, the crime lab, and the Uniform Crime Reporting program for further documentation on the cases. Six months after the close of the calendar year, electronic death certificate data were made publicly available. To evaluate the sensitivity of the reporting system, the program identified the total number of violent deaths (800) that occurred in their state according to death certificate data. The medical examiner had transmitted reports on 700 of these. Had the program not remediated the problem, their system's sensitivity rate would have been 87%.

Frequently, surveillance systems operate effectively with sensitivity rates well below 100% provided the program documents ways in which unreported cases differ from reported cases and the under-reporting level is relatively stable over time. Because death certificate data are considered the provisional gold standard for case identification and are publicly available, violent death reporting systems should have high sensitivity rates. In the example above, the medical examiner's office had actually reported 720 deaths (for a seeming sensitivity rate of 90%), but upon matching cases, the program found that only 700 of these were among the death certificate cases. The remaining 20 cases were reported by a regional medical examiner's office that consistently chose "suicide" as the manner of death for unintentional drug overdoses, reasoning that the ingestion itself was intentional. The vital statistics registry coded these cases as accidental poisonings since the medical examiner's narrative clearly identified their fatal outcome as unintentional. These cases, then, were "false positives." If the reporting system was left unremediated, its predictive value positive rate would have been 97% (or 3% false positives).

Occasionally, true cases will be received from other sources that were not among the death certificate cases. This occasionally results from data entry errors at the registry or when a medical examiner changes a finding but the vital record is not updated. Bring the error to the attention of the vital statistics registry so that they have the option of revising the record.

### **Is the information received from data providers representative?**

There are dozens of ways in which the data from providers could be inaccurate or biased. One of the most important problems is a consistent pattern of missing data. For example, imagine that a reporting program was preparing a report about the circumstances associated with suicides in their state. The coroner's report was the only source of

information about circumstances for suicides. In about two-thirds of all suicides, they had received reports from the coroner. They had coroner reports for 90% of suicide victims from urban areas, but only 40% for victims from rural areas. Their report would not do justice to rural suicide circumstances. They therefore decided that their first report about suicide circumstances would focus on urban populations. They also undertook an outreach campaign to increase the number of rural coroners who were sending them reports.

A second aspect to the missing data problem relates to testing. For example, a program wants to analyze the proportion of victims who tested positive for drugs or alcohol. They found that one-third of victims tested positive, one-third tested negative, and another third were not tested at all. They were inclined to report that among victims from whom drug and alcohol information was available, 50% tested positive. However, they saw that victims who were not tested differed in important ways from those who were tested. They contacted a number of coroners to learn more about the protocols governing toxicology testing. Some communities had a policy of running toxicology screens on all suicide victims while others did not. In those that did not, coroners tended to order tests only when drug or alcohol use was suspected. Because testing only suspected positives inflated the rate of test positives, the reporting program decided to report toxicology findings only for communities that screened all victims.

**Are the data abstracted and entered in a consistent and reliable way?**

One problem that compromises the integrity of the reporting system is the use of different definitions for the same data elements. This is a particularly relevant problem when coding the precipitating circumstances that preceded a violent death, as many qualitative judgments must be made. A good way to quantify the extent to which coding is inconsistent is to test intra-rater and inter-rater reliability periodically. Intra-rater reliability for data abstraction can be determined by having data abstractors re-abstract a small, random sample of cases they had abstracted previously. Inter-rater reliability can be determined by having multiple abstractors abstract the same set of cases.

**Are the data abstracted in a timely way?**

Timely information is critical to the usability of a surveillance system. Timeliness in NVDRS can be evaluated by calculating the median number of days from death to case completion and to completion of first and second priority variables. In addition, the number of observed (reported) cases from a certain time period can be compared with the number of expected cases each month after the close of the time period.

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