

Executive Summary

This first report of the San Francisco (SF) Firearm Injury Reporting System (SFFIRS) is the collaborative product of a pilot project to track and report on all violent injuries, with an initial focus on firearm-related injuries. In 1998, representatives of the SF Police Department (SFPD), the Medical Examiner's Office, the Emergency Department and Trauma Center at SF General Hospital (SFGH), the SF Injury Center at the University of California, and the SF Department of Public Health agreed to contribute to the development of a shared multi-agency database. For the first time, we are able to go beyond reporting of standard demographics with linkage of data regarding both victims and perpetrators from police reports, medical examiner investigations, and hospital records. Having a centralized database will ultimately enhance our understanding of modifiable risk factors among both victims and perpetrators, promote unified approaches among the various agencies working to reduce deaths and injuries arising from all forms of violence, and serve as a basis for evaluating the impact of prevention efforts. Subsequent reports will include data for all violent injuries and deaths that occur in the County.

The Case for Data Linkage

The types of data collected on firearm deaths and injuries by the police department, hospital patient registries, and the medical examiner serve different purposes within each agency. Police are focused on criminal investigations with the goal of arresting perpetrators. Health care providers are concerned about treatment of victims and the outcomes of their injuries. The medical examiner has charge over scene and background investigations, and consults with police and criminal justice officials on incident reconstruction. This is not to say that the data collected and reported by the individual agencies are not valuable in directing efforts to reduce violent deaths and injuries. However, the need for linked data goes beyond the reporting of the "exact" same numbers of deaths and injuries each year in SF. It is recognized that victims of violent injuries are often found perpetrators of violence. Efforts to interrupt this cycle require an expansive approach. Linked surveillance data serves as a basis for a public health approach which crosses over agency and geographic boundaries. A few examples of new information derived from data linked in the SFFIRS are shown below.

What we knew prior to SFFIRS	What we know with SFFIRS
Number of deaths and hospitalizations each year.	Number of deaths and hospitalizations, plus victims treated in the emergency department and linked to the SFPD and Medical Examiner data.
SF zip codes with the highest numbers of firearm deaths and injuries.	Street level data within each neighborhood with the highest numbers of firearm deaths and injuries; and the geographic proximity of the victims' and suspects' residences to each other and to the incident location.
Number of victims who are residents of other counties.	Number of both victims and suspects who are residents of other counties.
Anecdotal observations that victims often have criminal records.	The majority of victims had criminal records prior to their injury, as well as records of repeat offenses after the injury.
The aggregate age, race/ethnicity, and gender of victims.	Each unique victim-suspect pair is evaluated by age, race/ethnicity, and relationship.
Criminal history of victims and drug and alcohol levels reported separately by the police and Medical Examiner.	These variables are now linked at the victim level.

Key Findings for 1999 Firearm-related Deaths and Injuries

Firearm Death Rates in SF Compared to California, the U.S., and to the SF Bay Area

- Firearm injuries killed 44 SF residents, 3,013 California residents, and 28,874 U.S. residents.
- Overall, age-adjusted death rates due to firearms in SF were 5.5 per 100,000 population, compared to 9.2 and 10.6 per 100,000 population for California and the entire U.S., respectively.
- Among the nine SF Bay Area Counties, firearm death rates were highest in Contra Costa County with 10.6 deaths per 100,000. SF ranked sixth with 5.5 per 100,000 and Marin County had the lowest rate—2.4 per 100,000.
- Overall, African American males residing in SF had a firearm homicide rate (37.1 per 100,000) that was 1.3 times higher than the U.S. homicide rate for African American males (29.5 per 100,000), and 11 times greater than that of White males living in the U.S. (3.5 per 100,000).

Characteristics and Circumstances of Firearm-related Deaths and Injuries

- There were 176 incidents involving 213 victims of firearm violence.
- Of the 213 victims, 30% (64) died from their injuries and of these, 72% (46) were dead at the scene.
- Homicides and assaults accounted for 83% (177) of all injuries.
- Of the 64 fatalities, 44 were SF residents—representing a 2% decrease from the 45 fatalities that occurred in 1998.
- Non-residents of SF County accounted for 24% (51) of the 213 victims killed or injured in SF, with 78% (40) of these victims residing in neighboring Alameda, Contra Costa, and San Mateo Counties.
- While 28 of the 40 homicide deaths involved residents, the remaining 12 homicide victims were not residents of SF County.
- African American male residents of SF accounted for 60% (78) of all homicide and assault resident victims (130), although they comprise less than 5% of the SF population.
- Among African American males, the firearm fatal and nonfatal injury rate was 2 per 1,000 population, whereas White males had a fatal and nonfatal injury rate of less than 1 per 10,000 population.
- African American male residents of SF aged 25 to 34 years old experienced the highest numbers of homicides and assaults (28).
- Suicides accounted for 33% (21) of all firearm deaths.

- Among White male residents of SF, suicides accounted for 50% (7) of firearm-related deaths.
- There were no unintentional firearm deaths inflicted by another, and two unintentional firearm injuries inflicted by another.
- The leading circumstances for homicide and assault incidents were arguments (43%), gang-related violence (20%), and robberies (12%).
- Forty-one percent (73) of homicide and assault victims lived within 1 mile of the shooting location, with 12% (22) living at the incident location.
- Of the incidents with known victim-suspect relationships, 56% (89) of victims reported knowing the suspect.
- Of the fatality victims, 31% (20) were born outside of the U.S., 59% (38) had a 7th to 12th grade education, 73% (47) were employed, 52% (33) were never married, and 11% (7) were veterans.
- Of the 24 major SF neighborhoods, almost half of all homicide and assault shooting incidents occurred in three neighborhoods: 20% (35) in Bayview/Hunter's Point, 14% (24) in the Inner Mission/Bernal Heights, and 13% (23) in the Western Addition/Japantown.
- SFGH treated 97% (162) of the 167 victims taken to a hospital. Of these, 32% (52) were treated in the SFGH Emergency Department and released, and 67% (109) were hospitalized.
- Of the victims who sustained a nonfatal firearm injury, 10% (11) were discharged to another facility for additional care.

Victim Criminal History and Drug Involvement

- Criminal histories with the SFPD were documented in 70% (123) of the homicide and assault victims.
- Of the assault victims with criminal histories, 63% (60) re-offended before 2001 following their 1999 firearm injury.
- Of the victims with criminal histories, 73% (57) reported knowing the suspects compared to 39% (31) of the victims without a criminal history.
- There were six incidents of legal interventions involving 8 victims: 3 victims were law enforcement officers, and 5 were civilian victims who each had a criminal history.
- Among the fatalities, 48% (31) were tested by the Medical Examiner and determined to be positive for alcohol and/or drugs (cocaine, opiates, anti-depressants, or amphetamines).
- For fatalities, victims with criminal histories tested positive for the presence of drugs twice as often as victims without criminal histories.

- Victims with criminal histories were involved in drug-related shooting incidents seven times as often as victims without criminal histories.

Suspects and Firearms

- Of the 143 shooting suspects where an age could be identified, 66% (94) were under 25 years old and, of these, 39% (37) had criminal histories in SF.
- Of the homicide and assault suspects (71) who had an address identified, 73% (52) were residents of SF, with 25% (13) residing in Bayview/Hunter's Point and 21% (11) residing in Ingleside/Excelsior/Crocker Amazon.
- Of the 52 homicide and assault suspects who were residents, 21% (11) lived at the incident location and 35% (18) lived within 1 mile of the incident location.
- The firearms used in homicides and assaults were booked into evidence in 17% (25) of the incidents. However, other physical evidence indicated that handguns were used in 63% (99) of the homicides and assaults, and in 25% (39) medium caliber bullets were used in these assaultive incidents.

Future Directions for the San Francisco Firearm Injury Reporting System (SFFIRS)

With this first year of SFFIRS data, we can begin to make determinations about how to use these data to monitor emerging trends, identify gaps in services, set priorities and direct the development, implementation, and evaluation of violence prevention efforts. The findings have already provided a foundation from which more in-depth focused research can be undertaken. An ongoing, long-term commitment to maintain this high quality multi-agency database will be vital to achieving the ultimate goal of reducing the burden that acts of violence imposes upon individuals and our community. The following is a list of additional data needs, program planning, policy issues, and initial areas of research interest generated from the first year of work with the SFFIRS.

I. Data Collection and Linkage Issues

- i. Track data on disability status and government disability expenditures.
- ii. Data on victim criminal histories should be expanded to include details as to whether or not the historical crimes involved acts of violence.
- iii. Routine testing of victims treated in the SFGH ED for alcohol and/or drugs would be a valuable tool for assessing substance abuse and determining the need for referral of victims to counseling services.
- iv. Incorporation of a “recidivism” code by the SFGH and Trauma Registries would provide an opportunity to identify repeat visits by victims of violence.
- v. Follow-up data on the judicial outcomes of suspects who are taken to trial are currently not included in the database. While legal proceedings can take many years, a plan to include outcomes of suspects’ legal proceedings should be undertaken.
- vi. A limited number of firearms were recovered. Additional access to police crime lab data would provide important information regarding bullets retrieved from the scene or operating room, whether the firearm was obtained illegally, identification of the first purchaser, and safety features.
- vii. Firearms account for under 20% of all homicide deaths and hospitalizations due to violence in SF. Expand the SFFIRS database to include all forms of violence, in accordance with the Centers for Disease Control and Prevention efforts to establish the National Violent Death Reporting System (NVDRS).

II. Program, Planning, and Policy Issues

- i. Track and report hospital and related SFDPH costs associated with violent injuries. Data on costs of hospital care are currently not available in the database. Through secondary sources, data on hospital charges can be obtained after several years using Statewide Hospital Discharge data. Linkage of data on costs of hospital care would provide strong arguments for the need to invest in funding for prevention programs.

- ii. Promote a regional linked data and reporting system to address inter-county incidents. Approximately 25% of victims injured in SF and 27% of the identified assault suspects come from neighboring counties. Other Bay Area police and health departments have expressed interest in examining the feasibility of developing a set of shared database variables on victims and suspects; having this capability would improve the accuracy of local counts of deaths and injuries among residents and non-residents.
- iii. Develop a community resource directory for violence prevention counseling, risk reduction, services, and programs. This will support the prevention strategies proposed in the "Roadmap for Preventing Violence" by the Violence Prevention Network.¹
- iv. Promote age-appropriate programs for victims and suspects in the DPH and other public agencies, as well as in the community. When combined with a coordinated approach for providing mental health, substance abuse treatment, and other services, this will assist in reducing recidivism.

III. Health Care Provider Issues

- i. All victims being treated for violence-related injuries should be screened for prior exposure to violence and referred to appropriate programs and services.
- ii. Training is needed for health care providers to recognize the potential for repeated criminal offenses by many victims of crimes in an effort to increase referrals to recidivism reduction programs.
- iii. For victims with histories of criminal activity, the opportunity to offer referrals to recidivism reduction programs is short in light of the fact that over one-third of these victims are treated in the SFGH ED and released directly back to the community. Effective approaches for interventions during these brief windows of opportunity need to be identified.

IV. Research Issues

- i. The high incidence of criminal histories among victims and re-offenses after injury raises many questions, which cannot be addressed by the current database:
 - a) With over one-third of the victims treated in the SFGH ED and released back to the community, how often do providers recognize the need for referrals to recidivism reduction programs?
 - b) When providers do identify the need for a referral, how often do the victims and program staff follow through?
 - c) How often do victims refuse to accept referrals?
 - d) How long do the victims participate in the programs?
- ii. Are there a sufficient number and range of victim referral services available in SF?
 - a) What types of programs are the most successful?

¹Violence Prevention Network. *Roadmap for Preventing Violence*. San Francisco Department of Public Health, Community Health Education Section; 2001.

- b) What factors are important in the decision by a victim to agree to participate in recidivism reduction or counseling programs?
- iii. With large numbers of shootings occurring in homes or nearby, how can home safety be improved?
 - a) When victims are discharged home from the SFGH ED or SFGH, are precautions taken to ascertain their ongoing safety?
 - b) How often are there children and youth at risk in these homes where acts of violence have occurred?
 - c) Are firearms stored properly to assure that children cannot have access?
- iv. What are the long-term outcomes of the victims of violent injury?
 - a) How many victims are injured or killed later?
 - b) Did the victim have a history of drug abuse?
 - c) Are victims who are drug addicts and abusers more likely to be victims of violence?
 - d) How many victims receive victim assistance?
 - e) How many victims return to work?
 - f) What are the outcomes of the perpetrators? Were charges filed, were charges dropped or reduced? Was the perpetrator incarcerated? Where? For how long?
- v. What is the impact of prevention efforts or new legislation on violent death and injury rates?
 - a) Can it be determined that the changes were attributable to any of the activities or legislation?
 - b) What other factors may be responsible for changes in violent injuries?
- vi. Because victims are also often perpetrators of violence, how can the SFFIRS database contribute to the development of risk screening tools used by law enforcement, criminal justice, and health care providers?
- vii. What is the impact of the SFFIRS on violent injury prevention?
An annual evaluation will be conducted to review project milestones; determine the timeliness and consistency of data transfer efforts by partner agencies; provide feedback on the adequacy and usefulness of the standard and custom report generating options; and provide examples of the ability to effectively link community-level program data with surveillance data for special analyses on the impact of violence prevention efforts on injury trends over time.

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