

Underreporting of Justifiable Homicides Committed by Police Officers in the United States, 1976–1998

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Justifiable homicides committed by police officers are important in regard to public health because they have a distinctive etiology and because the intentional killing of citizens by an agent of the government has consequences for communities that go far beyond the immediate loss of life. Almost every major civil insurrection that occurred in the United States in the past century was initiated or accelerated by the perception that the police had misused their right to use deadly force.^{1,2} These incidents frequently cause large numbers of injuries and deaths, and they disrupt the social and economic relationships through which essential economic, health, public safety, and social services are provided to communities.^{3–5}

Also, the perception that police devalue the lives of some citizens may reduce citizen cooperation in reporting crime or assisting police in investigations and may generally degrade the quality of justice.⁶ The ability to accurately assess the incidence and characteristics of justifiable homicides committed by police officers is central to the development and evaluation of policies that promote public health and safety.

In the United States, 2 national systems—the Uniform Crime Reporting Program of the Federal Bureau of Investigation (FBI) and the National Vital Statistics System (NVSS) of the National Center for Health Statistics—collect information on homicides committed by law enforcement officers in the line of duty. Research conducted with special populations suggests that both systems underreport the number of citizens killed by police officers.^{7–10} However, there has been no comprehensive comparison of estimates from the 2 systems.

In this study, we took advantage of the presence of multiple reporting systems and assessed the consistency of estimates from the 2 systems during the 23-year period encompassing 1976 through 1998. We show

Objectives. This study assessed the consistency of estimates of the number of justifiable homicides committed by US police officers and identified sources of underreporting.

Methods. The number of justifiable homicides committed by police officers between 1976 and 1998 was estimated from supplementary homicide report (SHR) and National Vital Statistics System (NVSS) mortality data.

Results. Nationally, the SHR estimate was 29% larger than the NVSS estimate. However, in most states this pattern was reversed, with more deaths reported in the NVSS.

Conclusions. Both systems underreport, but for different reasons. The NVSS misclassifies cases as homicides, rather than justifiable homicides committed by police officers, because certifiers fail to mention police involvement. The SHR misses cases because some jurisdictions fail to file reports or omit justifiable homicides committed by police officers. (*Am J Public Health.* 2003;93:1117–1121)

here that both systems underreport the number of justifiable homicides committed by police officers, and we identify major sources of undercounting.

BACKGROUND: THE 2 SURVEILLANCE SYSTEMS

Complete descriptions of the systems are available elsewhere.^{11–13}

Uniform Crime Reporting Program

The Uniform Crime Reporting Program relies on the voluntary participation of state and local law enforcement agencies in submitting monthly information about crime. The FBI coordinates the program, but many states also have coordinating agencies that forward information from local agencies to the FBI.

The key form in regard to assessing the number of justifiable homicides committed by police officers is the supplementary homicide report (SHR), which collects information (victim and offender characteristics, relationship between victim and offender, weapon, and circumstances) on each homicide incident reported by a given agency. Among other items, the SHR provides a short field in which agencies are instructed to “furnish a brief statement as to the circumstances surrounding the victim’s death.”^{12(p64)} This information is coded, according to Uniform Crime Reporting

Program guidelines, by staff of the state agency or the FBI.

If the description of the circumstance mentions that the decedent was killed by a police officer or other “peace officer” (persons with specified legal authority to use deadly force) acting in the line of duty, the case should be coded as a justifiable homicide committed by the police. Agencies are instructed to provide information based on the initial police investigation, not on subsequent decisions made by prosecutors or courts.

National Vital Statistics System

Production of NVSS data can be divided into 2 general phases, certification and classification. State laws require the certification of all deaths, and, in the case of homicides, they require certification by a medical examiner or coroner. Medical certifiers supply information about cause and manner of death, whereas other information is typically collected and entered by funeral directors. The certificate, when complete, is filed with a designated registrar of the district in which the death occurred.^{13–15}

In terms of identification of justifiable homicides committed by the police, the 2 essential items on the death certificate are (1) the manner-of-death statement (wherein the certifier selects from the following options: natural, accident, suicide, homicide, pending

investigation, or could not be determined) and (2) an open text field that asks the certifier to “describe how the injury occurred.” Instructions for completing these items do not mention justifiable homicides committed by the police or explicitly indicate that police involvement should be mentioned. The handbook that provides instructions for medical examiners and coroners simply states the following:

Briefly and clearly describe how the injury occurred, explaining the circumstances or cause of the accident or injury, such as “fell off ladder while painting house,” “ran off roadway,” or “car–truck collision.” For motor vehicle accidents, indicate whether the decedent was a driver, passenger, or pedestrian.^{16(p39)}

Certifiers do not directly classify the case as a justifiable homicide committed by the police, nor are they required to certify whether the killing was legally justifiable.

In the classification phase, the information from the death certificate is used to classify cause of death according to the *International Classification of Diseases (ICD)*. Information on manner of death (homicide, suicide, unintentional) is combined with information on underlying cause of death by means of the *ICD* E-codes used for deaths due to injury and poisoning.¹⁷ The classification should be correct if the certifier designates manner of death as a homicide and indicates, in the “describe how the injury occurred” statement, that the decedent was killed by the police.

METHODS

We compared SHR and NVSS estimates of the number of justifiable homicides committed by police officers during a 23-year period by demographic group (sex, age, and race), state, and year. Direct and probabilistic record linkage was not possible because there were no unique identifiers common to both public use data sources, and common variables (state, county, year, age, sex, race, and weapon) lacked discriminating power.

We obtained SHR^{18,19} and NVSS²⁰ data for 1976 (the year after an extensive revision of the SHR²¹) through 1998 (the most recent year for which data were available). SHR cases were geographically classified according to the locale (police jurisdiction) in which the injury

occurred, whereas NVSS cases were classified by place of death. Only deaths occurring in the 50 states and the District of Columbia were included. Incident-level SHR data were converted to a victim-level format so that they were consistent with the NVSS data.

The SHR and NVSS case definitions were logically equivalent. For the SHR, we counted *justifiable homicides committed by police officers*, defined as the “killing of a felon by a peace officer in the line of duty.”^{12(p6)} For the NVSS, we counted deaths in which the underlying cause was attributed to *legal interventions*, defined as “injuries inflicted by the police or other law enforcement agents, including military on duty, in the course of arresting or attempting to arrest law breakers, suppressing disturbances, maintaining order, and other legal action” in accord with codes E970 through E977 of the eighth (*ICD-8*) and ninth (*ICD-9*) revisions of the *ICD*.^{22,23} We excluded legal executions (code E978). The definitions just described specify a subset of homicides distinguished by the legal authorization of the agent and the act. Neither system is intended to include illegal killings committed by police officers.

The changes in collection procedures that occurred during the study period should not have affected estimates of the number of justifiable homicides committed by police. Although the FBI began accepting data in a new format in 1998, the system preserves all of the elements of the SHR.²⁴ In the case of the NVSS, revisions in US standard certificates of death in 1978 and 1989 changed the format of the manner-of-death item, explicitly including the option “pending investigation” (in 1978) and reformatting the item as a checkbox and adding “natural” to the list (in 1989).^{11,25,26} Furthermore, there were no changes in the definition of homicide or legal intervention between the *ICD-8* (used from 1968 through 1978) and the *ICD-9* (used from 1979 through the end of our study period). The comparability ratio (estimate of the number of cases using the *ICD-9* relative to the number using the *ICD-8*) for homicide and legal intervention was 1.0057 (95% confidence interval [CI]=0.9999, 1.0115).²⁷

According to the National Center for Health Statistics, the NVSS data cover more than 99% of US deaths.²⁸ Comparable SHR

estimates of number of homicide deaths were not available. The FBI has reported that the law enforcement agencies participating in the Uniform Crime Reporting Program represent between 95%²⁹ and 98%³⁰ of the US population; these figures are not applicable to the SHR, however, because some participating agencies do not submit the SHR form or submit fewer than 12 monthly reports.¹³ No adjustments were made in the case of the SHR public use data files for nonreporting and partially reporting agencies.

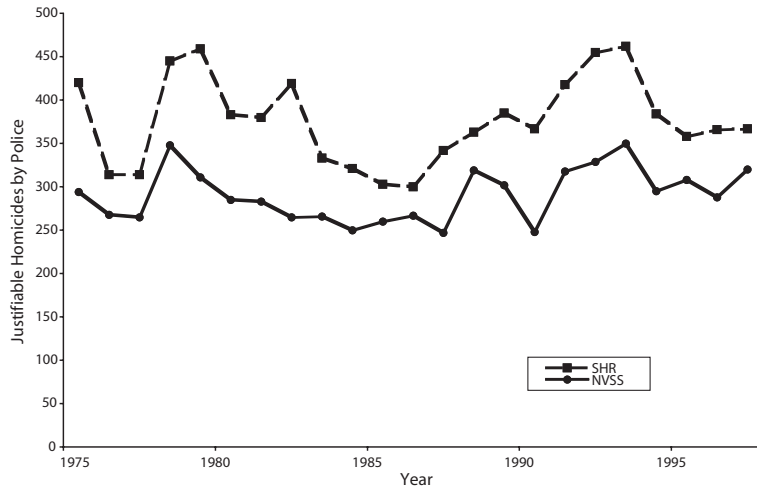
Coverage differences also arose because federal law enforcement agencies do not participate in the Uniform Crime Reporting Program. If killings committed by federal law enforcement agents (including members of the military acting as peace officers) occur in state and local jurisdictions, they are covered by the SHR. However, if they occur in an area under federal jurisdiction (such as a national park, federal prison, or military base), they are not reported in the SHR.¹³

Whereas the NVSS imputed missing data for race,²⁸ the SHR assigned a missing data code. In the case of age, the SHR included an “unknown” category, and the NVSS included a “not stated” category. Annual state residential population estimates were obtained from the US Bureau of the Census.^{31–33}

RESULTS

Findings showed that the SHR consistently reported more justifiable homicides committed by the police than did the NVSS (Figure 1). Overall, the SHR estimate of the number of such homicides was 29% larger than the NVSS estimate (8658 vs 6686). The pattern was stable over time, with a mean annual ratio (SHR to NVSS) of 1.3. An augmented Dickey–Fuller test³⁴ rejected the hypothesis of a nonstationary process (i.e., of a trend or drift) at the .05 level ($P=.02$) for the NVSS series but only at the .10 level ($P=.07$) for the SHR series.

If both series were stationary, their correlation ($r=0.73$) would be a reasonable measure of the strength of their association. If the series were nonstationary, the correlation of their differences (homicides in year t minus homicides in year $t-1$; $r=0.58$) would more accurately measure the association.



Note. SHR = supplementary homicide report; NVSS = National Vital Statistics System.

FIGURE 1—Annual numbers of justifiable homicides committed by police officers: United States, 1976–1998.

TABLE 1—Justifiable Homicides Committed by Police Officers, by Race of Decedent, as Reported in the SHR and NVSS: United States, 1976–1998

Race	SHR, No. (%)	NVSS, No. (%)	Ratio: SHR to NVSS
White	4832 (56)	4148 (62)	1.2
Black	3592 (41)	2359 (35)	1.5
Other	173 (2)	179 (3)	1.0
Unknown	61 (1)	0 (0)	0
Total	8658 (100)	6686 (100)	1.29

Note. SHR = supplementary homicide report; NVSS = National Vital Statistics System.

TABLE 2—Justifiable Homicides Committed by Police Officers, by Age of Decedent, as Reported in the SHR and NVSS: United States, 1976–1998

Age, y	SHR, No. (%)	NVSS, No. (%)	Ratio: SHR to NVSS
10–19	973 (11)	686 (10)	1.4
20–29	3613 (42)	2578 (39)	1.4
30–39	2333 (27)	1950 (29)	1.2
40–49	987 (11)	856 (13)	1.2
50–59	374 (4)	321 (5)	1.2
60–69	181 (2)	176 (3)	1.0
≥ 70	88 (1)	100 (1)	0.9
Unknown	109 (1)	17 (<1)	6.4
Total	8658 (..) ^a	6684 (..) ^a	1.3

Note. Two NVSS cases involving decedents younger than 10 years have been omitted. SHR = supplementary homicide report; NVSS = National Vital Statistics System.

^aColumn sum is not 100 because of rounding error.

The number of cases reported by the SHR exceeded the number reported by the NVSS in most sex, race, and age categories. More SHR than NVSS cases were reported among White and Black decedents (Table 1) and in every age category between 10 and 60 years (Table 2). There were relatively few cases and small differences between the systems in regard to decedents of unknown race and decedents older than 69 years. Also, small numbers of female cases were reported in both systems; over the 23-year period, the SHR reported only 206 female cases, whereas the NVSS reported 179.

In addition to the differences in reported number of cases, the excess of SHR reports over NVSS reports was greater for decedents who were Black and for decedents younger than 30 years. The ratio of SHR to NVSS cases was 1.5 for Black decedents but only 1.2 for White decedents (Table 1). For decedents between the ages of 10 and 29 years, the ratio was 1.4 or greater; for decedents between the ages of 30 and 59 years, however, it was no larger than 1.2 (Table 2).

When cases were stratified by state, a different pattern was revealed. In contrast to the excess of the SHR over the NVSS in terms of the number of cases reported nationwide, more than half of the states (29) reported more NVSS than SHR cases. The pattern is clear in Figure 2, in which the states and the District of Columbia are ranked according to ratio of SHR to NVSS counts. The aggregate national difference favoring the SHR is caused by a systematic relationship between state population sizes and the excess of SHR over NVSS cases. States reporting more SHR cases tended to have larger populations than did states reporting more NVSS cases (Pearson $r=0.58$ between ratio of SHR to NVSS counts and mean study period population). The most prominent example was California, with 1089 more cases reported in the SHR than in the NVSS, but Texas, New York, Illinois, Pennsylvania, Michigan, and other large states also reported more SHR cases than NVSS cases.

DISCUSSION

Both the SHR and the NVSS underreport homicides committed by police officers, but for different reasons. In the case of the SHR,

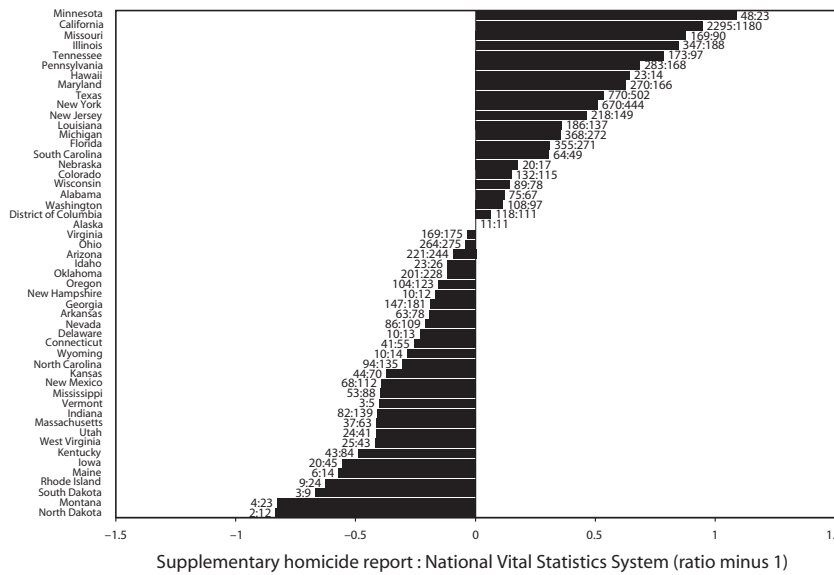


FIGURE 2—Justifiable homicides committed by police officers, by state: United States, 1976–1998.

It is unknown why certifiers fail to mention police involvement or why some law enforcement agencies do not include justifiable homicides committed by the police in the SHR. If such information is to be supplied, it must be known that the death was caused by the police, the relevance of the information must be recognized, and the will to provide the information must be present. A national sample of cases of known justifiable homicides committed by police officers should be examined to determine how the factors described operate to reduce reporting. Although general-purpose data systems such as vital statistics systems and the Uniform Crime Reporting Program cannot provide the same level of accuracy as studies focusing specifically on homicides committed by police officers,^{37,38} a better understanding of the structure of errors would suggest ways to improve the quality of reporting.

As it stands, however, there is a need for accurate and reliable ongoing surveillance of reports of justifiable homicides. Ideally, such a surveillance system would provide the detail necessary to adequately describe the circumstances surrounding justifiable homicides committed by police officers, an element that neither the existing SHR nor the NVSS can supply. If it is unrealistic to recommend fundamental changes to existing data systems, it may be worthwhile to explore the option of designing a new, more reliable and comprehensive system.

Because both the SHR and NVSS underreport in systematic ways, existing data should be used cautiously. The correlation between the annual series, along with the correlation between the monthly series (not described here), implies that the SHR and NVSS follow broadly similar patterns over time. Thus, one might use the series to investigate overall national trends. Even here, however, the relationships are approximate, and inferences about changes within subgroups may be misleading.

There is reason to believe that the SHR estimates may be of use in comparisons involving large cities. Sherman and Cohn compared SHR estimates of the number of justifiable homicides committed by police officers between 1980 and 1983 with survey data they had collected from a sample of large cities.³⁹ Although the authors reported discrepancies (differences of at least 1 case) between values

both agency nonresponse (failure to file SHR forms) and incomplete information on the filed reports are responsible for the underreporting of homicides, including justifiable homicides committed by the police. A small number of agencies do not participate in the Uniform Crime Reporting Program, but a larger number of participating agencies do not file the SHR forms or do not file them every month. The important point is that the SHR estimates are known to be biased downward because some agencies do not file the necessary forms.^{35,36} The SHR may also fail to report certain cases because they occur under the jurisdiction of federal law enforcement agencies or because some agencies fail to report justifiable homicides committed by police officers as a result of a belief that only criminal homicides should be reported (New York State Commission on Criminal Justice and the Use of Force, unpublished data, 1987).

In the case of the NVSS, the major reason for underreporting is that certifiers fail to indicate on the death certificate that the death was caused by a police officer. If there is no mention of police involvement, the case will be misclassified as a homicide. There is considerable evidence that omission of police involvement from the description of how the injury

occurred is responsible for the misclassification of legal interventions as homicides. First, studies of the validity of homicide classification based on death certificates have shown that legal interventions are misclassified as homicides.^{7,8,10} Second, a study conducted by the New York State Commission on Criminal Justice and the Use of Force revealed that, during the 5-year period 1981 through 1985, only 38% of the 223 cases identified in police agency records as justifiable homicides were correctly classified in death certificate records. In all of the misclassified cases, the death certificate failed to indicate that the decedent's death was caused by a police officer (New York State Commission on Criminal Justice and the Use of Force, unpublished data, 1987).

Third, in a supplementary study, we examined copies of the death certificates of 16 decedents known, on the basis of police and medical examiner records, to have died as a result of legal interventions that occurred in Maryland during 1995. In each of the 7 cases in which the certifier mentioned the police in the "describe how the injury occurred" statement, the case was correctly classified as a legal intervention. In contrast, in the 9 cases in which there was no mention of the police, the cases were classified as homicides.

in 63% of the years studied, the correlations (our calculations) between the values ranged from .95 to .97. Nevertheless, even in the case of large US cities, complete and consistent reporting of SHR data does not always occur, and extra care and caution are required when making such comparisons.

Our general conclusion is that, at present, reliable estimates of the number of justifiable homicides committed by police officers in the United States do not exist. The 2 national data systems fail to account for many cases and provide different estimates of the demographic characteristics of individuals killed by the police. Analyses of existing data should proceed cautiously. ■

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Contributors

C. Loftin was the team leader, participating in all phases of the work other than assembling the data files. B. Wiersema participated in designing the study, assembled the data, confirmed tabulations of the data, created the figures, and contributed to preparation of the article. D. McDowall participated in the data analysis and contributed to the writing of the article. A. Dobrin conducted the review of related studies, interviewed data experts at state police and coroner's offices, and assisted in the writing of the article.

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Human Participant Protection

Ethical clearance for this research was obtained from the institutional review board of the University at Albany, State University of New York.

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