Occupational homicide of law enforcement officers in the US, 1996–2010

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ABSTRACT

Objective To understand the circumstances surrounding the occupational homicides of law enforcement officers (LEOs) in the USA.

Methods Narrative text analysis of Federal Bureau of Investigation *Law Enforcement Officers Killed and Assaulted* reports.

Results A total of 796 officers were killed in the line of duty between 1996 and 2010. The occupational homicide rate during the time peaked in 2001 at 3.76/100 000 (excluding those killed during the September 11 2001 terrorist attacks), and was lowest in 2008 at 1.92/100 000. Most LEOs (67%) were killed by short-barrel firearms; 10% were killed with their own service weapon. The most frequent encounter with a suspect prior to a homicide was responding to a disturbance call.

Conclusions These results should inform officer training and the policies, as well as procedures used when interacting with suspects, especially when firearms are involved.

INTRODUCTION

The occupational injury fatality rate for law enforcement officers (LEOs) in the USA is three to five times the national average of private sector employees.[1 2] The work environment of LEOs presents common and uncommon risks for occupational injury death. LEOs are often exposed to well-established stressors, such as shift work and physical exertion, as well as more serious occupational hazards, including: assaults while on patrol; high-risk, high-speed driving; and the psychological stresses of killing a suspect or the on-duty death of colleagues.[3] Since nearly half of these occupational injury fatalities are homicides,[2] the purpose of this study was to understand the circumstances surrounding occupational homicides of LEOs in the US.

Background

Although in the US occupational homicides are declining nationally,[4] in 2010 over 10% of all fatal occupational injuries were homicides.[5] Law enforcement is an occupation with one of the highest occupational homicide rates at 5.6/100 000 workers,[2] a rate only exceeded by taxi drivers, and gas station and liquor store employees.[4] Due to these high rates, in 2009 the National Institute of Occupational Safety and Health (NIOSH) made reducing homicides of LEOs one of the strategic goals of the National Occupational Research Agenda.[6]

Law enforcement is a physically demanding and dangerous occupation. LEOs encounter situations where they must run short and medium distances, climb and jump off obstacles, wear heavy body armour, and engage criminal suspects in armed and unarmed combat.[2 3] Officers face the threat of physical violence and injury from criminals while on patrol. Furthermore, driving at high speeds in pursuit of suspects or in an attempt to reach a crime scene quickly also poses a threat to LEOs on-the-job.[1] In recent years, motor vehicle crashes have replaced occupational homicides as the leading cause of occupational mortality among LEOs.[2 4] Finally, almost all law enforcement agencies require LEOs to carry a weapon,[3] which sometimes leads to LEOs being killed with their own service firearms.[7]

According to the US Federal Bureau of Investigation (FBI), a law enforcement officer is one who: (1) works in an official law enforcement capacity, (2) has full arrest powers, (3) (usually) carries a badge, (4) (usually) carries a firearm, and (5) is paid from government funds set aside to pay agents of law enforcement.[8] This definition includes local, county, state, college/university, tribal and federal agencies comprised of police officers, sheriffs and deputies, highway patrol officers, marshals, and special agents; excluded are corrections officers, probation officers, jailers, bailiffs, prison officials and those without arresting powers. According to the Bureau of Justice Statistics, in 2008 there were 708 569 LEOs (ie, 'sworn officers') in the US.[9] Only 10% of LEOs are women, and less than 25% are of non-Caucasian race.[3] Approximately 16% of LEOs are 30 years old or younger, 35% are aged between 31 and 40, 30% are aged between 41 and 50, and 18% are aged 51 or older.[10]

Previous studies of occupational fatalities involving LEOs have primarily used the Census of Fatal Occupational Injuries (CFOI), a database maintained by the US Bureau of Labor Statistics.[2 5] Although the CFOI is valuable for determining fatality rates across industries and injury types, it is a general, nationwide census and therefore does not include details regarding the circumstances of occupational homicide of the law enforcement population. Understanding the incident-by-incident circumstances of LEO fatalities through this rich data source[8] can be important in helping agencies to adjust training and service procedures. By using detailed homicide narratives from annual Department of Justice reports, this study will describe officer characteristics, encounter scenarios, weapons used, and perpetrator information to explore cases of occupational homicide of LEOs in the US.

METHODS

Data sources

Data on homicides were collected from the *Law Enforcement Officers Killed and Assaulted*

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(LEOKA) reports from the FBI. The LEOKA reports are freely available online as part of the FBI's Uniform Crime Reporting (UCR) programme. The LEOKA reports contain summary information on intentional and unintentional fatalities of LEOs, as well as statistics on non-fatal assaults.[11] The data for the reports are collected by UCR programmes in each state, according to standardised reporting forms, and then compiled by the FBI UCR.[8] All available LEOKA reports, 1996–2010, were used in this study.

The FBI's *Uniform Crime Reporting Handbook*[8] describes the inclusion criteria for fatalities and assaults. Officers included in the reports are, 'duly sworn officers feloniously or accidentally killed or assaulted in the line of duty'.[8] This 'line of duty' designation describes on-duty or off-duty LEOs acting in an official capacity; that is, acting as if he or she would in his or her official duties as a LEO.

Each LEOKA report has a paragraph-length to page-long description of the encounter scenario surrounding each homicide. Below is an example narrative from the 1996 LEOKA report:

North Carolina: On April 15 at approximately 17 : 15, a 29-year-old patrol officer with the Oakboro Police Department was fatally wounded when he responded to a domestic disturbance call. The officer, with more than 2 years law enforcement experience, was the first officer on the scene. Exiting his vehicle, the officer walked to a small one-story house, approached the porch, and was immediately hit by a single round to the chest. The shot, fired from a 0.30–30 calibre lever-action rifle, came from inside the house through a closed window. The bullet penetrated the body armour worn by the officer, killing him instantly, and lodged in the back panel of the protective vest. The alleged assailant then exchanged gunfire with the police chief, who had followed as backup to the victim officer. Wounding each other, the chief and the suspect were taken to the hospital for treatment. The chief recovered from his wound and returned to duty. The 42-year-old suspect was arrested and charged with murder and has been adjudicated incompetent to stand trial.

We used narrative text analysis of these scenarios for data collection, a method that has been used in past studies of injury events.[12 13] Although this method is limited by what information is and is not entered into the reports (ie, data collection reflects what the editors of the reports choose to include and exclude when compiling the narratives), narrative data are often rich and allow for in-depth exploration of injury circumstances and data not summarised in usual statistical analyses.[12] Narrative text analysis is a valuable method used in descriptive injury epidemiological studies seeking to determine the burden of a hazard in a previously underdescribed population.[14]

To construct a data entry template for coding factors surrounding the homicide, one member of the study team (DIS) read through narratives covering 2 years and identified those elements that directly and indirectly lead to the homicide.[15] The 'encounter scenario' variables described the root cause of the homicide encounter: the primary scenario was the main reason a LEO was on the scene or interacting with a suspect and the secondary encounter was secondary to, or resulted from, the primary encounter. The list of different categories of encounter scenarios was populated until saturation was reached. During data collection, the data coding team met and concluded that additional encounter categories were necessary. For example, coders frequently recorded instances where the officer was called to an area on a disturbance call or investigation (primary encounter) only to be ambushed by the suspect once the LEO arrived on the scene (secondary encounter). Alternatively, for an ambush to be the primary encounter, the LEO/LEOs would have had to been attacked without warning. The homicide scenarios were coded by the data collection team to capture primary and secondary encounters.

To calculation occupation homicide rates, denominator data on the number of workers employed as LEOs was downloaded from the US Current Population Survey (CPS).[16] The CPS is a nationally representative sample of 50 000 workers providing data on employment, demographic information, occupation, industry, and other labour force characteristics. The database is maintained by the US Census Bureau and the US Bureau of Labor Statistics and is publically available online.

In the CPS, workers are classified by occupation according to Standard Occupation Codes (SOCs). In 2003, the SOC system was updated to reflect the North American Industry Classification System.[17] Thus, different methods were used to generate the denominator for the years prior to and after 2003. For 1996 to 2002, we collected the number of Supervisors, Police and Detectives (SOC code 414), Police and Detectives, Public Service (418), Sheriffs, Bailiffs, and Other Law Enforcement Officers (423), and Guards and Police, Except Public Service (426).[16] For 2003 to 2010 we collected the number of First-Line Supervisors/Managers of Police and Detectives (33–1012), Detectives and Criminal Investigators (33–3021), Police and Sheriff's Patrol Officers (33–3051), Transit and Railroad Police (33–3052), and Security Guards and Gaming Surveillance Officers (33–9030). Although the change in denominator data affects the precise rate calculations, our analysis only describes general trends in rates and does not undertake a precise year-on-year comparison. Furthermore, the change in total LEOs from 2002 to 2003 when the SOCs changed, a 7% decrease, was less than the 13% increase in LEOs from 2001 to 2002 when there was no change in coding.

The US Department of Justice's 'Census of State and Local Law Enforcement Agencies, 2008' lists the number of sworn personnel by state.[9] Number of homicides in a given state over the study period was analysed per 10 000 sworn personnel from local and state agencies in 2008. No data were available on the number of sworn LEOs in Puerto Rico, the Virgin Islands, or Washington, District of Columbia. The 2008 data on sworn personnel was only used for calculation of state homicide rates and not for homicide rates in the entire country across the study period. Although using only 1 year of personnel data limits the generalisability of state-level rates to other studies, this serves as a consistent comparison between states in this analysis.

Data analysis

An electronic template was generated to collect data on victim officer characteristics, the encounter scenario, and weapon involvement based on a review of the literature and variables of interest. The template was created using a single programme, allowing for easy, consistent data entry, and multiple coders were able to enter data at the same time.[18] The data collection team (CK, MMS, DIS) each entered data from 2003 as training, and reviewed discrepancies to insure consistent data entry. For discrepancies found, the data collection team worked together to resolve the differences. Each of the remaining 14 years of data was entered into the template by one coder. DIS reviewed a 10% sample of entries for accuracy. The template is included as online supplementary material with this article. After data entry was complete, the homicide data were downloaded from the web-based database and analysed using Stata IC V.12.0 (Stata Corp, College Station, Texas, USA).

At the time of analysis, LEOKA reports are available from 1996 through 2010. The FBI excluded from the narratives the 72 LEOs who were killed in the 11 September 2001 terrorist attacks, stating that this event fell so far outside the usual police experience that it would skew any analysis.[19] Because of this, we also excluded these officers from analysis. The narratives deidentify the names of the victim officers. Since the data are publically available, this study was deemed to be 'Not Human Subjects Research' by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board.

RESULTS

There were 796 LEOs killed in occupational homicides from 1996 through 2010. Overall, 735 (92%) were men, 34 (4%) were women, and the officer's gender was not indicated the narrative in 27 (3%) cases. Average age and experience for the entire sample were 37.4 and 10.2 years, respectively. Occupational homicide rates peaked in 2001 (even excluding those killed in the September 11 2001 attacks) at 4.3/100 000 LEOs, and the lowest rate of 2.0/100 000 LEOs occurred in 2008 and 2010. Figure 1 displays the homicide rates across the study.

Victim officers were working alone in 342 cases (43%). Officers were wearing body armour of any kind when they were killed in 461 cases (58%), 54 (7%) were wearing none, and in 281 (35%) cases, presence of body armour was unknown. More than 1 officer was killed or wounded during a single incident in 237 cases. Victim officers died at the scene in 225 cases (28%), 326 (41%) did not die at the scene, and 245 (31%) died at an undetermined location. Table 1 displays the weapons used in the homicide, and the location of the fatal wound. Over 90% (739/796) of homicides were perpetrated with a firearm. Of these 739 firearm homicides, 535 (72%) were short-barrelled weapons and 203 (28%) were long-barrelled (with 1 unknown). The most common calibres found in short-barrelled weapons were 9 mm (n=137), 0.38 or 0.380 (n=107), 0.40 (n=75) and 0.45 (n=51). For long-barrelled firearms, the most common calibres were 7.62×39 mm (n=55), 12-gauge (n=42), and 0.223 (n=26). In 77 cases (10%), LEOs were killed with their own or another officer's service weapon. The states with the most homicides with service weapons were Georgia (n=6), Illinois (n=6), Louisiana (n=6), California (n=5), Mississippi (n=5), Florida (n=4), and New York (n=4).

Table 2 displays the primary and secondary encounter scenarios preceding the homicides. The most frequent encounter situation preceding homicide of an officer was responding to a disturbance call (23%). Disturbance calls (n=180), vehicle stops (n=139), and investigations (n=136) were the only scenarios to occur more than 60 times throughout the study period. Further analysis of these 180 disturbance call cases revealed that in 52 (29%) cases the assailant was waiting to ambush the responding officer; 81 (45%) of these homicides were perpetrated using a long-barrelled firearm; 69 (38%) officers killed in this situation were working alone. In 140 (18%) cases, the victim officer was ambushed after the initial encounter had begun. All of these 'secondary ambush' situational homicides were perpetrated with a firearm; 52% were conducted with a long-barrelled weapon and 48% were conducted with a short-barrelled weapon.

In 773 cases, the suspected assailant was known, leaving only 23 unknown homicide perpetrators. Of all the cases, only 134 (17%) encounters involved more than 1 assailant. Using this information, we were able to conduct some further analysis of assailants: 126 (16%) assailants were mentioned to be under the influence of drugs or alcohol, and 169 (21%) were known drug offenders despite no mention of drug use during the fatal encounter.

Table 3 displays the 10 states and territories with the most and least occupational homicides of LEOs during the study period as well as the states with the highest and lowest homicide rates. The number of sworn state and local personnel in 2008 was used to approximate a homicide rate for LEOs over the study period. Although California had the highest homicide count, its homicide rate was only 9.2 per 10 000 sworn personnel in 2008. For the states with the lowest, non-zero homicide counts in table 3, the homicide rates for Nebraska, North Dakota, Rhode Island, and South Dakota were between 3.5 and 7.6 per 10 000 sworn personnel. Puerto Rico had the seventh highest total homicides (n=29) during the study period, yet we lacked the necessary data to analyse its homicide rate. Table 4

Table 1 Weapon used in the homicide, location of the fatal wound

Weapon	n (%)	Wound location	n (%)
Firearm	739 (92.8)	Head/neck	439 (55.1)
Vehicle	37 (4.6)	Upper torso	228 (28.6)
Explosive device	9 (1.1)	Multiple sites/undetermined	63 (7.9)
Stabbing weapon	6 (0.8)	Other (eg, lower torso)	53 (6.7)
Blunt object	3 (0.4)	Unknown	13 (1.6)
Unarmed	2 (0.3)		

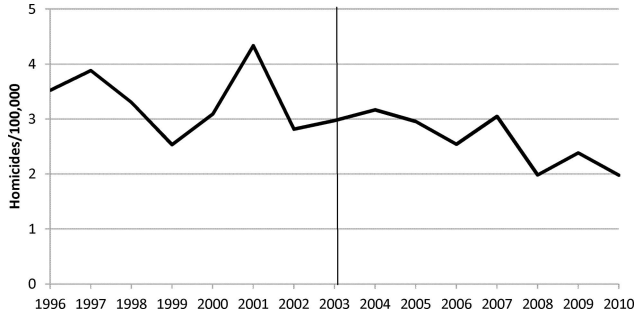

Figure 1 Homicide rate for law enforcement officers (LEOs) in the US, 1996 to 2010. The vertical line represents change in Current Population Survey (CPS) coding.

Table 2 Frequency of primary and secondary encounter scenarios preceding law enforcement officer (LEO) occupational homicides

Encounter situation	Primary scenario (n (%))	Secondary scenario (n (%))
Ambush	60 (7.5)	140 (43.2)
Arrest call	37 (4.6)	4 (1.2)
Crime in progress report	26 (3.3)	1 (0.3)
Disturbance call	180 (22.6)	1 (0.3)
Handling/transporting inmates/suspects	21 (2.6)	55 (17.0)
Investigations	136 (17.1)	10 (3.1)
Mentally disturbed individual	17 (2.1)	23 (7.1)
Serving a warrant	48 (6.0)	1 (0.3)
Vehicle stop	139 (17.5)	4 (1.2)
Vehicle pursuit/chase	43 (5.4)	29 (9.0)
Other	89 (11.2)	56 (17.3)

Table 3 States and territories with the most and least homicides, 1996–2010, and the highest and lowest homicide rates

Most homicides	n	Highest rate*	Rate per 10 000	Least homicides	n	Lowest rate*	Rate per 10 000
California	73	Alaska	77.0	Iowa	0	Iowa	0.0
Texas	69	Arkansas	32.5	Maine	0	Maine	0.0
Florida	37	Mississippi	29.8	Vermont	0	Vermont	0.0
Georgia	37	Alabama	20.6	Wyoming	0	Wyoming	0.0
North Carolina	33	South Carolina	20.6	Nebraska	1	Massachusetts	2.1
Louisiana	32	Washington, DC	18.8	North Dakota	1	Connecticut	2.4
Puerto Rico	29	New Mexico	18.0	Rhode Island	1	Nebraska	2.7
Illinois	28	Louisiana	17.7	South Dakota	1	New Jersey	3.0
Pennsylvania	28	New Hampshire	17.0	Virgin Islands	1	New York	3.5
Ohio	26	Idaho	15.9	Connecticut	2	Rhode Island	3.5

Rates calculated as total homicides over number of sworn personnel in 2008.
*Rate calculations exclude Puerto Rico and the Virgin Islands.

displays homicides counts and rates by region of the country as described by the FBI.[8]

DISCUSSION

The downward trend in occupational homicide rate for LEOs seen in this study is consistent with nationwide trends of decreasing homicide rates,[20] rates of fatal occupational injuries,[5] and occupational homicides.[4 10] These results were also consistent with previous research that found that approximately 90% of homicides of LEOs were perpetrated with firearms.[1 2]

We found that the most common calibre cartridges for short-barrelled weapons (ie, pistols, revolvers, or semiautomatic handguns) were the 9 mm and 0.38/.380. This finding is consistent with research by Molina and DiMaio[21] who investigated the most commonly used handgun calibres in homicides. Molina and DiMaio also found that homicides perpetrated with a 9 mm or large calibre handgun (eg, 0.40 or 0.45) were becoming more common in the mid-1990s than small calibre guns (eg, 0.22 or 0.25). Only 43 LEO homicides were perpetrated with small calibre handguns such as 0.22 or 0.25 models. Although these small handguns used to be commonly used in homicides,[22] legislation targeting the manufacture of these small guns, referred to as 'Saturday Night Specials', or 'junk guns', can reduce their use in all homicides.[23] Although such laws have been successful in reducing gun deaths, analysis of firearm legislation points to the liberalisation of state regulations in regards to obtaining firearms.[24]

Table 4 Regional homicide counts and rates (per 10 000 sworn personnel in 2008)

Region (states by code)	Total fatalities, 1996–2010	Rate per 10 000 sworn personnel in 2008
New England (CT, MA, ME, NH, RI, VT)	12	3.43
Middle Atlantic (NJ, NY, PA)	61	4.78
South Atlantic (DC, DE, FL, GA, MD, NC, SC, VA, WV)	181	11.57
East South Central (AL, KY, MS, TN)	81	18.77
East North Central (IL, IN, MI, OH, WI)	106	9.37
West North Central (IA, KS, MN, MO, ND, NE, SD)	39	8.82
West South Central (AR, LA, OK, TX)	132	14.24
Mountain (AZ, CO, ID, MT, NM, NV, UT, WY)	45	9.02
Pacific (AK, CA, HI, OR, WA)	109	10.68
Territories (PR, VI)	30	Unknown

Another explanation for the infrequent use of small calibre weapons in homicides of LEOs could be that the LEOs were wearing body armour that stopped fatal penetration of such small arms fire.[25 26] In 90% of cases where the data was available, the victim LEO was wearing body armour. It is possible that unless a LEO is wearing body armour rated to stop large calibre ammunition, he or she is more susceptible to homicide by these larger calibre handguns and more protected against smaller calibre handguns. The data available did not allow for a more detailed analysis of the protective effects of body armour. Since this study did not analyse non-fatal assaults on LEOs, we cannot compare the risk for fatal to non-fatal assaults by handgun calibre. This study also did not compare firearm calibre to wound location. A majority of fatal wounds were to the head and neck in this study, where body armour protection is less likely. Further analysis of fatal and non-fatal firearm assaults should include a crosstabulation of wound location and calibre. Future analysis of local small calibre firearm policies and law enforcement agency body armour regulations could be useful in describing why smaller calibre handguns are not used as frequently in homicides of LEOs.

Although long-barrelled firearm fatalities were less common than short-barrelled weapon homicides, how they were used is still very informative. Of these 203 homicides, 85 (42%) were perpetrated with 2 calibres of bullets (7.62×39 mm and 0.223) commonly found in assault weapons. Over half of 'secondary ambush' homicides were perpetrated with long-barrelled weapons, compared to only 28% of all LEO homicides. In a study of intimate partner violence-related homicides of LEOs, Kercher and colleagues describe how court proceeding might provide knowledge of firearms presence at a residence, thus decreasing the likelihood of secondary ambush in these situations.[27] A more thorough analysis of all secondary ambush situations could allow for LEOs to be more alert for this threat and suggest protective countermeasures.

Another issue facing LEOs is the threat of being killed by their own or another officer's service weapon, which, in our study, occurred in 10% of cases. One option to counter this would be 'personalising' the LEO's firearm such that only the LEO (and possibly his/her partner) could fire it.[28] Weiss[7] studied the potential use of personalised firearms by LEOs to

prevent this problem and found much resistance to these technologies from the law enforcement community. Yet Weiss also states that LEOs underestimate the frequency of 'takeaways' (when a LEO loses possession of his/her firearm to another individual) and homicides committed with service weapons.[7] It is possible that increased dissemination of the magnitude of this problem might convince LEOs that personalised firearms are a worthwhile safety feature that could protect them and their fellow officers. The 77 homicide narratives contained in the FBI's LEOKA reports are a rich source for educating and training LEOs on this hazard. We would recommend a qualitative analysis of the LEOKA data in concert with other newspaper reports or other information available surrounding these homicides.

Occupational homicide of LEOs is a fairly rare event. Only California and Texas, the two most populous states, had at least one LEO homicide in each year of the study. Studying each of the 50 states in detail is beyond the scope of this analysis. In table 4, the New England and Middle Atlantic regions have much lower LEO homicide rates than the rest of the country. New Jersey and New York, states in the Middle Atlantic, have among the lowest LEO homicide rates during the study period. Yet Pennsylvania, the third state in the Middle Atlantic region, had the eighth most homicides and a rate three times higher than New York or New Jersey (data not shown). The two regions with the highest LEO homicide rates were the East South Central and the West South Central, which, when combined, cover the southern US from Alabama to Texas from the Gulf of Mexico north to Kentucky. A further analysis of state laws and culture between and among these regions could lead to insight as to why some states have higher versus lower LEO occupational homicide rates.

Limitations

These results may be limited because of how cases are defined, coded and collected for the LEOKA. The LEOKA reports occasionally exclude homicide narratives in the event that a legal case is ongoing so as not to influence the outcome in any way. The FBI does not indicate which cases are included in the LEOKA summary statistics yet excluded in the narrative section. Although the annual report is not released until months after the calendar year ends, selection bias may be present for the cases that the FBI chooses to exclude. Although state UCR programmes are directed to use uniform reporting standards, we know of no analysis showing that there is or is not between-state consistency in reporting.

The LEOKA also has a very strict definition of law enforcement officers. Although we were able to do a thorough analysis of these cases, we had no information on members of the greater criminal justice system, such as bailiffs or corrections officers. The strict LEOKA definition limits the generalisability of these findings to other public safety professions. An analysis of three different LEO fatality surveillance systems found that the LEOKA reported less LEO deaths annually than the Census of Fatal Occupational Injuries and the National Law Enforcement Memorial Fund annual report.[10] Thus, it is possible that this analysis of LEO homicides using all available LEOKA reports does not capture all LEO homicides.

Our analysis of LEO homicide rates was limited because we were not able to locate on the total number of LEOs employed in each state for each year of the study. Although using only the number of LEOs per state in 2008 was gave us a less robust estimate of rates, this at least provided a consistent, conservative comparison for the states. We could not conduct an in-depth analysis of if homicide rates were affected by the SOC coding change. However, we are confident in our conclusions that homicide rates for LEOs have continued to decrease because Hendricks and colleagues[4] and Tiesman and colleagues[10] found that these rates were decreasing before and after, respectively, the coding change.

CONCLUSIONS

Although the rate of occupational homicide of LEOs is decreasing, as reflected by these data, officers continue to be at risk of violent death. Since handguns pose the greatest homicide risk for LEOs, further efforts are needed to examine the impact of firearm accessibility and service weapon takeaways on homicide of LEOs, the latter comprising 10% of homicides. Furthermore, these data highlighted a number of instances where officers were ambushed after they had arrived on the scene, putting them at increased risk for homicide by a powerful long-barrelled firearm. Going forward, these data may be vitally important to LEOs for training and establishing safer procedures.

What is known on this subject

- Law enforcement officers (LEOs) have one of the highest occupational fatality rates in the USA.
- Much of this increased rate is due to occupational homicide.
- Firearms are a major cause of occupational homicides to LEOs.

What this study adds

- Descriptions of encounter scenarios preceding LEO occupational homicides.
- Occupational homicide rates peaked in 2001 and have been decreasing steadily.
- Two-thirds of LEO occupational homicide victims were killed with a short-barrelled firearm, the leading weapon type used to kill officers.

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Contributors DIS conceived of the study, designed the analysis, and led interpretation of the data. CK and MMS assisted in designing the analysis and in interpretation of results. KMP assisted in design of the study, and interpretation of results. All authors participated in drafting the article and approved of the final version.

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Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement All data used in the study are freely available online from various agencies of the US government. The data collection instrument will be made available as an online supplement to this article.

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