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RESEARCH ARTICLE

Resistance-Related Injuries Among Law Enforcement Officers: Addressing the Empirical Gap

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Introduction: Officers can be unintentionally injured during officer–suspect interactions, and these injuries are often not coded as assaults. This article defines and enumerates injuries that officers sustain while chasing, detaining, arresting, or pursuing suspects. These are termed resistance-related injuries.

Methods: Data on law enforcement officer injuries treated in U.S. emergency departments were obtained from the National Electronic Injury Surveillance System–Occupational Supplement from 2012 to 2017. Resistance-related injuries were defined using the Bureau of Labor Statistics Occupational Injury and Illness Classification System, version 2.01. Injury rates were calculated using denominators from the Current Population Survey. Negative binomial regression was used to analyze temporal trends. Data were analyzed in 2019.

Results: Between 2012 and 2017, an estimated 303,500 officers were treated in U.S. emergency departments for nonfatal injuries for an overall injury rate of 568 per 10,000 full-time equivalents. Emergency department–treated injuries significantly decreased by 3.8% annually during this time period ($p<0.0001$). The leading causes of injury were assaults and violent acts (48%), transportation incidents (11%), and falls (11%). Of the total injuries, more than half were resistance-related (53%). A total of 88% of violence-related injuries, nearly 50% of falls, and 31% of overexertion injuries were considered resistance related.

Conclusions: More than half of officers' nonfatal injuries occurred when they were interacting, detaining, or pursuing a suspect. This highlights the need to code nonfatal injuries in a consistent and meaningful way that informs police policy and practice.

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INTRODUCTION

Law enforcement remains an inherently dangerous profession. According to the most recent data from the National Law Enforcement Memorial Fund, in 2018, a total of 158 federal, state, and local officers died in the line of duty.[1] Of these, 53 (34%) officers died of firearms, 51 (33%) died in traffic-related incidents, and 48 (30%) because of job-related illnesses.[1] It is unknown if officers' nonfatal injuries parallel their fatal injuries. As in other occupations, law enforcement nonfatal injury data are hard to define, capture, and study; however, the sensitive nature of the job as well as the stigma surrounding the use-of-force interactions makes nonfatal injury data capture challenging for law enforcement. Policy decisions should be based on sound epidemiologic injury data, yet fatality data represent a small fraction of an agency's total injury experience.

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Nonfatal injuries can involve significant medical costs, time away from work, long-term pain, and disabilities.[2]

Instead of a single, comprehensive nonfatal injury surveillance system in the U.S for law enforcement, surveillance is spread across multiple federal and state agencies. Each system has its own strengths and weaknesses, and data are collected to meet specific agencies' objectives.[3] Another source of nonfatal injury data for officers is workers' compensation systems, but these data have limitations: they are not nationally representative, not publicly available, and can vary across jurisdictions.[4] The only national data source for the surveillance of nonfatal injuries in law enforcement is the Federal Bureau of Investigation's Law Enforcement Officers Killed and Assaulted (LEOKA) program. As injuries due to assaults are a concern for law enforcement, one of the purposes for the LEOKA program is to inform training to reduce officer victimization and related injuries.[5] However, the LEOKA program suffers from data reliability issues owing in part to its voluntary participation. Most notable is the number of agencies not reporting, those reporting partial data, and others reporting inconsistent data.[6,7] In addition, although the LEOKA program aims to collect nonfatal assault-related injury data, it neglects the other ways that officers get injured while interacting with citizens.

The understanding of injuries that officers sustain while interacting with citizens is a gap in the science of nonfatal injuries in the law enforcement industry. By focusing efforts on injuries resulting from direct and intentional actions from suspects, law enforcement is missing part of the larger injury picture. Injuries also result from dynamic officer–suspect interactions that can escalate into physical altercations, especially when an officer is attempting to control a suspect.[8–11] An injury may get coded as an assault when a suspect intentionally injures an officer; however, unintentional falls or sprains can also occur during these interactions and are often not coded as assaults in traditional injury coding schemas. Assessing whether an officer's injury is the result of an intentional assault or occurs in a more indirect manner is important for prevention purposes but is difficult to ascertain from records. The question is whether these injuries make up a measurable number of events and if yes, how are they ascertained from injury databases?

One database offers researchers a chance to better understand nonfatal injuries among officers. The National Institute for Occupational Safety and Health, in collaboration with the U.S. Consumer Product Safety Commission, collects surveillance data on work-related nonfatal injuries and illnesses treated in U.S. hospitals with a 24-hour emergency department (ED). A recent analysis of these data found that 35% of officers' ED-treated injuries were due to assaults and violent acts.[12] The purpose of this article is to extend this work by reviewing the narrative text fields to define injuries that officers sustain while interacting, arresting, detaining, or pursuing suspects. These events are termed resistance-related injuries.

METHODS

Study Sample

Officers' nonfatal injuries treated in U.S. EDs between January 1, 2012 and December 31, 2017 were obtained from the National Electronic Injury Surveillance System–Occupational Injury Supplement (NEISS-Work). These were the most recent data available for analysis. The sample of NEISS-Work hospitals is a national probability sample of 67 U.S. hospitals stratified by the number of annual ED visits.[13] Injuries are identified from medical records by trained coders at each hospital. The NEISS-Work surveillance system considers an injury work-related if it occurred to a nonmilitary, non-institutionalized worker working for pay. This also includes those performing farm-related activities, traveling between locations as part of a job, or volunteering. To calculate national estimates, each case is assigned a statistical weight on the basis of the inverse probability of selection of the hospital in the sample, and adjustments are made for nonresponding hospitals annually. No IRB review was required because the analysis utilized existing surveillance data.

For this analysis, *officer* was defined as a state or local officer who carried a firearm and had full arrest powers.[12] Law enforcement occupations such as animal control officers, federal officers, security guards, and correctional officers were excluded.[12] NEISS-Work does not follow a standardized industry and occupation coding system; therefore, a stepwise process was used to identify law enforcement officers. Details of this process can be found elsewhere.[12] First, 3 main variables (occupation, business type, and employer) were searched for law enforcement keywords such as *police*, *police department*, and *NYPD*. Cases were included without further review if all the 3 variables included a keyword. The remaining cases were then reviewed manually to determine whether the injury could be attributed to police work. Cases were excluded if the narrative was generic (fell at work). Cases where the occupation was trainee were further reviewed because a trainee could be interpreted as a cadet or a sworn officer participating in physical training. All nonsworn officers were excluded. Questionable cases were reviewed by 2 additional co-authors.

Measures

Resistance-related injuries were defined using the Bureau of Labor Statistics' Occupational Injury and Illness Classification System, version 2.01.[14] Resistance-related injuries occurred during situations where a citizen or suspect resisted or obstructed the actions of an officer, resulting in injury to the officer. This definition included events when the officer was chasing, arresting, subduing, apprehending, tackling, or wrestling with a suspect. To find resistance-related injuries among all the ED-treated injuries, all the 8 Occupational Injury and Illness Classification System event codes were reviewed: violence and other injuries by persons or animals; transportation incidents; fires and explosions; falls, slips, trips;

exposure to harmful substances or environments; contact with objects or equipment; overexertion and bodily reaction; and nonclassifiable. Because of the differences in these 8 codes, a different case-finding methodology was used for each. This process is outlined in Table 1. First, all cases under the fire and explosions event codes were reviewed, and on the basis of the information in the narratives, no cases that met this case definition were found. Second, as the sample was large, a 10% random sample of cases from the transportation incidents event codes were reviewed and no cases that met this case definition were identified. Therefore, it was determined that the remaining transportation incidents could be excluded from the resistance-related definition without further review.

Next, cases from violence and other injuries by persons or animals were reviewed for inclusion; however, the following subcodes were excluded from the review: 112—self-inflicted injury (intentional) and 13—animal/insect-related incidents. All cases from the subcode 11—intentional injury by person were included without further review. The remaining cases within this event code were all manually reviewed and excluded from the resistance-related definition if the officer was in training or participating in a scenario-based exercise or if there were not enough details in the narrative text.

All cases from the falls, slips, trips; overexertion and bodily reaction; and contact with objects and equipment event codes were reviewed. Falls, slips, trips were included if the officer was chasing, apprehending, running after, or in a foot pursuit. Falls, slips, trips were excluded if there were not enough details in the narrative text or if the injury occurred during training. Overexertion and bodily reaction event codes were included if the officer was chasing, apprehending, subduing, or arresting a suspect. They were excluded if the officer was in training or if there were not enough details in the narrative text. The same inclusion and exclusion criteria were used for contact with objects and equipment event codes.

All cases from the exposure to harmful substances or environments event codes were also reviewed. Events where a suspect bit, spat, or scratched an officer were included. Because the transfer of bodily fluids can occur accidentally, the criterion to meet the definition of a resistance-related injury was more specific for this event code. The suspect had to take intentional action that resulted in the officer being potentially exposed to bodily fluids. Cases were excluded from the resistance-related definition if the officer was accidentally stuck by a needle while searching a suspect.

Statistical Analysis

Estimated resistance-related injuries with 95% CIs for officers were calculated using PROC SURVEYMEANS in SAS, version 9.3. Resistance-related injury rates were calculated as the estimated number of resistance-related injuries divided by the estimated number of full-time equivalent (FTE) workers and expressed as injuries per 10,000 FTE per year. Resistance-related injury rates were calculated using denominator data from the Bureau of Labor Statistics' Current Population Survey (CPS). The CPS is a national household survey conducted monthly on approximately 60,000 non-institutionalized residents aged ≥15 years.[15] The CPS provides information on the number of FTE workers on the basis of the 2010 Bureau of the Census Occupation codes. Federal officers and those aged <21 years were removed to match numerator data. The 95% CIs for resistance-related injury rates were calculated by pooling the variances for the NEISS-Work injuries and CPS data. Sociodemographics were compared with rate ratios and 95% CIs. Trends were analyzed using a negative binomial regression model to correct for overdispersion.

RESULTS

Between 2012 and 2017, an estimated 303,500 (95% CI=205,000, 405,000) officers were treated in EDs for a nonfatal occupational injury (Table 2). The leading cause of the ED visits was violence (48%), transportation incidents (11%), and falls (11%). An estimated 53% of officers' ED-treated injuries were considered resistance-related (161,200, 95% CI=97,100, 225,300). The vast majority of officers with resistance-related injuries were treated and released from the ED (*n*=158,000, 95% CI=94,600, 221,500, 98%), although an estimated 3,200 (2%) officers sustained injuries serious enough to require hospitalization.

A total of 88% of violence-related injuries were considered resistance related (*n*=129,000, 95% CI=73,600, 184,500). The remaining 12% of violence-related injuries were animal/insect bites, self-inflicted, unspecified, and training-related events. Nearly 50% of falls and 31% of overexertion injuries were considered resistance related (*n*=15,800, 95% CI=10,600, 21,000 and *n*=8,000, 95% CI=5,100, 10,900, respectively).

Between 2012 and 2017, the overall ED-treated injury rate for officers was 568 per 10,000 FTEs (95% CI=383, 754) (data not shown). The rate of overall ED-treated injuries among officers significantly decreased by 3.8% annually during this time period ($p<0.0001$). The resistance-related injury rate was 302 per 10,000 FTEs (95% CI=182, 421) (Table 3) and varied from year to year. In comparison with overall ED-treated injuries, resistance-related injuries also decreased, but this decrease was not statistically significant (2.4%, $p=0.09$).

Male officers experienced 89% of the resistance-related injuries and had the highest injury rate, although this difference was not statistically significant (rate ratio=1.3, 95% CI=0.4, 2.2) (Table 3). Three quarters of resistance-related injuries occurred among those aged 25–44 years, with the highest injury rate occurring among those aged 25–34 years (559 per 10,000 FTEs, 95% CI=303, 816).

The body parts most likely to be injured in a resistance-related injury were fingers and hands (*n*=40,900, 95% CI=24,500, 57,300, 25%), followed by upper extremity (*n*=36,000, 95% CI=21,300, 50,700, 22%) and lower extremity (*n*=32,300, 95% CI=20,700, 43,900, 20%) (Table 4). The most likely diagnosis in a resistance-related injury was contusions or abrasions (*n*=56,200, 95%

Table 1. Resistance-Related Case-Finding Approach: NEISS-Work, 2012–2017

Event codes	Description	Methodology	Exclusions	Outcome
Violence and other injuries by persons or animals	Injuries involving weapons (tools designed to be used as weapons), regardless of intent and injuries involving direct physical contact with persons, animals, or insects, regardless of intent.	(1) 11—intentional injury by person included without review; (2) remaining cases fully reviewed	(1) 112—self-inflicted injury; (2) 13—animal/insect related; (3) not enough details; (4) training related	(1) 11—intentional injury by person included without review; (2) remaining cases included if met case definition.
Transportation incidents	Events involving transportation vehicles, animals used for transportation, and powered industrial vehicles/equipment where at least 1 vehicle was in operation and injury was due to collision or other types of incident (loss of control, sudden stop/start) regardless of the location where event occurred.	Reviewed 10% random sample	NA	No resistance-related injuries found in 10% sample. Thus, no further review was performed.
Fires and explosions	Cases where a person fell or jumped from a burning building, inhaled a harmful substance, or was struck by an object because of an explosion/fire. Also includes cases where a worker was injured due to being trapped in a fire or respirator had run out of oxygen during a fire.	Fully reviewed	NA	No resistance-related injuries found.
Falls, slips, trips	Falls, slips, trips include falls on the same level, falls and jumps to lower levels, falls and jumps curtailed by a personal arrest device, and slips and trips that did not result in a fall.	Fully reviewed	(1) Not enough details; (2) training related	Included if met case definition.
Exposure to harmful substances or environments	Cases where the injury or illness resulted from a condition or substance in the work environment.	Fully reviewed	(1) Accidental transfer of bodily fluids; (2) accidental needle sticks	Included if suspect took action against officer (biting, spitting, miscellaneous).
Contact with objects or equipment	Injuries produced by contact between the injured person and the source of injury, except when the contact was due to a fall, transportation incident, fire or explosion, or assault or violent act.	Fully reviewed	(1) Not enough details; (2) training related	Included if met case definition.
Overexertion and bodily reaction	Cases where injury/illness resulted from free bodily motion, excessive physical effort, repetition of bodily motion, the assumption of an unnatural position, or remaining in the same position over time.	Fully reviewed	(1) Not enough details; (2) training related	Included if met case definition.
Nonclassifiable	Any event or exposure that is not classified or listed under any other division.	Fully reviewed	(1) Not enough details	Included if met case definition.

NA, not applicable; NEISS-Work, National Electronic Injury Surveillance System—Occupational Injury Supplement.

Table 2. U.S. Law Enforcement Officer Overall ED-Treated Injuries and Resistance-Related Injuries: NEISS-Work, 2012–2017

Event or exposure	Weighted estimates of injuries (95% CI)	Weighted % of total injuries	Weighted estimates of resistance-related injuries (95% CI)	Weighted % of resistance-related injuries
Violence and other injuries by persons or animals	146,500 (88,800, 204,200)	48	129,000 (73,600, 184,500)	88
Transportation incidents	34,700 (21,100, 48,400)	11	—[a]	—[a]
Falls, slips, trips	33,000 (23,000, 43,000)	11	15,800 (10,600, 21,000)	48
Contact with objects or equipment	30,900 (22,500, 39,300)	10	7,000 (4,000, 9,900)	23
Exposure to harmful substances or environments	27,700 (18,400, 37,000)	9	—[b]	—[b]
Overexertion and bodily reaction	26,200 (17,600, 34,900)	9	8,000 (5,100, 10,900)	31
Fires and explosions	3,100 (1,400, 4,800)	1	—[a]	—[a]
Nonclassifiable	1,400 (600, 2,300)	<1	—[b]	—[b]
Total[c]	303,500 (205,000, 405,000)	100	161,200 (97,100, 225,300)	53

[a]Cases in these categories were reviewed; on the basis of the limited information in the narratives, authors were unable to identify any cases that met the case definition in use.
[b]Did not meet NEISS-Work minimum reporting requirements.
[c]Weighted estimates do not sum to total owing to nonreportable events
ED, emergency department; NEISS-Work, National Electronic Injury Surveillance System–Occupational Injury Supplement.

CI=29,800, 82,600, 35%), followed by strain or sprain (*n*=40,000, 95% CI=21,100, 58,900, 24%).

DISCUSSION

This research is the first to provide a national description of resistance-related injuries treated in EDs among U.S. law enforcement officers using a well-established occupational surveillance system. It is important to consider all injuries that occur when officers are interacting with suspects. Injuries resulting from falls or overexertion are often not coded as intentional assaults. This study found that more than half of officers' nonfatal ED-treated injuries occurred when they were chasing, detaining, arresting, or pursuing suspects. Nearly 50% of falls and more than a quarter of overexertion injuries were resistance related. These are significant findings because the average cost of a workers' compensation claim nationwide for a fall is $46,592 and $33,545 for an overexertion injury.[16]

The examination of officers' on-duty injuries points to important policy and training considerations. Majority of the resistance-related injuries were the result of direct assaultive action by a suspect, which is consistent with police training that gives considerable attention to developing officer skills and tactical knowledge to counter such actions.[17] This also aligns with the Preventing Violence Against Law Enforcement and Ensuring Officer Resilience and Survivability Initiative funded by the Bureau of Justice Assistance, which is a national training program aimed at reducing assaults and improving officer safety.[17] In addition, recent research on trauma-related deaths found that law enforcement personnel were at a higher risk of dying from injury than the general population.[18] This analysis also highlights the need for evidence-based de-escalation training. Although some officer–suspect interactions provide little opportunity for de-escalation, others evolve into confrontation and the use of physical force.[8,11] Although officers do not have complete control over every encounter, improving their social interaction and de-escalation skills can help reduce the potential for interactions to turn physical and, in turn, reduce an officer's risk for injury.

The extent to which more commonplace injuries such as falls originate from officer–suspect interactions also bears important considerations for future training and policy.[19,20] The data revealed that 11% of the total ED-treated injuries were the result of falls. Of these ED-treated fall injuries, 48% were considered resistance related. The NEISS-Work data do not fully capture the details of how an injury occurred during an officer–suspect interaction or what tactics the officer used preceding the physical interaction. Nonetheless, these findings suggest that there may be value in officer training that includes holistic scenarios rather than solely working on individual tactics or the ability to identify assault cues. For example, a holistic scenario may include initial

Table 3. Number and Rate of Resistance-Related Injuries Among U.S. Law Enforcement Officers: NEISS-Work, 2012–2017

Parameter	Weighted estimates of injuries[a] (95% CI)	Weighted %	Rate per 10,000 FTE (95% CI)	Rate ratio (95% CI)
Year				
2012	26,500 (12,000, 41,000)	16	311 (143, 479)	—
2013	29,300 (14,800, 43,800)	18	330 (169, 492)	—
2014	25,800 (15,000, 36,500)	16	281 (164, 398)	—
2015	28,300 (17,100, 39,500)	18	315 (191, 440)	—
2016	27,800 (16,700, 38,800)	17	308 (186, 430)	—
2017	23,600 (15,600, 31,700)	15	266 (175, 357)	—
Sex				
Male	143,600 (88,300, 199,000)	89	313 (192, 433)	1.3 (0.4, 2.2)
Female	17,600 (8,400, 26,800)	11	235 (106, 364)	1.0
Age group, years				
21–24	10,300 (5,400, 15,100)	6	514 (197, 831)	**11.1 (2.1, 20.2)**
25–34	76,200 (42,500, 109,900)	47	559 (303, 816)	**12.1 (3.7, 20.6)**
35–44	49,400 (27,700, 71,100)	31	285 (157, 413)	**6.2 (1.9, 10.5)**
45–54	22,300 (14,800, 29,800)	14	161 (102, 219)	**3.5 (1.3, 5.7)**
≥55	3,000 (1,500, 4,500)	2	46 (22, 70)	1.0
Disposition				
Treated and released	158,000 (94,600, 221,500)	98	296 (177, 414)	—
All other	3,200 (1,900, 4,500)	2	6 (4, 8)	—
Total[a]	161,200 (97,100, 225,300)	100	302 (182, 421)	—

Note: Boldface indicates statistical significance ($p<0.05$).
[a]Weighted estimates may not sum to total owing to rounding.
FTE, full-time equivalent; NEISS-Work, National Electronic Injury Surveillance System–Occupational Injury Supplement.

Table 4. Resistance-Related Injuries Among Law Enforcement Officers by Body Part Injured and Diagnosis: NEISS-Work, 2012–2017

Injury	Weighted estimates of injuries[a] (95% CI)	Weighted % of injuries	Rate per 10,000 FTE (95% CI)
Body part injured			
Fingers and hand	40,900 (24,500, 57,300)	25	77 (46, 107)
Upper extremity	36,000 (21,300, 50,700)	22	67 (40, 95)
Lower extremity	32,300 (20,700, 43,900)	20	60 (39, 82)
Head and face (including mouth and ear)	28,900 (15,500, 42,200)	18	54 (29, 79)
Trunk and neck	14,300 (8,400, 20,200)	9	27 (16, 38)
All other[b]	8,900 (2,500, 15,200)	5	17 (5, 28)
Diagnosis			
Contusions or abrasions	56,200 (29,800, 82,600)	35	105 (56, 154)
Strain or sprain	40,000 (21,100, 58,900)	25	75 (40, 110)
Dislocation or fracture	11,500 (8,000, 14,900)	7	21 (15, 28)
Laceration or puncture	11,000 (6,500, 15,500)	7	21 (12, 29)
All other	42,600 (22,000, 63,100)	26	80 (42, 118)
Total	161,200 (97,100, 225,300)	100	302 (182, 421)

[a]Weighted estimates do not sum to total owing to rounding.
[b]Estimate is statistically unreliable with a 36% coefficient of variation.
FTE, full-time equivalent; NEISS-Work, National Electronic Injury Surveillance System–Occupational Injury Supplement.

contact with a suspect, followed by a foot chase, and then tactics to aid officers in physical struggle encounters. This creates a training setting where officers negotiate the potential risk for falls, overexertion injuries, and assaults in a single event that may be more reflective of the situations they face in the field. This

type of training may improve an officer's knowledge and preparation for risks beyond just assaultive actions in resistance encounters and accordingly may prevent resistance-related falls.

A total of 9% of the total ED-treated injuries to officers were overexertion injuries and, of those, 31% were considered resistance related. This finding raises the question on the possible role that physical fitness plays in injury prevention for law enforcement. There is a lack of evidence-based instruction on how to maintain personal fitness for law enforcement officers. A literature search resulted in very few published studies.[21–23] A recent evaluation of a sports medicine model in a single agency reported that using an athletic trainer resulted in a 50% reduction in overall medical care costs and an 86% reduction in musculoskeletal injury–related medical care costs.[24] This model included the placement of a certified athletic trainer in the agency for clinical assessments, medical care, wellness education, injury rehabilitation, reconditioning, and injury prevention.[24] This limited body of research found a connection between physical fitness and reduced injury risk, although more rigorous research is needed.

Limitations

There are limitations to these data. First, NEISS-Work does not use a standardized coding system for occupation, and a systematic case-finding methodology was used to identify cases. It is possible that injured officers were missed. This case-finding methodology erred on specificity over sensitivity; therefore, these results may be underestimated. Second, these numbers likely reflect an underestimate of all nonfatal law enforcement injuries because this study only includes injuries severe enough to be treated in EDs. Third, NEISS-Work's injury narratives are generally brief and often do not fully convey the specific details of an officer–suspect interaction. Although an effort was made to correctly code resistance-related injury events, it may be possible that some cases were incorrectly assigned as resistance related or that resistance-related cases were missed in other event categories such as transportation. Finally, this analysis was limited to ED-treated injuries; therefore, it does not capture the full spectrum of officer injury data that include fatalities and injuries not severe enough for medical care.

CONCLUSIONS

The study's findings highlight 2 main themes. First, officer–suspect interactions can lead to a wide range of injuries among officers. Second, current injury classification systems are not equipped to categorize these resistance-related injuries in a way that is consistent and meaningful to law enforcement leaders and therefore limits this understanding. An improved understanding of these events could lead to more focused and tailored prevention strategies and training. More than 50% of officers' ED-treated nonfatal injuries occurred when interacting with suspects. Training officers using more holistic approaches that encompass both de-escalation training as well as assaultive tactics may be more realistic.[11,25,26] Agencies could also consider the use of a certified athletic trainer to provide clinical assessments, wellness education, injury rehabilitation, reconditioning, and injury prevention as an intervention to reduce resistance-related injuries.[24] This may protect officers from assault-based injuries as well as falls and overexertion injuries—both of which are commonly associated with long rehabilitation periods and high medical care costs. Future research should consider the impact of these prevention strategies not only on civilian outcomes but also on officers' outcomes. In addition, the sports medicine model, which involves injury care and training managed by a certified athletic trainer, has been underutilized in law enforcement. Opportunities exist to improve officers' rehabilitation and reconditioning after an injury as well as improve overall physical fitness to prevent injuries from occurring in the first place. Finally, officers' nonfatal injuries need to be coded in a consistent and meaningful way that informs police policy and practice.

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