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Proportion of Violent Injuries Unreported to Law Enforcement

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Interpersonal violence is a leading cause of death and injury in the United States.¹ Although many cities rely on official law enforcement data to determine the magnitude, patterns, and prevention strategies for violence, data from the National Crime Victimization Survey conducted by the US Department of Justice indicates that a large number (52.6%) of violent

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crimes resulting in injury goes unreported to law enforcement.² Consequently, because of incomplete data, cities are limited in their ability to effectively prevent and respond to violence.

In the United States, there is a paucity of information using hospital-based data to examine the proportion of violent injuries that are unreported to police. One study examined the proportion of firearm injuries unreported to police (such injuries are typically subject to mandatory reporting laws)³; however, little is known about all forms of violent injury. Thus, we sought to quantify the proportion of violence-related injuries treated in the emergency department (ED) that were unknown to law enforcement to better understand whether ED data on violence could complement police data and enhance a city's understanding of violence.

Methods |

As part of a municipal violence prevention program,⁴ a collaboration between an urban ED with a level ¹ trauma designation and ² urban police departments was formed in the Atlanta metropolitan area. A comprehensive violence prevention program and surveillance system was implemented in the ED and granted institutional review board exemption as a public health program by the Centers for Disease Control and Prevention and Emory University. Nurses attempted to screen every patient in the ED for the presence of a violent injury and, if present, recorded the precise geographic location of the incident (eg, address, street intersection, business name) and date and time of the incident. Only violent injuries occurring in public places had geographic information collected; to protect privacy, no information was collected on violence occurring in private residences.

Each hospital-recorded incident was reviewed by a staff member and geocoded to exact coordinates for mapping. Information on violent crimes causing interpersonal injury (aggravated assault, rape, homicide) already known to law enforcement were collected from official police reports. To assess the percentage of violent injuries treated in the ED and unknown to police, we used a spatiotemporal filter to assess the proportion of nonoverlapping events using various time and distance buffers.

Results |

From November 20, 2015, to May 4, 2017, 1654 violent injuries were identified through the ED screening program, and 67.8% (n = 1122) occurred in a public location. Of these, 40.6% (n = 455) had sufficient location and time information to allow mapping of the data.

Among violent incidents occurring in police jurisdictions A and B, the percentage that went unreported to police was 83.2% (n = 272) and 93.1% (n = 67), respectively, using a distance buffer of 500 m (approximately one-third of a mile) and a time buffer of 8 hours (Table 1). Sensitivity analyses examining different time and distance buffers did not change findings by approximately more than 10%.

Discussion |

This study revealed that a large proportion of hospital-treated violent incidents may be unknown to police. The proportion of unreported violence we detected is considerably greater than previous survey-based estimates have suggested,² though it is similar to international studies conducted at single sites in Denmark and the United Kingdom using a comparable methodology.⁵ Combining hospital and police data may allow for a more complete picture of violence.

Limitations of the study include that findings are generated from a single city. Furthermore, this study focused on violence occurring in public places only and does not provide information on reporting by injury severity. Third, this study does not include comparison with minor criminal charges such as “simple assault”; although not readily used as a criminal charge for violent injuries necessitating ED treatment in this study’s jurisdictions, use of criminal charges can vary across police jurisdictions. Last, beyond the potential of misreporting by patients, only approximately 40% of violent incidents contained enough information to be mapped. Nonetheless, we hypothesize that patients declining to provide detailed information to nurses have specific reasons for nondisclosure⁶ and would therefore also be unlikely to provide such information to police. This suggests that the number of incidents unreported to police may be even higher than we detected.

In summary, these findings emphasize the potential of ED and police data to provide a complementary and comprehensive understanding of violent injury resulting in significant morbidity. This study provides new support for the United States on the value of cross-sectoral partnerships, the importance of ED-collected violence data, and the potential of such efforts to improve violence prevention.

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Table 1.

Number of Violent Injuries Occurring Within Police Jurisdictions A and B That Were Unreported to Police, November 2015 to May 2017^a

Search Criteria		No. (%)	
Maximum Distance Radius, m	Maximum Time Difference, h	Police Jurisdiction A (n = 327)	Police Jurisdiction B (n = 72)
100	4	300 (91.7)	69 (95.8)
500	8	272 (83.2)	67 (93.1)
1000	12	238 (72.8)	63 (87.5)

^aThe proportion of unreported incidents is calculated using various distance and time buffers. The spatiotemporal buffers are used to search for an event that occurred within a specified distance radius and time range (preceding or following an incident).

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