

Workplace Violence: A Survey of Emergency Physicians in the State of Michigan

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Study objective: We seek to determine the amount and type of work-related violence experienced by Michigan attending emergency physicians.

Methods: A mail survey of self-reported work-related violence exposure during the preceding 12 months was sent to randomly selected emergency physician members of the Michigan College of Emergency Physicians. Work-related violence was defined as verbal, physical, confrontation outside of the emergency department (ED), or stalking.

Results: Of 250 surveys sent, 177 (70.8%) were returned. Six were blank (3 were from retired emergency physicians), leaving 171 (68.4%) for analysis. Verbal threats were the most common form of work-related violence, with 74.9% (95% confidence interval [CI] 68.4% to 81.4%) of emergency physicians indicating at least 1 verbal threat in the previous 12 months. Of the emergency physicians responding, 28.1% (95% CI 21.3% to 34.8%) indicated that they were victims of a physical assault, 11.7% (95% CI 6.9% to 16.5%) indicated that they were confronted outside of the ED, and 3.5% (95% CI 0.8% to 6.3%) experienced a stalking event. Emergency physicians who were verbally threatened tended to be less experienced (11.1 versus 15.1 years in practice; mean difference -4.0 years [95% CI -6.4 to -1.6 years]), as were those who were physically assaulted (9.5 versus 13.1 years; mean difference -3.6 years [95% CI -5.9 to -1.3 years]). Urban hospital location, emergency medicine board certification, or on-site emergency medicine residency program were not significantly associated with any type of work-related violence. Female emergency physicians were more likely to have experienced physical violence (95% CI 1.4 to 5.8) but not other types of violence. Most (81.9%; 95% CI 76.1% to 87.6%) emergency physicians were occasionally fearful of workplace violence, whereas 9.4% (95% CI 5.0% to 13.7%) were frequently fearful. Forty-two percent of emergency physicians sought various forms of protection as a result of the direct or perceived violence, including obtaining a gun (18%), knife (20%), concealed weapon license (13%), mace (7%), club (4%), or a security escort (31%).

Conclusion: Work-related violence exposure is not uncommon in EDs. Many emergency physicians are concerned about the violence and are taking measures, including personal protection, in response to the fear. [Ann Emerg Med. 2005;46:142-147.]

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INTRODUCTION

A 24-year-old patient who was intoxicated on cocaine wanted to know, "What do I have to do to prove it [the mental illness] to you ... do I have to hurt some people here?" He punched the crisis intervention worker and 3 other female nurses. He was grabbed by the emergency physician and pulled off one of the nurses but not

before hitting the physician twice in the face. The patient then calmly walked back into his room. The physician needed 8 stitches to close a cut on his forehead, 1 nurse had a broken nose, and the other 2 nurses were bruised. The patient was arrested and released the next day on \$500 bail (anecdote related by an anonymous respondent to the survey).

Editor's Capsule Summary

What is known on this topic

The emergency department (ED) is an environment with much potential for violence against health care personnel, but few data have been reported in the United States.

What question this study addressed

This study surveyed a statewide sample of attending emergency physicians to determine the incidence of verbal threats, physical assaults, confrontations outside the clinical encounter, or stalking in the past year.

What this study adds to our knowledge

Of 171 respondents, 128 (75%) reported a verbal assault, 48 (28%) reported a physical assault, 20 (12%) reported a confrontation, and 6 (3.5%) reported stalking. Nearly half, or 44%, felt less secure in their practice than in the past.

How this might change clinical practice

The incidence of violence reported in this study supports the need for effective hospital security in the ED and the need for research into effective prevention measures.

Violence in our society is common, and violence in the workplace is likewise not uncommon. Certain occupations intrinsically involve violence directed at those who work in such environments (ie, the military or police). Deadly assaults by disgruntled employees have occurred in the workplace, including the corporate office and post office settings. In general, the hospital environment is not considered a place where health care workers are at particular risk of violence. However, the emergency department (ED) is an exception to this commonly held belief. Police and emergency medical services often bring violent patients to the ED. Violent intoxicated patients are commonly treated in EDs and are accompanied by family or friends who may also be intoxicated, violent, or both. Mentally ill patients also represent a group of patients who may demonstrate violent behavior in the ED. Often, these patients must be restrained to facilitate assessment and treatment. Patients and their family or friends are frequently under considerable stress, which may be exacerbated by long wait times. Patients or family and friends may lash out at ED personnel when they perceive their needs have not been met.

The potential for violence against emergency physicians exists, given the stressful environment, patient population, and accompanying visitors within the ED. Many emergency physicians believe the threat of workplace violence is "part of the territory" of working in the ED. A judge at a hearing in Massachusetts noted that an assault on an ED nurse "came with the territory."¹

Within the body of literature of emergency medicine, there are few studies about the experience of emergency physicians

with workplace violence. There are several older studies about the experience of physicians in the ED outside of the United States.²⁻⁵ Violence and assaults have also been studied among ED nurses and other ED personnel, with the conclusion that there is a significant incidence of workplace violence intrinsic to the ED.⁶⁻¹⁰ Emergency service providers have reported substantial and significant violent behaviors.¹¹⁻¹³ There are no recent surveys of the experience of workplace violence among emergency physicians and specifically no studies of the experience of emergency physicians in the United States. The impact such violence has on those physicians has also not been studied. The problem of workplace violence in the ED is not well documented, researched, or managed.¹⁴ The purpose of this study is to assess the experience of attending emergency physicians within Michigan about violence in the workplace and to detail their reaction to such acts.

MATERIALS AND METHODS

The accessible population was attending emergency physicians who were members of the Michigan College of Emergency Physicians. There were approximately 400 attending physician members and 200 resident members when the survey was completed.

The sampling frame focused on emergency physicians currently in practice. Resident members were eliminated from the sample group because they are less homogeneous in that many rotate at a number of institutions, and few do a complete year of emergency medicine. A computer was used to generate a random sample of 250 Michigan College of Emergency Physicians attending emergency physicians. Sample size was calculated to yield 95% confidence intervals (CIs) no wider than $\pm 5\%$, assuming a 50% population parameter.

A questionnaire was developed to estimate the incidence of violence perpetrated against attending emergency physicians. The questionnaire included items about demographics, types and numbers of violent acts encountered in the past year, and the physician's reaction to the events. The 4 types of violence were defined on the survey. A verbal threat was an oral communication by the patient that was directly and specifically menacing to one's well-being. This threat did not include random swearing that was not directed to the physician or speech that had no implied intention to do harm. Physical assault was an incident in which there was physical contact of an unwanted nature that resulted in harm or was perceived as threatening (eg, being punched, kicked, bitten, pushed, grabbed). A confrontation outside the immediate patient encounter was any unpleasant threatening interaction with the patient or other person representing the patient after the time one was actually providing medical care (eg, telephone call, letter, or physical confrontation, but not stalking). Stalking was unwanted or threatening contact by the patient or someone representing the patient in a persistent manner over time. The survey was piloted on 5 physicians, resulting in a clarification of questions and responses. The final survey contained 19 response items, 9 of which were demographic. The survey is available as

Appendix E1 (available at <http://www.mosby.com/AnnEmergMed>).

The Michigan College of Emergency Physicians' administrative staff generated the computer-based random sampling. Surveys were numbered and sent to the selected members by mail. Using the numbering system, staff was able to ascertain who responded. Nonrespondents were sent additional surveys up to 2 subsequent times. The survey period encompassed July to September 2002. Authors were blinded to any information that could individually identify any responder. Responses were compiled by the administrative staff and forwarded to the authors.

Descriptive analysis was generated to elucidate the incidence of violence against emergency physicians. Bivariate relationships were assessed between violent incidents and ED or emergency physicians and patient/perpetrator characteristics. Ninety-five percent CIs were reported.

Descriptive univariate statistics were calculated for all variables. For categorical-level data, proportions and 95% CIs were generated. For continuous-level data, means and SDs were calculated. All comparisons were made using binomial and χ^2 tests using SPSS software (version 11.0, SPSS, Inc., Chicago, IL). All results are presented as counts and valid percentages that exclude cases with missing data on individual items.

RESULTS

Of the 250 surveys sent, 177 (70.8%) were returned. Six surveys had no data, of which 3 were from physicians no longer practicing emergency medicine, leaving 171 (68.4%) surveys available for analysis. Men represented 122 (71%) of the respondents who had been in practice an average of 13.0 years (range 1 to 32 years). The 50 (29%) female respondents averaged 9.3 years (range 1 to 30 years) in practice. Residency-trained emergency physicians represented 74% of the entire group, with 90% of the women having graduated from a residency and 70% of the men; 86% of physicians were board certified. Forty-nine percent of the respondents were in practice less than 10 years, 40% were in practice 11 to 20 years, and the remainder (11%) were in practice more than 20 years.

The place of primary practice was defined as the hospital setting in which the physicians spent the majority of their time. This response was split relatively equally between large urban (>500,000 population), 30%; small urban (<500,000 population), 31%; suburban, 29%; and rural settings, 10%. Sixty-seven (39.2%) of the respondents worked in a tertiary care center; 17 (9.9%) were university medical centers, and 1 (0.7%) was a Veterans Administration hospital. The majority of respondents (104 [60.8%]) worked in community hospitals. Overall, 55.2% of the surveyed physicians worked in institutions that had an emergency medicine residency program.

One hundred thirty (76%) of the 171 respondents reported at least 1 violent act during the previous 12 months. One hundred twenty-eight (74.9%) of the 171 respondents reported verbal assault, 48 (28.1%) physical assault, 20 (11.7%) confrontation outside the ED, and 6 (3.5%) stalking.

Emergency physicians who were verbally threatened tended to be less experienced (11.1 versus 15.1 years of practice; mean difference -4.0 years [95% CI -6.4 to -1.6 years]), as were those who were physically assaulted (9.5 versus 13.1 years of practice; mean difference -3.6 years [95% CI -5.9 to -1.3 years]) (Table 1). Urban hospital location, emergency medicine board certification, or presence of an emergency medicine residency program was not significantly associated with any type of work-related violence. Information about the sequelae from physical assaults was not obtained.

Most emergency physicians (81.9%, 95% CI 76.1% to 87.6%) were occasionally fearful of workplace violence, whereas 9.4% (95% CI 5.0% to 13.7%) were frequently fearful, and 1.2% (95% CI 0% to 2.8%) were constantly fearful. The impact of workplace violence and its potential threat was an issue that most emergency physicians in this survey contemplated at least occasionally. Some emergency physicians did obtain protection as a result of violence. Emergency physicians' form of protection in response to violence varied. Forty-two percent of the emergency physicians sought various forms of protection, including obtaining a gun (18%), a knife (20%), a concealed weapon license (13%), and carrying mace (7%) or a club (4%); however, most (31%) used a security escort (7% used a variety of other means). Of the emergency physicians who reported a physical assault, 89% came from the patient, 9% from a family member, and 2% from a friend of a patient. Emergency physicians reported that 45% of physical assaults occurred with patients who were believed to be intoxicated (Table 2).

Sixteen percent of emergency physicians considered leaving their hospital because of violence. One percent did leave the hospital for another location to practice. Nineteen percent considered leaving emergency medicine, but none actually left emergency medicine because of violence. Three percent sought legal advice, whereas 1% sought psychological support, and 16% went to a course on violent patients because of their experience with violence in the workplace.

The level of security varied among institutions. Security officers permanently assigned to the ED were present in 27% of the hospitals, and 24% had general hospital security staff that made rounds in the ED, as well as covering the hospital. A minority of emergency physicians (5%) reported no security in their EDs, and all were in rural facilities. Only 2% of physicians surveyed reported that police officers provided security in their ED. Most security personnel were unarmed, with only 9% reporting that the security officers in their ED carried weapons. Relatively few physicians reported the use of metal detectors, either walk-through or handheld, as an adjunct to the security in their ED.

Few physicians (10%; 17 of 168 respondents) felt more secure than they had in the past. Forty-six percent of the physicians (77 of 168) had no change in their perceptions of safety in the ED. Forty-four percent of emergency physicians (74 of 168) reported feeling less secure as the result of violence in the ED.

Table 1. Types of violent incidents.

	Verbal Threat, No. (%)	Physical Assault, No. (%)	Confrontation After Patient Care, No. (%)	Stalking, No. (%)
Sex				
Male	1,168 (67.2)	62 (48.1)	32 (66.7)	4 (66.7)
Female	571 (32.8)	67 (51.9)	16 (33.3)	2 (33.3)
Location				
Urban	1,325 (76.2)	92 (71.3)	26 (54.1)	2 (33.3)
Suburban	366 (21.0)	26 (20.2)	17 (35.4)	1 (16.7)
Rural	48 (2.8)	11 (8.5)	5 (10.4)	3 (50.0)
Years in practice				
<10	1,062 (61.4)	102 (79.1)	26 (54.1)	4 (67)
11–20	484 (28.0)	26 (20.2)	20 (41.7)	2 (33)
>20	183 (10.6)	1 (0.7)	2 (4.2)	0
Perpetrator				
Patient	1,251 (71.9)	115 (89.1)	21 (43.7)	4 (67)
Family	332 (19.1)	12 (9.3)	22 (45.8)	2 (33)
Friend	156 (9)	2 (1.5)	5 (10.4)	0

Emergency physicians were questioned about whether they desired additional resources to cope with the threat of violence in their ED. The choices included continuing medical education courses on workplace violence, courses or presentations on handling threatening or violent patients, educational materials that were written or computer based, Internet site for information or resources, information about legal rights or available resources, and information on personal protection orders and how to obtain one. Most physicians responded with at least 2 responses. Course presentations on the violent patient and information on legal rights and resources were the areas most often desired. Computer-based educational materials or an Internet site to provide information about violence or legal rights was also a common choice.

LIMITATIONS

This survey reported only those events that occurred in the past 12 months. This is a relatively small study, with 30% of emergency physicians not responding. Demographic data were not collected on nonresponders to determine whether they were a cohort similar to those that did respond. There are relatively small numbers of emergency physicians in each demographic group. The results are based only on attending emergency physicians who were members of the Michigan College of Emergency Physicians and may not be extrapolated to other groups of emergency physicians. The potential for recall or responder bias also exists. Physicians who have experienced workplace violence may have been more apt to respond. Whether a patient was intoxicated or mentally ill was the subjective opinion of the attending physician. This study did not include other health care providers, who may have had significantly different experiences with ED workplace violence.

A sensitivity analysis was conducted to determine the potential impact that the nonresponders had on our

Table 2. Violent assault perpetrators.

Perpetrator	Verbal Assault, No. (%) (N=1,725)	Physical Assault, No. (%) (N=129)	Confrontation Outside Time of Patient Care, No. (%) (N=48)	Stalking, No. (%) (N=6)
Patient	1,242 (72)	115 (89)	21 (44)	4 (67)
Family member	328 (19)	12 (9)	22 (46)	2 (33)
Friend of patient	155 (9)	3 (2)	5 (10)	0 (0)
Intoxicated	811 (47)	58 (45)	8 (17)	0
Mentally ill	345 (20)	43 (33)	3 (6)	2 (33)

interpretation of the data. We assessed the potential impact on our estimates if all nonresponders were not victims of verbal or physical assault, with the speculation that possibly those who were victims of violence were more likely to respond to the survey. The prevalence estimates would then have been 51.2% (95% CI 45.0% to 57.4%) and 19.2% (95% CI 14.3% to 24.1%) for verbal and physical assaults, respectively. The CIs do not overlap for verbal assault (our estimate 74.9% and 95% CI 68.4% to 81.4%); however, they do overlap for physical assault (our estimate 11.7% and 95% CI 6.9% to 16.5%), which indicates that our results are robust within the context of nonresponse, particularly for physical assaults.

DISCUSSION

Violence in the workplace is not an uncommon phenomenon in the ED. In studies of physician experiences in countries outside of the United States, violence was found to be part of the workplace environment.²⁻⁵ In a study done in 1995 of 221 hospitals in North America, the ED was the most common place in the hospital for violent incidents. This summary reported 42 homicides, 1,463 assaults, 67 sexual assaults, 165 robberies, and 47 armed robberies.¹⁵ In a study of an ED in Vancouver during a 1-year period, there was a 92% prevalence rate for physical assault, 97% for verbal threats, and 66% prevalence for verbal abuse, which occurred at least once per shift.⁶ In a survey of 170 directors of EDs with an annual volume exceeding 40,000 (of whom 127 responded), 43% reported at least 1 physical assault per month. They also reported a 32% rate of 1 verbal threat a day, and 18% experienced the use of a weapon to threaten staff at least once a month. In addition, 2 hostage incidents were described, and 7% reported an act of violence that resulted in a death within the previous 5 years.¹⁶ Surveys of nurses outside and within the United States have shown that they also experience workplace violence as part of the day-to-day experience of delivering health care within the ED.^{6,7,9,10} This survey of attending emergency physicians who are members of the Michigan College of Emergency Physicians is consistent with other reports that violence within the ED against emergency physicians is not uncommon.¹⁷⁻¹⁹

A small proportion of violence in the ED was physical. Many emergency physicians have either personally experienced

or know of a physician who has experienced an injury caused by a violent patient at some point in their career. There are fears of becoming a victim of violence. Although far less common than verbal incidents, the specter of physical assault hangs as a significant threat, and its lower prevalence does not minimize the impact that physical assault has on the perception of safety within the workplace by emergency physicians.

Many emergency physicians desire resources to help them deal with workplace violence. Further resources include training in “de-escalating” techniques, conflict management, early recognition of potentially violent patients, and even “submission” techniques. The question still remains as to whether these techniques or increased presence of security personnel would decrease the violence. Further studies could help determine the answer.

A significant number of emergency physicians sought various forms of protection; 38% of those who sought protection chose potentially lethal means (purchasing a knife or gun). Further education or training may help emergency physicians find alternative ways to deal with the fear of violence.

Physicians with less experience tended to be victims of violence more frequently. The authors speculate that these emergency physicians have less experience at recognizing or dealing with potentially violent patients, which further supports the need for educational resources for emergency physicians about violence in the ED.

Confrontations after direct patient care by the patient or another person representing the patient and incidents of outright stalking occur, but infrequently. However, the occurrence of such incidents serves to warn emergency physicians that the “workplace violence” may extend beyond the borders of the ED.

The ED by its very nature is a place of high stress for the patient and the ED staff. Patients who come or are brought to the ED are occasionally intoxicated, in a state of drug withdrawal, or suffering from delirium or have psychiatric problems that make them prone to violence. Access to firearms in the United States may represent a significant threat to ED personnel.¹⁹ Emergency physicians responded that they thought that the inability to meet patient or family expectations contributes to the incidence of violence in the ED. Patients want information, access to a wide range of services, good discharge planning, compassion on the part of ED staff, involvement in decisionmaking, and high quality of medical care, and they want all of this provided in a timely manner.²⁰⁻²² To meet such expectations on a consistent basis in a busy ED, given the frequent crowding that exists, is often difficult. Despite the violence, few emergency physicians considered leaving their hospital or the practice of emergency medicine. However, many desire resources to help them deal with the workplace violence.

In conclusion, this survey suggests that violence in the ED is not an uncommon phenomenon, with the majority of the incidents in the form of verbal threats or abuse; however, there is a significant incidence of physical assault. Many emergency

physicians are concerned about the violence and are taking measures, including personal protection, in response to the fear. Further prospective, real-time research needs to be conducted to identify mechanisms to prevent or deal with violent acts in the ED.

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REFERENCES

- Alexander M. Violence in the emergency department: a firsthand account. *J Emerg Nurs.* 2001;27:279-285.
- Paola F, Malik T, Qureshi A. Violence against physicians. *J Gen Intern Med.* 1994;9:503-506.
- Al-Sahlawi KS, Zahid MA, Shahid AA, et al. Violence against doctors, 1: a study of violence against doctors in accident and emergency departments. *Eur J Emerg Med.* 1999;6:301-304.
- Zahid MA, Al-Sahlawi KS, Shahid AA, et al. Violence against doctors, 2: a study of violence against doctors in accident and emergency departments. *Eur J Emerg Med.* 1999;6:305-309.
- Jenkins MG, Rocke LG, McNicholl BP, et al. Violence and verbal abuse against staff in accident and emergency departments: a survey of consultants in the UK and Republic of Ireland. *J Accid Emerg Med.* 1998;15:262-265.
- Fernades CMB, Bouthillette F, Raboud JM, et al. Violence in the emergency department: a survey of health care workers. *Can Med Assoc J.* 1999;16:1245-1248.
- Rose M. A survey of violence toward nursing staff in one large Irish accident and emergency department. *J Emerg Nurs.* 1997; 23:214-219.
- Levin PF, Hewitt JB, Misner ST. Insights of nurses about assault in hospital-based emergency departments. *J Nurs Scholarship.* 1998;30:249-254.
- Arnetz JE, Arnetz BB. Violence toward health care workers: prevalence and incidence at a large regional hospital in Sweden. *AAOHN J.* 1998;46:107-114.
- Lipscomb JA, Love CC. Violence toward health care workers: an emerging occupational hazard. *AAOHN J.* 1992;40:219-228.

11. Corbett SW, Grange JT, Thomas TL. Exposure of prehospital care providers to violence. *Prehosp Emerg Care*. 1998;2:127-131.
12. Grange JT, Corbett SW. Violence against emergency medical services personnel. *Prehosp Emerg Care*. 2002;6:186-190.
13. Mock EF, Wrenn KD, Wright SW, et al. Prospective field study of violence in emergency medical services calls. *Ann Emerg Med*. 1998;32:33-36.
14. Blanchard JC, Curtis KM. Violence in the emergency department. *Emerg Med Clin North Am*. 1999;17:717-731.
15. Stultz MS. Crime in hospitals 1995: the latest International Association for Healthcare Security and Safety Survey. *J Healthc Prot Manage*. 1996-1997;13:1-45.
16. Lavoie F, Carter G, Danzl D, et al. Emergency department violence in United States teaching hospitals. *Ann Emerg Med*. 1988;17:1227-1233.
17. Foust D, Rhee KJ. The incidence of battery in an urban emergency department. *Ann Emerg Med*. 1993;22:583-585.
18. McAneney CM, Shaw KN. Violence in the pediatric emergency department. *Ann Emerg Med*. 1994;23:1248-1251.
19. Morrison LJ. Abuse of emergency department workers: an inherent career risk or barometer of the evolving health care system? *J Can Med Assoc*. 1999;161:1262-1263.
20. Gauld C, Chambers M, O'Brien B, et al. How was your hospital stay? Patients' responses about their care in Canadian hospitals. *Can Med Assoc*. 1994;150:1813-1822.
21. Stigglebout A. A role for the sick: patients' preference regarding information and participation in clinical decision-making. *Can Med Assoc*. 1997;157:383-389.
22. Neuberger J. Primary care: core values: patients' priorities. *BMJ*. 1998;317:260-263.