

**Hostile Workplace: Violence Directed Toward Rural Emergency Medical Services**

**(EMS) Personnel**

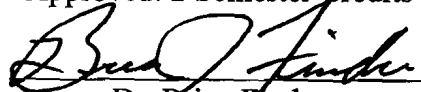
by

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**ABSTRACT**

The purpose of this study was to analyze the various violence-based risks that rural Wisconsin-based EMS personnel are routinely exposed to. Data for this field study was obtained through literature reviews and a survey that was distributed to attendees at the 2007 Wisconsin Indianhead Technical College Emergency Services Conference in March 2007. Twenty-five percent of the respondents that returned surveys, indicated they had experienced some form of physical assault while in the performance of their rural EMS duties. Of particular concern are the reported forms of assault that a possess a significant potential for injury (i.e., slap, push, hit, kicked, etc.). Given the previously reported occurrence and forms of assault that rural EMS are exposed to, it was found that 54% of the respondents to the survey indicated they had not received any employer-sponsored training on how to deal with potentially violent situations. Worker compensation and survey data identified incident rates of assaults and violent acts toward EMS personnel and additional data did identify total cases of days away from work in the

occupational category EMS personnel would be classified in. The occurrence and prevalence of violence, along with the types of violence rural Wisconsin EMS providers are exposed to in their workplace has been established through this study. In addition, overall training for EMS personnel on a variety of violence related issues needs to be addressed. Additional research in the area of violence as it specifically relates to rural EMS personnel needs to be undertaken.

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## CHAPTER I: INTRODUCTION

From a historical perspective, it appears that Emergency Medical Services (EMS) had its beginnings as a result of war-related violence. According to Henry (2004), EMS as it is known today, was developed during the Napoleonic Wars in an effort to get wounded soldiers quickly from the battlefield to field hospitals, thus reducing death and disability of such individuals. EMS continued to evolve through the violence of war; the Civil War, World War I and II, Korea, Vietnam, and present day battlefields. The lessons learned on these battlefields were eventually brought home to be implemented in civilian practice (Henry, 2004). It is with an ironic twist of fate, however, that EMS is now most likely being victimized by the very problem that it was created to treat; violence.

When the original National Standard Curriculum for the training of Emergency Medical Technicians (EMTs) was developed and published in the early 1970s, the authors could probably not imagine the escalation of violence that would take place in the future. Don Walsh, Ph.D., who has conducted several studies on violence toward EMS providers (cited in Erich, 2001, p. 47) stated: "All EMS wants to do is assist those in need, to help the hurt. Who could object, much less respond violently, to a person doing that? Yet some do, and probably more than most people realize." Erich's observation of the helper becoming the victim scenario is disturbing and as EMS has grown and expanded since its inception, so it seems has the threat of violence toward the personnel that only seek to help the ill and injured.

As evidenced in cities and states where violence has erupted (i.e., Oklahoma City, Columbine, New York City, Washington, Pennsylvania, Virginia Tech, Red Lake, Minnesota and Crandon, Wisconsin), workplace violence in general, and violence toward



EMS personnel in particular, is real and growing. Terminology such as “going postal” has been used in recent years by the media and public to describe multiple incidents involving postal employees committing acts of violence in the workplace. “Going postal” has come to epitomize workplace violence and this terminology has now become a part of the American lexicon. In situations involving workplace violence, emergency service personnel (i.e., law enforcement, fire service, and EMS) have historically been dispatched to intervene, although in rural response situations there may not be the level of personal protection for emergency responders as what may be necessary. Therefore, the occurrence of violence-related situations during emergency medical response activities places rural Wisconsin-based EMS personnel at risk of incurring serious physical and psychological injury.

#### *Purpose of the Study*

The purpose of this study will be to analyze the various violence-based risks that rural Wisconsin-based EMS personnel are routinely exposed to.

#### *Goals of the Study*

- Establish the occurrence and prevalence of violence in the rural Wisconsin EMS workplace.
- Identify the types of violence that occur in the rural Wisconsin EMS workplace.
- Evaluate rural Wisconsin-based EMS personnel’s training experiences with regard to workplace violence to identify where deficits in training might exist.
- Analyze worker compensation claim and survey data to identify the extent that work-related injuries incurred by EMS personnel are related to dealing with violent

situations.

### *Background and Significance*

There appears to be no single source/data gathering agency for recording or reporting assaults, injuries, or fatalities specifically for EMS personnel. Maguire, Hunting, Smith, and Levick (2003) utilized three independent databases that reviewed EMS fatalities over a six-year time period and found an annual fatality rate of 12.7 per 100,000 for EMS personnel compared to a national average of five fatalities per 100,000. To establish a comparison, Maguire et al. identified fatalities of firefighters at 14.2 per 100,000 and 16.5 per 100,000 for law enforcement over the same six-year time period. The study concluded that although EMS personnel across the United States experience the threat of personal violence every day while performing their duties, there is little regard given to protecting EMS personnel from violence in the workplace (Maguire, et al.). Nationally, the occurrence of workplace violence as identified by U.S. Department of Labor-Bureau of Labor Statistics *Injuries, Illnesses, and Fatalities* (2003), indicates that workplace violence is responsible for 16% of all work-related fatal injuries. In a 2005 “Survey of Workplace Violence Prevention” completed by the United States Department of Labor-Bureau of Labor Statistics, approximately five percent of the 7.1 million private industry business establishments had experienced a violent incident within their workplace during the previous 12 months of the survey. In addition, data collected from the Annual Survey of Occupational Injuries and Illnesses (ASOII) for a 2005 National Institute for Occupational Safety and Health (NIOSH) report “Violence in the Workplace”, identified the health care patient as the source of injury in 45% of the reported occupational non-fatal assaults. To adequately establish the potential threat and

the actual occurrence of violence specifically directed toward EMS personnel, additional research is needed. Specific data should be collected and analyzed as to the prevalence of violence experienced by EMS personnel and the various violence-based risks EMS personnel are exposed to. Once accurate information is obtained with regard to specific workplace violence directed toward EMS personnel, administrative and engineering controls can be implemented to reduce or eliminate the identified risks.

### *Assumptions of the Study*

The following assumptions were made in this study:

1. The EMS personnel surveyed in this study answered truthfully and to the best of their ability.
2. A variety of EMS personnel with varied levels of training and educational backgrounds will be completing the survey instrument.
3. There were no major diversions (terrorism, mass casualty incidents, or violent incidents) that greatly impacted the outcome of the study.
4. The majority of EMS personnel completing the survey will have rural Wisconsin EMS experience.

### *Limitations of the Study*

This study is limited by the following:

1. The sample size for this study will be limited to the number of EMS attendees that completed the survey at the 2007 Wisconsin Indianhead Technical College Emergency Services Conference.

### *Definition of Terms*

For clarity of understanding, the following terms need to be defined:

1. Emergency Medical Services (EMS) allows for the provision of patient care at the scene of the illness or injury and transportation to the appropriate facility for continued care. (Mistovich and Karren, 2008).

2. “EMT-basic or emergency medical technician-basic means an individual who is licensed under this chapter to administer basic life support and to properly care for and transport sick, disabled or injured individuals.” (Licensing of Ambulance Service Providers and Emergency Medical Technicians-Basic, 2006).

3. Emergency Medical Technician-Intermediate Technician (EMT-ITECH) is the next licensing level beyond EMT-Basic in Wisconsin. An EMT-ITECH is an individual licensed to initiate intravenous (I.V.) therapy and administer a minimum of medications. (Licensing of Emergency Medical Technicians-Intermediate Technicians and Emergency Medical Technicians-Intermediate and Approval of Emergency Medical Technician-Intermediate Technician and Emergency Medical Technician-Intermediate Operational Plans, 2006).

4. Emergency Medical Technician-Intermediate (EMT-I) is the next licensing level beyond EMT-ITECH in Wisconsin. An EMT-I is an individual licensed to initiate I.V. therapy, administer medications from the preceding licensing levels, administer additional medications and procedures approved by the Department of Health and Family Services and the medical director of the EMT-I service.(Licensing of Emergency Medical Technicians-Intermediate Technicians and Emergency Medical Technicians-Intermediate and Approval of Emergency Medical Technician-Intermediate Technician and Emergency Medical Technician-Intermediate Operational Plans, 2006).

5. Emergency Medical Technician – Paramedic (EMT-P) is currently the highest

pre-hospital licensure level in Wisconsin. An EMT-P is an individual licensed to initiate the functions specified for the previous levels of licensure. In addition the EMT-P may administer additional medications and procedures approved by the Department of Health and Family Services and the EMS Physician Advisory Committee (the State medical director is also included in both groups). (Licensing of Emergency Medical Technicians-Paramedic and Approval of Emergency Medical Technician-Paramedic Operational Plans, 2004).

6. “First responder means a person who provides emergency medical care to a sick, disabled or injured individual prior to the arrival of an ambulance as a condition of employment or as a member of a first responder service.” (Certification of First Responders, 2005 ).

7. Workplace violence is “...violent acts, including physical assaults and threats of assaults, directed toward persons at work or on duty.” (NIOSH, 1996).

## Chapter II: LITERATURE REVIEW

The purpose of this study was to analyze the various violence-based risks that rural Wisconsin-based Emergency Medical Service (EMS) personnel are routinely exposed to. This chapter will include a discussion of literature that provides background information as to the inherent violence in society, followed by information on the prevalence of violence toward health care workers and more specifically, EMS personnel. In addition, current training and methods in violence awareness for EMS personnel will be discussed. The chapter will conclude with existing information on the recognition and prevention of violent situations that could confront EMS personnel.

### *Violence in Society*

Experts in cultural research, Anderson and Richards (2004, p. 2) believe that “There will be no magic pill or silver bullet; there can be no quarantine, when the subject is violence. Violence is neither sickness nor accident, neither malady nor enemy; *it is us.*” Violence in society is not limited just to America. Anderson and Richards (2004) edited a series of articles that encompassed 28 chapters identifying and describing violence across societies and cultures throughout the world. Violence, even though carried out by an individual or individuals, is an attribute of society and culture (Anderson and Richards, 2004). Anthropologists and sociologists might differ on the interchanging of the terms society and culture in this paper. This researcher has chosen to use the terms interchangeably to identify society and culture as a population from which the violent person(s) came from.

It is likely that most countries around the world have had first-hand experience with violence in their particular society for hundreds of years. The specter of violence,

although always present in American society, was likely not fully internalized by most Americans until September 11, 2001. On that dreadful day, terrorists hijacked four commercial airliners with crews and passengers on board. The violence did not end with the hijacking. The terrorists then flew two airliners into the World Trade Center Complex in New York City; one airliner crashed into the North Tower, the other into the South Tower. Another hijacked airliner crashed into the Pentagon and the fourth airliner crashed in a Pennsylvania field. The violence of September 11, 2001 culminated in the deaths of innocent people on board the airliners with additional deaths and injuries to the occupants and bystanders of the World Trade Center and Pentagon complexes. In addition, Emergency Service personnel (law enforcement, firefighters, EMS) that responded to help that fateful day were also killed and injured. While typically not as extreme as the September 11, 2001 event, reports of violence appear on the evening news and in the newspapers daily. These reported acts of violence appear to carry across all socio-economic boundaries with no regard to the victims.

A noted college professor and therapist, Moffatt (2002) believes that rarely are violent individuals born to be violent in nature. Individuals seem to become violent and act out aggressively through a multi-faceted interaction of culture, society, individual physiology and psychological development. According to Moffatt (2002), an individual may have a genetic predisposition toward aggression, coupled with the possibility of aggression being a learned response from the individual's experiences along with an underlying mental health issue all converging with violent results. When violence erupts, EMS providers will likely be called in to provide care to all injured persons involved: perpetrator and victim alike. According to a report on workplace violence issued by the

American Federation of State, County, and Municipal Employees (Preventing Workplace Violence, 2005), as more patients are discharged from mental health facilities (some with a history of violence and some who need structure and supervision) with no place to live or earn a living, they become homeless. The homeless population adds to the crowding of existing facilities and services (homeless shelters, unemployment offices, emergency rooms, and outpatient facilities). This “deinstitutionalization” that has taken place in regard to mental health facilities may be a factor in the occurrence of workplace violence (Preventing Workplace Violence).

Additional research supports the theory that aggressive behavior may be learned through family (domestic) experiences or exposure to media. Burgess and Roberts (cited in Rapp-Paglicci, Roberts and Wodarski, 2002) report the cycle of violence may begin at an early age as children are exposed to a variety of situations that may “teach” the child that violence is the way things are handled. Changes in family structure through the placement of children in foster homes, adoption, and with relatives who may not have appropriate parenting techniques, would likely expose children specifically to domestic violence. More and more children are not living with their natural parents for a variety of reasons: blended families, desertion, substance abuse, and death of the caretakers (Burgess and Roberts). The changes in family structure may lead to social isolation due to abuse taking place in the family and the passing of violence from generation to generation. As the children become adolescents, additional factors including peer pressure, body image, and hormonal influences can compound any pre-existing psychological, physiological or learned behaviors related to aggression. This cycle of “learned” aggression can continue into adulthood resulting in domestic violence, when



witnessed by children, perpetuates the cycle of aggressive behavior and violence (Burgess and Roberts). At any time or place in the unrelenting cycle of violence, when violence manifests itself in dangerous behavior, someone will likely call 911 for help. In this society, a call made to 911 for someone exhibiting dangerous behavior will bring intervention from law enforcement and EMS personnel. It is during the intervention process that the responding personnel can be exposed to the unpredictability of violent or aggressive behaviors regardless of the underlying cause.

#### *Extent of Violence Directed Toward EMS Personnel*

To date, it appears that there have been a limited number of studies conducted regarding the frequency and magnitude of violence toward EMS personnel. Two of the commonly referenced studies in the literature on EMS personnel's interaction with violent patients; the first study was conducted by Tintinalli (1993) and involved the distribution of a survey to attendees at the 1992 National Association of EMS Physicians (NAEMSP) conference in Pittsburg, Pennsylvania while the second study was a retrospective review of patient care reports from a metropolitan North Carolina county. Both studies gathered data in calendar year 1991 to estimate the frequency of violent encounters for EMS personnel, identify management techniques EMS personnel used to handle violent situations, and determine what issues were involved in training EMS personnel to deal with violent patients. Tintinalli received 32 completed surveys from the NAEMSP conference (there is no mention of how many total surveys were distributed) with 67% of the returned surveys indicating EMS personnel had sustained injuries from a violent patient during the study period. Additional information from the NAEMSP survey responses identified physical restraint of the violent patient as the most common form of

patient management technique and 22 of the 32 respondents indicated they had violence management training (Tintinalli). In the second study conducted by Tintinalli, a retrospective review of patient care reports was used to identify violent patient encounters that occurred during EMS calls from June of 1991 to December of 1991. The metropolitan North Carolina county that participated in the study had a population of 60,000 with a reported 4,200 EMS calls during the study period, and of those calls, 33 calls were identified as violent. Tintinalli reported no injuries to EMS personnel from the 33 violent patient encounters. In 14 of the 33 patient care reports identified as violent, restraint was documented as the technique used for patient management. Tintinalli concluded the possibility of injury to EMS personnel from violent patients was widespread, but there was no routine or systematic means to identify that injury to EMS personnel was related to violent patient encounters. The two studies performed by Tintinalli appear to have some limitations with regard to a limited sample size in the first study and data obtained from a retrospective evaluation of completed patient care reports in the second study. Although there may be some limitations, the studies identify a potential risk to EMS personnel from violent patients.

A research study conducted by Pozzi (1998) with the Albuquerque, New Mexico Fire Department had 331 fire department prehospital personnel complete a convenience survey to identify their exposure to violence and abuse. Pozzi reported that 90 percent of the respondents had experienced exposure to violence in their prehospital experience while members of the Albuquerque Fire Department. In 1998 Corbett, Grange, and Thomas distributed a convenience survey to 774 EMS providers in a southern California metropolitan area. From the returned surveys, 61 percent of the respondents reported an

assault on the job, with 25 percent reporting an injury from the assault. An additional study conducted by Mechem, Dickinson, Shofer, and Jaslow (2002) reviewed injury reports involving assaults on paramedics and firefighters from 1996-1998 in the Philadelphia, Pennsylvania Fire Department. Mechem et al. reported assaults to paramedics at 79.5 percent and assaults to firefighters at 20.5 percent. Additional research studies have been conducted with regard to specific violence control issues for pre-hospital EMS providers.

To gather further information on the frequency of violence encountered by EMS personnel, Mock, Wrenn, Wright, Eustis, and Slovis (1998) conducted a prospective field study in a city-county EMS system located in Nashville, Tennessee. This study used medical students who rode along as observers and recorders during 12-hour shifts with EMS personnel who served a population of 500,000. Mock, et al. analyzed 297 EMS runs during 737 hours of observation using the Overt Aggression Scale (see Appendix A) to determine the aggressive behavior demonstrated in each violent episode. The study identified one violent episode for every 19 EMS runs and concluded that in the particular system studied, violent situations occurred in 5% of the EMS runs with violence being underreported in the patient care reports (Mock et al.). Using direct observation on actual EMS runs and the Overt Aggression Scale to identify specific aggressive behavior, Mock et al. factually documented the risk of violent behavior EMS personnel encounter as well as the under-reporting of such events when they do occur (1998).

In a recent study used to investigate the prevalence of violence against EMS personnel and the factors associated with that violence, Grange and Corbett (2002) utilized a prospective analysis of prehospital EMS calls. The study prospectively

analyzed consecutive EMS calls in a southern California metropolitan area for one month. Grange and Corbett reported 4,102 calls available for analysis with violence directed toward EMS personnel occurring in 184 of the 4,102 calls (4.5%). Grange and Corbett concluded that EMS personnel in certain metropolitan areas were identified to be at a substantial risk from violent patients and situational factors may be predictive of violent encounters. Administrative issues such as protocols and training for dealing with violent situations, along with personal protective equipment for EMS personnel, were encouraged (Grange and Corbett, 2002). Violence against EMS personnel continues to be of interest to researchers. As evidenced by the previously mentioned Grange and Corbett study, not only is the frequency of violent exposures against EMS personnel continuing to be investigated, but risk management techniques are being recommended.

#### *Violence Awareness Methods for EMS Personnel*

The previously-mentioned studies conducted by Tintinalli (1993), Mock et al. (1998), Pozzi (1998), Corbett, Grange, and Thomas (1998), Mechem et al. (2002), Grange and Corbett (2002) indicate that EMS personnel are at risk of encountering violent situations. Even though the exact time and place of violent situations cannot be predicted, EMS personnel need to remain alert for signs of danger and act appropriately (Limmer, 1999). In the Mechem et al. study in which assaults on EMS personnel and firefighters were reviewed, increased awareness to the risk of violence was recommended for all emergency services personnel. Numerous EMS periodicals have carried articles on violence against EMS personnel; *Emergency Medical Services* (January, 2007 / June, 2006 / January, 2005 / November, 2004 / October, 2001), and the *Journal of Emergency Medical Services* (March, 2002). In one such article, written by Brice, Pirrallo, Racht,

Zachariah and Krohmer (2003), the risk of violence against EMS personnel is specifically noted to occur in the management of the mentally ill or substance abuse patients. If the risk of violence is to be reduced, EMS personnel must be able to recognize and identify potentially violent situations. Information is readily available to educate EMS personnel as to the risks inherent in the performance of their duties if they choose to make use of it. In addition to the increased availability of information on the risk of violence against EMS personnel, Janing (1994) has recommended the inclusion of critical thinking skills throughout the training curriculum for EMS personnel. Critical thinking, as Janing (1994) describes it, is the process of obtaining information from all possible sources with regard to a situation and then determining further action on the information obtained in conjunction with the base of knowledge the EMS provider has developed over time with training and experience.

The previous literature in this chapter indicates that violence, especially physical violence, is a risk that needs to be managed for EMS personnel. Once the risk has been identified, then possible solutions would need to be identified. An American Federation of State, County, and Municipal Employees (AFSCME) publication (*Workplace Violence, 2006*) recommended an industrial hygiene approach to the problem of workplace violence. In the industrial setting, a three-prong approach is often used to eliminate or reduce an identified risk or problem. Initially, operational processes are examined in an effort to eliminate the identified risk. In addition, engineering and administrative controls are implemented in an attempt to manage the identified problem or risk (*Workplace Violence, 2006*). In reviewing the data collected on workplace violence, it is unlikely that violent situations will be eliminated. However, there are

certain engineering controls in the form of body armor, pepper spray, and self-defense tactics that could be utilized in managing the risk of physical violence (Mechem et al., 2002). In conjunction with engineering controls to manage the risk of violence directed at EMS personnel, administrative controls that include the implementation of recognition and prevention training along with procedural guidelines for violent situations should be included (Workplace Violence, 2006).

#### *Recognition and Prevention of Violent Situations.*

According to Limmer (1999), the best way to deal with violence is prevention through early identification of a potentially violent situation. Safety in any aspect of emergency response could begin long before the potentially violent call is dispatched. The mindset of EMS personnel needs to be geared toward safety at all times, similar to the basic idea of driving a vehicle defensively; always assume people will do something they aren't supposed to do. Dick and Rollert (2007) identified the value of improving an EMS provider's intuitive sense or "gut feeling" in the development of situational awareness when it comes to assessing the risk of violence in any patient encounter. The dynamics of any patient encounter can begin to change at any given moment and EMS personnel often need to rely on their instincts to deal with the changing situation (Dick and Rollert). Krebs, Henry, and Gabriele (1990) stated that it may sound somewhat selfish, but the priority for EMS personnel needs to be their own safety. If EMS providers fail to provide for their own safety, they may be able to do little else for another person's safety.

Two nationally known experts in the field of EMS (Dernocoeur, 1985; Limmer, 1999) agree that EMS provider safety must be integrated into the process of dispatching

the emergency call. EMS personnel need to listen to the dispatcher and the relaying of information as it pertains to the nature of the EMS call. Dernocoeur (1985) believes that although dispatch information is oftentimes incomplete (usually not the dispatcher's fault), the information given will at least begin the preparation process for EMS personnel. According to Limmer (1999), as dispatch information is being obtained and the EMS is responding to the scene of the call, such personnel should begin to form their plan of action on how the call will be handled. Limmer (1999) suggests the following information be taken into consideration;

1. Nature of the dispatch (person down, possible assault, domestic disturbance, shots fired).
2. Scene location (residence, highway, bar, "bad part of town").
3. Additional agencies requested (fire, police, and public utilities).
4. Agencies responding (just because police have been requested doesn't mean they are able to respond before EMS arrives).
5. Use of personal protection equipment (body armor, pepper spray, helmet, gloves).
6. Number of reported or suspected patients.
7. Additional information that activates an intuition response (Limmer (1999)

As one might expect, the processing of the previously listed information generally needs to be accomplished in a very short period of time as EMS personnel travel toward the location of the scene (Limmer, 1999). Limmer also suggests that EMS personnel start gathering the following additional information as they are approaching the location of the call;

1. Observe the general appearance of the neighborhood.
2. Take notice of the people present and determine what they may be doing there especially with regard to the time of the event.
3. Ask if the location appears to be one in which an emergency is occurring (lights on, people waving at them or indications that somebody wants and needs emergency care).
4. Identify if there are any unusual objects or equipment lying around the location in question, such as multiple small LP gas tanks. This may indicate meth lab operations.
5. Intuition - How does the scene "feel"? If the scene is not safe, do not proceed.
6. Turn off the lights and siren as far away as safely possible. There are usually no practical or safe reasons to arrive at a location with siren and lights still operating (Limmer, 1999).

There are certain activities which lend themselves to minimizing the level of situational stress that may occur when EMS providers arrive at the desired location. Krebs, Henry, and Gabriele (1990) advise EMS personnel as they park the emergency vehicle and prepare to approach the scene, to make the following additional observations;

1. Do not park directly in front of the residence if you can help it and certainly do not pull into the driveway. Parking in a driveway limits the speed at which you may have to leave the scene.
2. Never leave the ambulance without some form of communication; radio or cell phone. Having a way to call for assistance may save a life.
3. Take an unexpected route to the residence and keep from being "back lighted"



by the ambulance.

4. Listen for indications of violence while approaching the house; yelling, breaking glass, fighting, or dogs barking. Lack of activity or silence at the scene should also cause EMS personnel to proceed with caution as emergency situations are usually active events.

5. If no indication of danger has been found to this point, approach the door from the doorknob side so as not to be immediately visible to anyone opening the door. Wait and listen for unusual sounds or the absence of any activity before you knock or ring the bell.

6. Once EMS personnel announce themselves, someone should come to the door. If someone calls “come in”, be wary. The patient may not be able to come to the door or they do not want to come to the door for a variety of reasons. Be careful (Krebs, Henry, and Gabriele, 1990).

Once access has been made into the residence, the location advantage goes to the patient as EMS personnel are now in unfamiliar territory (Dernocoeur, 1985). According to Krebs, Henry, and Gabriele (1990) as the assessment of the patient begins, it is important for EMS personnel to keep the following thoughts in mind;

- If possible, leave the entrance door slightly ajar in case there is a need for rapid exit.
- If someone can lead EMS personnel to the patient, allow them to lead. This allows the EMS personnel a shield, a better view of the surroundings, and someone familiar to the patient to introduce the EMS personnel.
- When observing the surroundings, identify any possible threats to safety (weapons of any kind; scissors, knitting needles, bottles, ash trays, fire place pokers, etc.).

Kitchens and bedrooms may have readily accessible weapons.

- Do not let anyone unknown to EMS personnel leave the room or area until they can be accompanied by someone from emergency services personnel on scene.
- Possible domestic disputes always need law enforcement.
- Use voice control. Control the tone of your voice and how you address the patient, family members and bystanders. Talk to people the way you expect to be talked to.
- Maintain eye contact with not only the patient, also keep your partner in sight.
- Be conscious of body language; including the EMS provider as well as the patient. Certain positions or reactions may indicate escalating aggression. EMS personnel should never have their hands in their pockets or stand with their feet close together when talking to a stranger.
- If possible, keep some type of physical obstacle between the aggressive or potentially aggressive patient and the EMS provider.
- If all else fails and safety is in jeopardy, EMS personnel must leave the scene and seek safety (Krebs, Henry, and Gabriele, 1990).

Specific books related to EMS safety and trade journal articles on safety for EMS personnel reviewed for this study contained consistent and detailed information that could possibly help EMS personnel recognize and prevent violent encounters. A review of several textbooks used in EMS training courses; *Emergency Care, 10<sup>th</sup> Edition* (Limmer, O'Keefe, 2005), *EMT Prehospital Care, Third Edition* (Henry, Stapleton, 2004), *Prehospital Emergency Care, Eighth Edition* (Mistovich, Karren, 2008), *Emergency Care and Transportation of the Sick and Injured, Ninth Edition* (American Academy of Orthopaedic Surgeons, 2005) identified similar safety-related information,

but the consistency and detail varied significantly between textbooks. Although information on recognition and prevention of violence toward EMS personnel appears to be readily available, EMS personnel would have to specifically search through a variety of EMS textbooks or seek out specific books or journal articles to obtain information on the recognition and prevention of violence.

### *Summary*

A review of the literature suggests that the occurrence and prevalence of violence directed toward EMS personnel is significant enough to warrant further investigation. Lacking in the literature review were research studies specific to the risk of violent encounters directed toward smaller rural EMS services and their personnel. In addition, recognizing and preventing potentially violent situations is a skill that needs to be developed with EMS personnel, just as those same EMS personnel would develop skills in using a particular piece of equipment or performing a particular procedure. Although learning by example can be a great way to gain information, knowledge obtained this way usually comes from making mistakes. When it comes to developing the skills of recognizing and preventing violence toward EMS personnel, prior personal experience should not be the desired way to learn.

The unfortunate facts with regard to the available information of violence toward EMS personnel is that the studies are dated, tend to be retrospective with information taken from patient care charts and/or incident reports, and are not localized to the situations that EMS personnel in smaller rural EMS systems of Wisconsin might encounter. The literature review found what appeared to be sufficient information in the EMS trade journals and textbooks used for training EMS personnel regarding the risk of

violence against EMS personnel. Further research is needed to investigate current risk exposures of EMS personnel to violent patients with specific attention directed toward smaller EMS agencies in rural communities.

### Chapter III: Methodology

The purpose of this field problem study was to analyze the various violence-based risks that rural Wisconsin-based Emergency Medical Service (EMS) personnel are routinely exposed to with the following identified goals:

- Establish the occurrence and prevalence of violence in the rural Wisconsin EMS workplace.
- Identify the types of violence that occur in the rural Wisconsin EMS workplace.
- Evaluate rural Wisconsin-based EMS personnel's training experiences with regard to workplace violence to identify where deficits in training might exist.
- Analyze worker compensation claim and survey survey data to identify the extent that work-related injuries incurred by EMS personnel are related to dealing with violent situations.

To accomplish the stated goals, research included the use of a survey to obtain data specific to rural Wisconsin-based EMS personnel. This chapter will include information on how the subjects were selected, a description of the sample population, survey instrumentation used, data collection procedures and data analysis. The chapter will conclude with the methodological limitations of this study.

#### *Subject Selection and Description*

To obtain accurate information as it pertained to the purpose and goals of the study, rural Wisconsin EMS personnel were needed for the sample population. Permission to distribute the survey and utilize the results was obtained by the researcher from the Emergency Services Advisory Board for Wisconsin Indianhead Technical

College at their February 2007 meeting. The sample population for this study was selected from the 194 registrants that had indicated an EMS licensure or EMS affiliation on the registration form for attendance at the 25<sup>th</sup> Annual Wisconsin Indianhead Technical College (WITC) Emergency Services Conference held at Telemark Lodge in Cable, Wisconsin on March 9-10, 2007. The sample population was chosen from this conference because the majority of the approximate 350 total annual attendees have historically been EMS and fire personnel from rural and smaller communities located in northwestern Wisconsin.

An announcement was made to all conference attendees at the General Session held both March 9 and March 10, 2007 describing the purpose and goals of the study, in addition to asking attendees to voluntarily participate in completing the survey. A copy of the UW-Stout Implied Consent Statement for Research Involving Human Subjects (see Appendix B) was made available to the participants for their review.

#### *Instrumentation*

The survey for this study was designed by adapting a “Survey of Violence in the Workplace” which was developed by the American Federation of State, County, and Municipal Employees (AFSCME, n.d.). Since the AFSCME survey did not completely meet the specific needs of this study, a modified survey was designed. Because the survey was constructed specifically for this study, there are no documented measures of validity or reliability. The survey was designed to be easy to complete in a minimum amount of time due to the time constraints of the respondents (attendees at a conference). A copy of the finalized survey is located in Appendix C.

### *Data Collection Procedures*

The survey used for this study was a 36 question document that had no personal identifiable information and included a Personal Opinion and Additional Comments section. The surveys were placed in the individual conference folders of 194 registrants that had indicated they were licensed or affiliated as an EMS provider on their conference registration form. A general statement was made to all conference attendees at the General Session held both days of the conference that outlined the purpose of the study and asked for their voluntary participation in the completion of the survey. Registrants that had the survey placed in their conference folder were not individually identified in any way. The completed surveys were to be returned to secured receptacles located at the conference information table by the conclusion of the conference. The conference information table was staffed throughout the conference.

### *Data Analysis*

All appropriate descriptive statistics were obtained from the data in order to address the research goals. From the returned surveys, general demographic data was analyzed to determine the breakdown of respondents as to job title, age, gender, type of work agency, and length of EMS experience. Additional data was analyzed to review answers to personal safety issues addressed in the survey. Specific data on training and employer policies regarding workplace violence was identified. The specific type, extent, and frequency of assault were tabulated. Personal opinion and additional comments on workplace violence were listed.

### *Limitations of the study*

This study was limited by the following:

1. The sample size for the study was limited to the number of registrants that completed the survey at the 2007 Wisconsin Indianhead Technical College Emergency Services Conference.
2. Survey respondents may have fictionalized their responses to the survey.
3. Some EMS personnel may not have personally experienced a violent situation and therefore have no reference with which to answer the survey.
4. The survey has no documented measures of validity or reliability.
5. Surveys may reflect a localized response due to the potential of more respondents attending the conference from nearby geographical areas than from greater distances.



## Chapter IV: Results

The purpose of this study was to analyze the various violence-based risks that rural Wisconsin-based Emergency Medical Services (EMS) personnel are routinely exposed to. Following are the goals of this study:

- Establish the occurrence and prevalence of violence in the rural Wisconsin EMS workplace.
- Identify the types of violence that occur in the rural Wisconsin EMS workplace.
- Evaluate rural Wisconsin-based EMS personnel's training experiences with regard to workplace violence to identify where deficits in training might exist.
- Analyze worker compensation claim and survey data to identify the extent that work-related injuries incurred by EMS personnel are related to dealing with violent situations.

In order to accomplish the majority of goals in this study as they pertained to violence in the workplace for rural Wisconsin-based EMS personnel, a survey was distributed to EMS personnel that attended the 2007 Wisconsin Indianhead Technical College Emergency Services Conference held in Cable, Wisconsin on March 9-10, 2007. Information gathered from the survey was reviewed, compiled, and will be presented in this chapter.

### *Presentation of Collected Data*

In this study, 194 surveys were distributed to attendees at the 2007 Wisconsin Indianhead Technical College - Emergency Services Conference held March 9-10, 2007 at the Telemark Lodge in Cable, Wisconsin. Of the distributed 194 surveys, 96 completed

surveys were returned. Through these completed surveys, respondents identified their EMS job title as follows; First Responder (10), EMT Basic (47), EMT-I Tech (23), EMT Intermediate (8), EMT Paramedic (5), and “Other” (3). Table 1 provides age-based demographics of the respondents who ranged from 21 years of age to beyond 50 years of age.

*Table 1*

Number of respondents in age ranges

16-20 yr	21-25 yr	26-30 yr	31-35 yr	36-40 yr	41-45 yr	46-50 yr	+50 yr
0	1	8	10	20	15	16	26

The data from Table 1 identifies the greatest number of respondents were in the 50+ age range with the second greatest number of respondents in the 36-40 age range. These two findings indicate that the respondents that answered the survey were older and possibly had more life experience than a younger respondent would have.

Of the 96 respondents to the survey, 26 identified their gender as male, 36 identified their gender as female, and 34 did not identify their gender. Respondents to the survey indicated that they were employed by 35 different sized organizations, with the most frequent number of employees in an EMS organization being 30, as indicated by 11 respondents. EMS organizations that were identified in the survey ranged from as few as five volunteer / paid on call employees to an industrial / community health organization which employed approximately 8,000 employees. The second highest number of employees listed in an EMS organization was 10, indicated by nine respondents. Six respondents listed the EMS organization they worked for as having between 100 and 180

employees and four respondents listed the EMS organization they worked for as having between 250 and 450 employees. The EMS organizations that had over 100 employees were identified as hospital-based, county, or private EMS agencies. Volunteer / paid on call ambulance services had the most respondents with 66 people indicating this was the type of facility they worked for. Full-time ambulance services had the second highest number of respondents at 12. It should be noted that many of the respondents indicated they worked for multiple agencies and identified themselves with the agency they worked for most often.

The first goal of this study was to establish the occurrence and prevalence of violence in the rural Wisconsin EMS workplace. Utilizing information gathered from the survey, 25% (24 of 96) respondents reported they had sustained some form of physical assault from either the patient they were caring for, another person (family member, bystander, etc.) or both while performing their EMS duties. Additionally, 35% (34 of 96) of the respondents reported being harassed by the patient they were caring for and/or another person (family member, bystander, etc.) or both. In addition, 33% (32 of 96) respondents reported being threatened by the patient they were caring for and/or another person (family member, bystander, etc.).

The second goal of this study was to identify the types of violence that occur in the rural Wisconsin EMS workplace. As indicated in Table 2, various forms of physical assault are displayed with the number of respondents who reported the specific type of assault as well as the number of times that the violence-based event occurred.

Table 2

Type of physical assault, respondents reporting, and occurrence of identified assault

<b>Type of physical assault</b>	<b>Respondents reporting</b>	<b>Occurrence of assault</b>
<b>Grabbed</b>	19	33
<b>Slapped</b>	10	7
<b>Pushed</b>	15	10
<b>Kicked</b>	12	8
<b>Hit with fist</b>	10	6
<b>Hit with object</b>	7	8
<b>Knifed (or attempted)</b>	4	4
<b>Shot (or attempted)</b>	1	1
<b>Held hostage (or attempted)</b>	1	1
<b>Other</b>	Swung at / spit on	1

The data in Table 2 indicates that approximately 20% of the respondents reported being grabbed, and that this type of physical assault did occur a total of 33 times to those 19 individuals. The number of occurrences indicated that this form of assault occurred more than once per respondent. Of particular concern are the reported forms of assault that possess a significant potential for moderate to serious injury (i.e., slap, push, hit, kicked, etc.). This reported data provides insight on the level of risk that individuals who work in this profession put themselves at in order to assist those who are in need of medical assistance.

The third goal of this study was to evaluate rural Wisconsin-based EMS personnel's training experiences with regard to workplace violence to identify where deficits in training might exist. Figure 1 below identifies the respondent's answers to the question "Have you received employer-sponsored training on how to deal with potentially violent situations"?

Figure 1

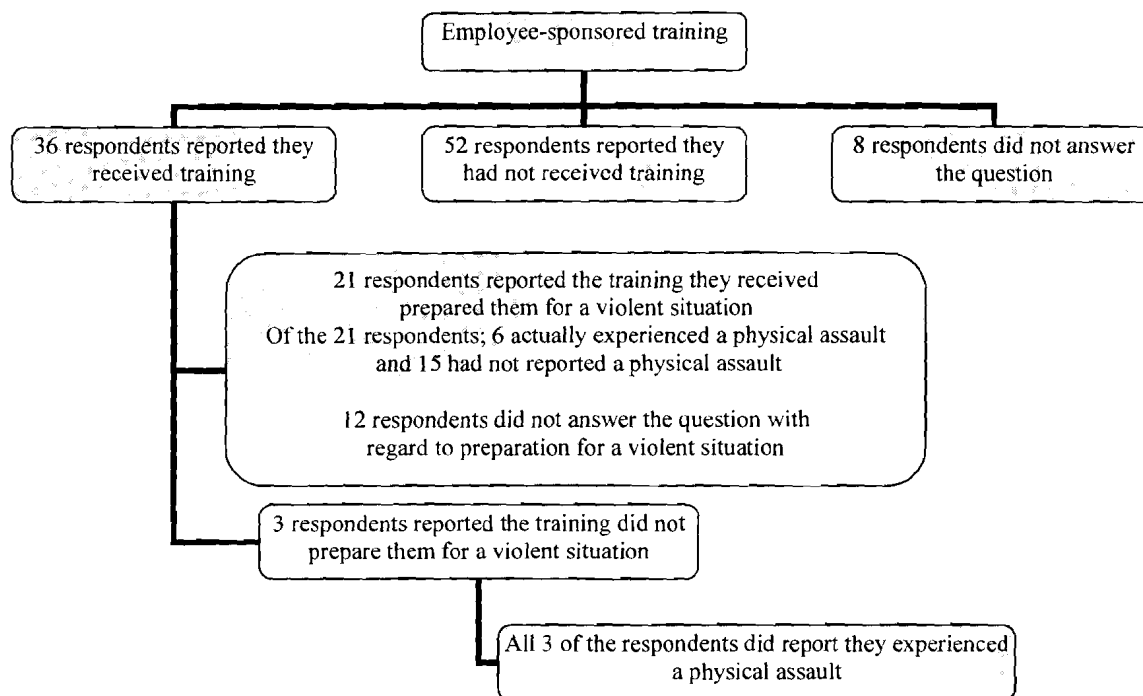


Figure 1 indicates that 36 out of 96 (37.5 percent) individuals who participated in the survey had received some form of training on how to deal with potentially violent situations. Given the various forms of assault that were previously reported in Table 2 of this chapter, it is somewhat disturbing that 52 respondents (54 percent) indicated they had not received training and the remaining eight respondents did not answer the question. Of the 36 respondents that indicated they had received training, 21 indicated the training they received did prepare them to deal with a violent encounter. Six of 21 respondents indicated they had actually experienced a physical assault while the remaining 15 respondents indicated they had not been physically assaulted. Of the 36 respondents that indicated they had received training on how to deal with potentially violent situations, three respondents indicated the training they received had not prepared them to deal with

potentially violent situations. It should be noted that these three respondents did indicate that they had experienced a physical assault while performing their EMS duties.

The fourth goal of the study was to analyze worker compensation claim and survey data to identify the extent that work-related injuries incurred by EMS personnel are related to dealing with violent situations. In order to obtain the data previously identified, the researcher first utilized 2002 as a year for a statistical review of Wisconsin and California worker compensation claim information. The year 2002 and the state of California were to be used for comparison with Wisconsin because the Grange and Corbett (2002) research study was one of the most recent research studies referenced in this field problem and their study was conducted in California.

In order to obtain worker compensation data for the year 2002, the Standard Industrial Classification (SIC) code system that was in place at that time was used to identify the major industry division. Once the SIC code had been determined for the desired industry, the specific occupation being sought was determined. In the 2002 worker compensation data, no identified EMS occupation could be found in the occupation / industry descriptions as identified by the U.S. Department of Labor or the Occupational Safety and Health Administration (OSHA) ([http://www.osha.gov/pls/imis/sic\\_manual](http://www.osha.gov/pls/imis/sic_manual)). The SIC code that was in place at that time identified "ambulance service" in the Service Producing Industry Group 411: Local and Suburban Passenger Transportation, 4119 Local Passenger Transportation, Not Elsewhere Classified (n.e.c.). The occupation sub-group that ambulance service personnel were identified with was Health Technologist/Technicians, n.e.c. and this grouping was then used for an occupation identifier for comparing information. After the

SIC code and industry sub-group had been identified, worker compensation data was then identified by accessing Wisconsin worker compensation data tables through the Bureau of Labor Statistics, Department of Labor (<http://data.bls.gov>), ([http://www.dwd.state.wi.us/WC/research\\_statistics/occ\\_inj](http://www.dwd.state.wi.us/WC/research_statistics/occ_inj)), and California (<http://dir.ca.gov/dlsr/injuries/2005/menu.htm>). A comparison was then made between the occupation with the industry division. No specific data could be found for California that specifically identified assaults and violent acts in the desired industry group as could be found for Wisconsin. With no accurate way to compare Wisconsin worker compensation data to California, only Wisconsin data was used in this section.

Table 3 compares worker compensation data for 2002 from Wisconsin with regard to the number of non-fatal occupational injuries and illnesses involving days away from work by occupation and industry division along with the selected events of assaults and violent acts for Local Government and Private Industry (which covers the majority of EMS providers that responded to the Workplace Violence survey that was used in this study).

Table 3

Identification of the number of non-fatal occupational injuries and illnesses involving days away from work and incident rates by event and industry division for 2002

SIC 4119 (transportation n.e.c.)	Local Government		Private Industry	
number of non-fatal incidents involving days away from work	Total cases for Health Tech 276 Health Tech-Transportation 10		Total cases for Health Tech 274 Health Tech-Transportation 92	
Incident rates <sup>1</sup> of assaults and violent acts by persons	Total cases	Health Tec	Total cases	Health Tec
Assault/violent act, unspecf	8.8	-	2.2	1.3
Hitting, kicking, beating	-	-	0.1	-
Assault / violent act, n.e.c.	3.5	-	0.5	-
Squeeze, pinch, scratch, twist	2.9	-	1.5	-
	-	-	0.1	-

n.e.c.= not elsewhere classified

<sup>1</sup> Incidence rates represent the number of injuries and illnesses per 10,000 full-time workers and were calculated as (N/EH) x 20,000 where

N = number of injuries and illnesses

EH = total hours worked by all employees during calendar year

20,000,000 = base for 10,000 equivalent full-time workers working 40 hours per week, 50 weeks per year

(Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses, 2007)

As evidenced in Table 3, in 2002 there was an approximate even number of total cases of non-fatal occupational injuries and illnesses involving days away from work between Wisconsin Local Government and Private Industry with regard to the Health Technologist/Technician (n.e.c.) occupation. Specifically in the Service Producing industry with regard to the Health Technologists/Technicians occupation, there were more reported days away from work in Private Industry (92) than in Local Government (10). One of the reasons for this difference may be due to the fact that worker compensation data is recorded based on full-time workers. Private industry would most likely have more full-time Health Technologists/Technicians than Local Government. In Wisconsin, a majority of the EMS providers that would be classified in the Health Technologist/Technician(n.e.c.) occupational category are affiliated with Local Government (municipal) EMS agencies and are considered volunteer / paid-on-call



employees and would not be included in the data as they are not full-time employees.

Further review of Table 3 identifies the incident rates of Assaults and Violent Acts by Persons. Local Government had a total case incident rate of 8.8 while Private Industry had a total case incident rate of 2.2. Local Government also had specific additional total cases of hitting, kicking, beating, and violent acts not elsewhere classified (n.e.c.), but there were no identified incidents specific to Health Technologists/Technicians(n.e.c.) in the Transportation division under the Service Producing industry. Private Industry had total cases specific to unspecified violent acts, hitting, kicking, beating, squeezing, pinching, scratching, twisting, and violent acts (n.e.c.). Health Technologists/Technicians in the Transportation division under the Service Producing industry for Private Industry had a 1.3 incident rate of assaults and violent acts and a 0.7 incident rate of assaults and violent acts (n.e.c.). There were no other specifically reported types of assaults or violent acts for Private Industry. Local Government had an overall higher incident rate of total cases of assaults and violent acts in addition to specific events compared to Private Industry, but Private Industry had assaults and violent acts specific to the Transportation division where EMS workers would be categorized.

Table 4 compares worker compensation data for 2005 from Wisconsin with regard to occupation, major industry sector, and selected events of assaults and violent acts for both Local Government and Private Industry which covers the majority of EMS providers that responded to the 2007 Workplace Violence survey that was used in this study. In 2005, the Standard Industrial Classification (SIC) was replaced with the North American Industrial Classification System (NAICS). The NAICS allowed for a more

detailed classification of industries and occupations within those industries Emergency Medical Technician-Paramedic was identified and placed as a sub-group under Health Technologists and Technicians in the education and Health Services sector of Service Producing industries. The NAICS identifier number as found in <http://www.census.gov/episd/naics02/def/ND621910.HTM> for Ambulance Services is 621910.

*Table 4*

Identification of the number of non-fatal occupational injuries and illnesses involving days away from work and incident rates by occupation, major industry sector, and events for 2005

NAICS 621910 (education / health services)	Local Government		Private Industry	
number of non-fatal incidents involving days away from work	Total cases for Health Tech 50 EMT-Health Services 0		Total cases for Health Tech 400 EMT-Health Services 170	
Incident rates <sup>1</sup> of assaults and violent acts by persons	Total cases	Health Services	Total cases	Health Services
Assault/violent act, unspecf	10.2	7.9	1.1	7.9
Biting	1.0	-	0.2	1.6
Hitting, kicking, beating	2.1	3.7	-	-
Squeeze, pinch, scratch, twist	1.3	-	0.5	3.8
Assault / violent act, n.e.c.	1.1	-	-	-
	4.8	3.1	0.3	2.3

n.e.c.= not elsewhere classified

<sup>1</sup> Incidence rates represent the number of injuries and illnesses per 10,000 full-time workers and were calculated as (N/EH) x 20,000 where

N = number of injuries and illnesses

EH = total hours worked by all employees during calendar year

20,000,000 = base for 10,000 equivalent full-time workers working 40 hours per week, 50 weeks per year

(Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses, 2007)

Table 4 identifies a higher number of non-fatal incidents involving days away from work for Private Industry as compared to Local Government. Emergency Medical Technicians (EMT) / Paramedics in the major industry sector of Education and Health Services had 170 of the 400 days away from work in the major occupation category of Health Technologists and Technicians in Private Industry. While there appears to be no

accurate way of directly correlating the number of days away from work for EMT/Paramedics to the incidence of assaults and violent acts in the Education and Health Services sector in the selected data, there is an incidence rate of 7.9 assaults and violent acts in the major industry sector of Education and Health Services for Private Industry and Local Government (where the EMT/Paramedic occupation category would be found). Table 4 also identifies specific incidents of unspecified assaults and violent acts, hitting, kicking, biting, and assaults and violent acts by persons (n.e.c.) in the major industry sector of Education and Health Services for both Private Industry and Local Government which could also include EMT/Paramedics. The higher overall incident rate of assaults and violent acts in Local Government would correspond with the Bureau of Labor Statistics "Survey of Workplace Violence Prevention" (2005) data where local government agencies reported over three times the total incidence of violent acts as compared to private industry during the year previous to the 2005 survey.

In response to the "Survey of Violence in the Workplace for EMS Providers" that was distributed to 194 attendees at the 2007 Wisconsin Indianhead Technical College Emergency Services Conference, a total of 96 surveys were returned and of those 96 surveys, 12 of the surveys had indicated the respondents had experienced a specific form of physical and/or psychological trauma. On the 12 returned surveys in which EMS personnel had indicated a specific form of physical or psychological trauma, there were three instances of lacerations/abrasions, five instances of bruises, and five instances of psychological trauma. In one respondent's case, the respondent's exposure to workplace violence had resulted in lacerations/abrasions, bruises, psychological trauma, "narrowly missed being shot", required medical attention, and resulted in three days away from

work. Respondents did not identify how many times they may have experienced a specific form of trauma or in what specific incidence they received the trauma other than in the performance of their EMS duties. In the portion of the survey where the respondents were asked “What was the extent of your most recent injury (check all that apply)?”, the respondents had an opportunity to identify “Other (please specify)”. In this section the respondents listed; “torn clothes, bite marks, narrowly missed being shot, squeezed my hand too hard, spit on” as additional comments.

As evidenced by the results of the survey, nearly 13% of the respondents who completed the survey had personally experienced a specific form of physical or psychological trauma. Not only does this indicate the presence of violence in the EMS workplace, but there are also specific instances of EMS providers being physically and psychologically traumatized by their encounters in these violent situations. With regard to the information presented in Table 2 that identified the types of physical assaults and the occurrence of those assaults, in addition to the information just presented, there may be a “near hit” possibility that may be present. In Table 2, there are multiple occurrences of various forms of physical assaults that are not all represented in the 12 surveys that were returned that indicated the extent of the trauma, the need for medical attention, and days away from work. This difference may indicate that the respondents either did not follow up with the specifics of their assault or a “near hit” occurred if they were able to keep the initial assault from becoming more extensive to the point of needing medical attention or days away from work.

*Discussion*

The research involved in this study has found that almost every day there are ever-increasing threats of violence not only in the United States, but world-wide. With this increase in violence, it is probable that there will be a subsequent increase in the number and frequency of EMS personnel that will respond to render care. As the number of responses to violent situations increases, so may the potential for EMS providers to be injured or killed as a result of violence. As identified in Chapter 2 of this study, ever-changing family and societal dynamics increase the potential for aggressive and violent responses. EMS providers will be called upon to intervene and care for people involved in these violent situations and the EMS providers must be made aware and ready for the potential violent encounters they will face. Early research to gather information on the frequency of violence toward EMS personnel was conducted by Tintinalli (1993), Mock et al.(1998), Pozzi (1998), Corbett, Grange, and Thomas (2002), Mechem et al, (2002), Grange and Corbett (2002). The research that has been undertaken to-date has utilized retrospective reviews of patient care charts, convenience surveys, direct observation on EMS calls, and prospective analysis of EMS calls all conducted in larger metropolitan areas where EMS call volumes and methods of operation are different than in rural Wisconsin. In the research conducted to-date, the identified violent patient encounters that EMS providers experienced had ranged from less than one percent to 90 percent. While there seems to be ample information for EMS providers with regard to the identification, recognition, prevention, and handling of violent encounters, the information has to be specifically sought out and does not seem to be regularly discussed

or practiced by EMS providers according to respondents on the survey used in this field problem study.

The research conducted in this field problem study specifically targeted the rural Wisconsin EMS provider by surveying rural EMS personnel and their personal experiences with workplace violence which had not been found in the literature. As previously identified in this chapter, respondents to the survey indicated a 25 percent exposure to violent situations which is a greater exposure than had been identified in a majority of previous studies. Thirty-five percent of the respondents to the survey utilized in this study also indicated they had been harassed by patients and/or others. This study also identified the types of violence that occurred in the rural Wisconsin EMS workplace, evaluated the training experiences of the rural Wisconsin-based EMS provider with regard to workplace violence, and analyzed worker compensation claim and survey data to identify the extent of work-related injuries incurred by EMS personnel related to dealing with violent situations.

### *Summary*

The occurrence and prevalence of violence, along with the types of violence rural Wisconsin EMS providers are exposed to in their workplace has been established through the data presented in this chapter. In addition, preventing, recognizing, and identifying potentially violent situations needs to be incorporated as a major component part in the overall training of EMS personnel. The data presented in this chapter would seem to support the need for continued research in the area of violence as it relates to rural EMS providers not only in Wisconsin but in other rural areas of the country as well. Currently, the limited studies conducted regarding the frequency and magnitude of violence toward

EMS personnel should serve as a starting point, or better yet, a continuation point for further more involved studies.

## Chapter V: Conclusions and Recommendations

The purpose of this study was to analyze the various violence-based risks that rural Wisconsin-based Emergency Medical Service (EMS) personnel are routinely exposed to with the following identified goals:

- Establish the occurrence and prevalence of violence in the rural Wisconsin EMS workplace.
- Identify the types of violence that occur in the rural Wisconsin EMS workplace.
- Evaluate rural Wisconsin-based EMS personnel's training experiences with regard to workplace violence to identify where deficits in training might exist.
- Analyze worker compensation claim and survey data to identify the extent that work-related injuries incurred by EMS personnel are related to dealing with violent situations.

To accomplish the stated goals of this study, research included a review of the information available from previous studies conducted on this subject matter, along with a survey specifically adapted to obtain information as it pertained to rural based EMS personnel's experiences with violent situations. The survey was distributed at the 2007 Emergency Services Conference offered by Wisconsin Indianhead Technical College (WITC) at Telemark Lodge in Cable, Wisconsin. The survey used in this study was distributed at this conference since the majority of EMS personnel that attended this conference represented mostly rural areas in northwestern Wisconsin and given that the main goal of this study was to specifically analyze the various violence-based risks that rural Wisconsin-based EMS personnel are confronted with.



Introductory information for this study involved a brief review of the history of EMS having its origin in the violence of war and the progression of violent situations that EMS providers encounter in their workplace. When the training curriculum for EMS personnel was initially developed in the early 1970's, the authors could probably not imagine the escalation of violence that would occur globally and more specifically toward the people trying to help the ill and injured; EMS personnel. While the occurrence of workplace violence has been identified and addressed by multiple agencies; Occupational Safety Health Administration (OSHA), Department of Labor-Bureau of Labor Statistics, and the National Institute for Occupational Safety and Health (NIOSH) with regard to a multitude of occupations, there appeared to be no single-source/data gathering agency for recording assaults, injuries, or fatalities specifically for EMS personnel.

The literature reviewed for this field problem study involved an overview of the inherent violence in society, followed by information on the prevalence of violence directed toward health care workers and more specifically, EMS personnel. There appeared to be limited studies conducted regarding the frequency and magnitude of violence toward EMS personnel. The identified studies were dated, tended to be retrospective with data taken from patient care records and/or incident reports, and were administered in large metropolitan service areas. Existing training and methods in violence awareness for EMS personnel was presented along with information on the recognition and prevention of violent situations that could confront EMS personnel. Further research to determine the various violence-based risks that specifically addressed

the smaller, rural EMS systems found throughout Wisconsin and the rest of the United States was needed.

The data gathered for this field problem study both through worker compensation claim information and the survey distributed directly to rural Wisconsin EMS providers indicated that those providers seem to have an identified risk exposure to potentially violent situations. Rural Wisconsin EMS personnel will need to recognize and manage their risk exposure to potentially violent situations in order to decrease subsequent injuries, possible fatalities, and the additional monetary and psychological impact of workplace violence.

### *Conclusions*

Following are conclusions that can be drawn from the data presented in Chapter IV of this study:

- The results of 96 returned surveys from a total of 194 distributed surveys from rural EMS personnel that attended the Wisconsin Indianhead Technical College – Emergency Services Conference in March 2007, indicated 25 percent of the respondents had personally experienced some form of physical assault while in the performance of their EMS duties. The results from the 2007 survey were taken from surveys completed by EMS personnel working in smaller rural areas and are likely to reflect the real-life experiences of the EMS personnel completing the surveys.
- The reported percentage of rural EMS workers personally experiencing a physical assault of some kind exceeds the reported percentages in at least two of the previously identified metropolitan studies. Since the 2007 survey results are assumed to

be from a majority of rural EMS providers, the results may reflect the first ever rural-based research study on violence directed toward rural EMS personnel.

- In the 2007 survey which was distributed as part of this field problem, nineteen respondents reported the occurrence of being grabbed thirty-three times as the leading form of physical assault. Respondents also reported being pushed, kicked, hit with an object, and slapped all with multiple occurrences. The 2007 survey seems to reflect the same type of assaults that were reported from a larger metropolitan area and these assaults should not be underestimated.

- The assault of an EMS provider not only presents the possibility of significant physical and/or psychological injury, but there may be associated days away from work, medical expenses, morale concerns for not only the affected employee but for all employees, and the potential for the employee or employees leaving the organization or leaving the occupation all-together.

- Of the 96 respondents to the 2007 survey that was conducted as part of this study, 52 respondents (54 percent) reported they had received no formal training in the handling of potentially violent situations. There were 36 respondents to the 2007 survey that did acknowledge some type of formalized training in the handling of potentially violent situations and of the 36 respondents, 21 (58 percent) stated they felt the training they received prepared them to deal with a violent situation, but only 6 of the 21 respondents had identified an exposure to a violent situation in which to judge their preparedness. There was no way to determine from the study if 15 of the 21 respondents that had received training were able to avoid a violent encounter specifically because of their training.

- An attempt to identify specific worker compensation claim data as it related directly to injuries sustained by EMS personnel as a direct result of violent encounters proved to be a difficult if not impossible task. The researcher could not find a single-source of information that was easily attainable that directly correlated violent assaults directly with EMS personnel and worker compensation data. The studies such as Mechem et al, (2002) that specifically followed one specific department or organization were able to directly correlate injuries to assaults. In the 2002 Mechem et al. study, 44 identified assaults resulted in 56 injuries. The most common type of injuries were contusions, strains/sprains, and scratches. Fourteen of the assaults resulted in time lost from work and the study determined four percent of the agencies occupational injuries were from assaults. In the 2007 survey conducted for this study, the only determination that could be made was the respondent's answers to the extent of their injury, any potential lost time from work, and any medical attention obtained. From a total of 96 respondents, 12 had indicated some form of specific physical or psychological trauma and one responded indicated 3 lost work days due to a physical assault. A discrepancy seems to exist between the number of respondents that indicated some type of physical assault, 24, and the number of respondents that indicated a specific form of physical assault, 12. As previously discussed, this may be a "near hit" situation in which the respondent was able to keep the physical assault from progressing to a specific physical injury.
- Wisconsin worker compensation data was available that did help identify the number of nonfatal occupational injuries and illnesses involving days away from work by occupation and industry division/sector and the incidence rates for nonfatal occupational

injuries and illnesses involving days away from work for selected events or exposures leading to injuries or illnesses and industry division. The data included in this field problem did identify assaults and violent acts to EMS personnel, and additional data did identify days away from work in the occupation category EMS providers would be classified in, but the researcher could not find data that would directly correlate the two data sets. There may be a way to directly correlate violence related injuries to EMS personnel with subsequent days away from work and injuries, but the researcher was unable to make that determination from the data available.

### *Recommendations*

Based on the above conclusions, following are recommendations which should be considered in order to minimize the violence-based risks that emergency responders are routinely exposed to:

- In order to adequately address any risk exposure, the potential risk must not only be identified, but then efforts must be made to eliminate the risk and then implement administrative and engineering controls to limit the remaining risk exposure. One aspect of utilizing administrative controls is that of training. In the case of violence directed toward EMS personnel, EMS personnel must first be taught to understand the potential for violence that appears to be inherent in their occupation. In addition, EMS personnel need to be taught to recognize situations that may lead to violent encounters and develop a strategy to avoid those encounters.

- If previous efforts of avoidance to violent situations have failed or have not been adhered too, EMS personnel also need additional training on how to physically and psychologically deal with violent situations and how to implement and use any

engineering type controls (i.e., pepper spray, chemical restraint, taser-type devices, etc.) that may be available to them. In several of the previously identified research studies, the training of EMS personnel in various aspects of violence awareness, prevention, and training had been mentioned. In the 1998 Corbett, Grange, and Thomas research study, 28 percent of the 522 survey respondents reported they had received formal training in the handling of violent situations but 95 percent of the respondents had been involved in the physical restraint of patients. The previously described situation is most likely a “near hit” waiting to happen. That is, EMS personnel may be seriously involved in a violent situation enough to use physical restraint but have little or no training in the handling and restraint of a violent patient. The potential end result of the previously described situation may be unnecessary injury to the patient and EMS personnel with ensuing litigation, medical expenses, and lost work days.

- All EMS personnel should undergo formalized and continuous training in all aspects of violence awareness, recognition, prevention, and procedures for handling violent situations. Adequate information with regard to violence directed toward EMS personnel appears to exist in topic-related textbooks, trade journals, as well as at EMS conferences. Thus, the information appears to be readily available for both EMS employees and their employers if they desire to pursue it. The inclusion of information related to violence and EMS personnel must be continuously provided from the point of one’s entry into the profession level through his/her career. It is probable that minimal financial expenditure would be required to maintain this form of education. Local law enforcement personnel can be called upon to present additional information at staff meetings or training sessions. In addition, a better working relationship between EMS

and law enforcement personnel may be developed by the inclusion of law enforcement in EMS meetings. Mandatory continuing education requirements for EMS personnel allow for the inclusion of various forms of alternative delivery/education materials, and violence awareness and avoidance related topics could be included. The inclusion of violence awareness and related training for EMS personnel should be no different than the inclusion and practice of all the other skills and procedures an EMS provider must practice and be proficient at. Of the existing research that was reviewed for this study, the need for violence awareness education to be conducted was regularly cited. Across all research studies reviewed for this field problem that included an aspect of training in their study, a consistent and constant theme was the need to implement and maintain a thorough training program on violence awareness, recognition, prevention, and procedures for handling violent situations.

- In addition to training, the administrative process to reduce the exposure to violent situations should include the development, implementation, and the everyday practice of using defined policies and procedures for violent situations. Policies and procedures should be developed that stress avoidance of violent situations to prevent a violent situation from developing but also to control a violent situation that is in progress or is in the process of occurring. An emergency action plan is one part of the policies and procedures process that needs to be developed with input from all involved parties and resources. The concept of an emergency action plan requires all those involved to initiate the process of planning for the eventual emergency before the emergency, in this case, a violent situation, develops. An effective emergency action plan successfully brings together the multiple processes of risk elimination or reduction, administrative, and

engineering controls in an organized process to be practiced often and implemented if and when it is needed. Information on the development and implementation of emergency action plans is readily available through the OSHA website at (<http://www.osha.gov>). Additional information on workplace violence statistics and proactive planning for situations involving workplace violence is available at the previously listed OSHA website and the AFSCME website (<http://www.afscme.org>).

- National and state EMS organizations need to be proactive in the implementation or assistance with agencies such as OSHA, Department of Labor-Bureau of Labor Statistics, State offices of Commerce, Business, etc. to develop or enhance specific data collection processes on the recording and reporting of injuries and illnesses to EMS personnel as a result of assaults and violent acts. There should be a direct and efficient way to easily enter and retrieve data that would show the extent and causal relationship that assaults and violent acts have to injuries sustained by EMS personnel so as to create a direct ‘cause and effect’ relationship between the type of assault and resulting injury. Easy retrieval and evaluation of clear and concise data allows for an accurate assessment of the risk exposure and leads to the appropriate planning, implementation, and evaluation of the risk reduction improvement process.

- State and national EMS organizations along with their members need to develop a “grass roots” awareness campaign to inform all EMS personnel of the inherent dangers of violence within their profession. As with all well-run campaigns, there must be clear, concise, and accurate information delivered by trustworthy individuals that have an obvious heart-felt passion for the cause. In addition, these same organizations along with their members need to educate their elected officials to the occurrence and



prevalence of violence that emergency responders are exposed to and then motivate those officials to make the identified changes necessary for the safety of EMS personnel. Once elected officials are made aware of an issue of extreme importance to their constituents, the process of change and improvement may begin. Legislative and financial support is typically required in order to make significant changes or improvements in any process. In the case of workplace violence, changes and improvements in awareness, recognition, prevention, and accurate record-keeping can be applied across all occupations whether public or private.

#### *Areas of Further Research*

Areas of further research developed from this study are as follows:

- On-going research studies dealing with violence directed toward EMS personnel need to be continued. The existing research studies conducted on a variety of violence issues as they relate to EMS personnel have provided a good starting point for further research on the subject area.
- Specific research studies dealing with violence directed toward rural EMS personnel need to be conducted. EMS personnel in rural areas generally face a different set of issues than do their metropolitan counterparts. Rural EMS personnel may experience remote locations, possible drug production/distributing locations, limited law enforcement assistance, limited responding EMS personnel, limited training/equipment, and complacency to the potential for violence from someone the EMS personnel know as a member of their community
- Data specific to the cause and effect relationship of assaults and violent acts directed toward EMS personnel and the resulting illnesses and injuries needs to be

obtained. Once data is readily available that accurately identifies the violent action that contributed to or directly caused a specific illness or injury, then steps can be undertaken to isolate and eliminate, reduce, or provide personal protection equipment for the identified risk.

- Risk assessment practices need to be undertaken in the EMS occupation to accurately identify the specifics of EMS personnel behaviors, actions, or interactions that may contribute to or have a potentiating effect on a latent volatile situation. There may be identified situations in which the EMS provider actually triggers or helps to trigger a violent reaction from the patient, bystanders, or other people at the scene of an illness or injury.

- Specific research on the relationship of training methods and curriculum used to educate EMS personnel in all aspects of violent situations and EMS personal experiences and outcomes with violent encounters after their identified violence training needs to be undertaken.

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## Appendix A

<b>Overt Aggression Scale (OAS)</b>		
Stuart Yudofsky, M.D., Jonathan Silver, M.D., Wynn Jackson, M.D., and Jean Endicott, Ph.D.		
<b>Identifying Data</b>		
Name of patient	Name of rater	
Sex of patient: 1 male 2 female	Date / / (mo/da/yr) Shift: 1 night 2 day 3 evening	
<input type="checkbox"/> No aggressive incident(s) (verbal or physical) against self, others, or objects during the shift (check here).		
<b>Aggressive Behavior (check all that apply)</b>		
Verbal aggression	Physical aggression against self	
<input type="checkbox"/> Makes loud noises, shouts angrily <input type="checkbox"/> Yells mild personal insults (e.g. "You're stupid!") <input type="checkbox"/> Curses viciously, uses foul language in anger, makes moderate threats to others or self <input type="checkbox"/> Makes clear threats of violence toward others or self (I'm going to kill you.) or requests to help to control self	<input type="checkbox"/> Picks or scratches skin, hits self, pulls hair (with no or minor injury only) <input type="checkbox"/> Bangs head, hits fist into objects, throws self onto floor or into objects (hurts self without serious injury) <input type="checkbox"/> Small cuts or bruises, minor burns <input type="checkbox"/> Mutilates self, makes deep cuts, bites that bleed, internal injury, fracture, loss of consciousness, loss of teeth	
Physical aggression against objects	Physical aggression against other people	
<input type="checkbox"/> Slams door, scatter clothing, makes a mess <input type="checkbox"/> Throws objects down, kicks furniture without breaking it, marks the wall <input type="checkbox"/> Breaks objects, smashes windows <input type="checkbox"/> Sets fires, throws objects dangerously	<input type="checkbox"/> Makes threatening gesture, swings at people, grabs at clothes <input type="checkbox"/> Strikes, kicks, pushes, pulls hair (without injury to them) <input type="checkbox"/> Attacks others, causing mild to moderate physical injury (bruises, sprain, welts) <input type="checkbox"/> Attacks others, causing severe physical injury (broken bones, deep lacerations, internal injury)	
Time incident began ____ : ____ am/pm	Duration of incident: ____ : ____ hours/minutes	
<b>Intervention (check all that apply)</b>		
<input type="checkbox"/> None <input type="checkbox"/> Talking to patient <input type="checkbox"/> Closer observation <input type="checkbox"/> Holding patient	<input type="checkbox"/> Immediate medication given by mouth <input type="checkbox"/> Immediate medication given by injection <input type="checkbox"/> Isolation without seclusion (time out) <input type="checkbox"/> Seclusion	<input type="checkbox"/> Use of restraints <input type="checkbox"/> Injury requires immediate medical treatment for patient <input type="checkbox"/> Injury requires immediate treatment for other person
Comments		

## **Appendix B**

### **UW – Stout Implied Consent Statement for Research Involving Human Subjects**

#### **Consent to Participate in UW-Stout Approved Research**

**Title:** The Experiences of Rural Emergency Medical Services (EMS) Personnel to Workplace Violence

**Investigator:**

Greg Carlson  
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gdcarlson@frontiernet.net

**Research Sponsor:**

Dr. Brian Finder  
715-232-1422  
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**Description:**

This research involves the completion of an anonymous questionnaire involving the subject's personal experience(s) with violent situations in the performance of their duties while working in a rural setting as an Emergency Medical Services (EMS) worker. The purpose of this research is to gather information as to the prevalence of violent encounters in rural EMS situations. In addition, information will be obtained as to the types of violent encounters experienced and the subject's personal opinion as to their education and training in preparing them for their violent encounters.

Participation in the completion of the questionnaire is anonymous and voluntary. You need to be currently or previously licensed in Wisconsin as an Emergency Medical Services provider (any level) and currently work or have worked in a rural EMS setting. The questionnaires may be picked up and returned to the Emergency Services Conference registration table located at the entrance to the vendor area. There are baskets identified as Questionnaire and Completed Questionnaire for you to pick up and return the questionnaire. Please answer all questions honestly and accurately as your information is extremely important in the data collection process.

**Risks and Benefits:**

While there are no physical risks to the participants in this project, there is a potential for psychological impact. If a research subject has been involved in violent situations, completion of this questionnaire may cause the re-living of the situation which may be psychologically disturbing or potentially damaging psychologically to the subject. Participants may withdraw at any time during the completion of the questionnaire and the partially completed questionnaire will be destroyed. If you have any psychological issues as a result of answering this questionnaire, you are strongly advised to contact your physician or mental health care professional.

The benefits of this project are that it will, for the first time in EMS literature, help identify the prevalence of violence rural EMS providers experience along with the types of encounters and personal perceptions of how well prepared EMS personnel were for these violent encounters.



**Special Populations:**

This project only involves research subjects that are licensed EMS providers in the State of Wisconsin. To be licensed as an EMS provider in the State of Wisconsin the licensee must be eighteen years of age.

**Time Commitment and Payment:**

It will take you approximately 20 – 30 minutes to complete the questionnaire. There will be no compensation in any form for your participation in this study, but I sincerely appreciate your willingness to help this investigator and your fellow EMS professionals.

**Confidentiality:**

Your name or any identifying information will not be included on any documents. We do not believe that you can be identified from any of this information.

**Right to Withdraw:**

Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. However, should you choose to participate and later wish to withdraw from the study, there is no way to identify your anonymous document after it has been turned into the investigator.

**IRB Approval:**

This study has been reviewed and approved by the University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

**Investigator:**

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**Statement of Consent:** By completing the following questionnaire you agree to participate in the project entitled, The Experiences of Rural Emergency Medical Services (EMS) Personnel to Workplace Violence.



8. Employment status when you experienced a violent incident (check one):  Full-time  
 Part-time (if not applicable, leave blank and go to #9)

### **FACILITY DESIGN AND FIELD WORK:**

9. As an EMS provider, are you provided with personal alarm systems, phone, or other means of directly communicating a need for assistance?  
 No  
 Yes - If yes, describe
- 

10. As an EMS provider, are you allowed to utilize personal safety devices? (i.e., protective vests, pepper spray, etc.)  
 No  
 Yes - If yes, describe
- 

11. How can safety / security be improved in your particular working environment:
- 
- 

### **TRAINING**

12. Have you received any employer-sponsored training on how to deal with potentially violent situations?  
 Yes – If yes, has your training prepared you to deal with violent situations that may arise in your working environment?  Yes  No  Don't know  
 No - If no, what type of training would interest you?
- 

### **EMPLOYER POLICIES**

14. Is there a violence prevention program in your agency?  Yes  No  Don't know
15. Does your workplace have a written policy concerning violence?  Yes  No  Don't know
16. If yes, have you read the written policy concerning violence?  Yes  No
17. Is there a program to provide support for employees who are victims of violence?  Yes  No  Don't know
18. Does your employer/dispatch provide information and guidelines on patients or neighborhoods with a history of violence?  Yes  No  Don't know
19. Does your employer allow you to withhold services or ask for accompaniment (additional personnel or law enforcement) when you fear for your safety?  Yes  No  Don't know

20. Is there counseling available for: (please check all that apply):

- Victims of assaults?    Those who were witnesses?    Those who are concerned?  
 Don't know.

**VIOLENT INCIDENTS [ If yes, circle P=patient / O=other (family member, bystander, etc.) or both] If you have not experienced any violent or threatening incidents, go to #32.**

21. Have you ever been harassed by a P/O while working in EMS?    Yes P / O    No  
 If yes, please describe:

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22. Have you ever been threatened by a P/O while working in EMS?    Yes P / O    No (go to #23)

If yes, please describe the nature of the threat: (check all that apply)

- Threat to injure you.  
 Threat of personal property damage.  
 Threat to injure or kill your family.

Other: \_\_\_\_\_

23. Have you ever been physically assaulted by a P / O while working in EMS?

- Yes – continue with question #24  
 No – skip to question #32

24. If yes on #23, please document the type, frequency, and timeframe of physical assaults experienced:

Type of Physical Assault	Have you experienced this type of physical assault?		If yes, on how many occasions?	Date of most recent occurrence? (mm / yy)
Grabbed	Yes	No		
Slapped	Yes	No		
Pushed	Yes	No		
Kicked	Yes	No		
Hit with a fist	Yes	No		
Hit with an object	Yes	No		
Knifed (or attempted)	Yes	No		
Shot (or attempted)	Yes	No		
Held hostage (or attempted)	Yes	No		
Other (please specify)				

**If you have been involved in more than one violent / threatening incident, answer questions #25-#31 with regard to the most recent incident.**

25. Where did your most recent violent incident occur?

- Patient's location  
 Inside the ambulance  
 Hospital  
 Other (please specify):
- 

26. Were you involved with patient care when you were assaulted?  Yes  No

27. What was the extent of your most recent injury (check all that apply)?

- Lacerations / Abrasions  Bruises  Broken bones  Internal injury  
 Psychological trauma  Other (please specify):
- 

28. Did you seek medical attention for your most recent injury?  Yes  No

29. Did you need to stay overnight in a hospital for your most recent injury(s)?  Yes  No

30. Did you lose time from work as a result of your most recent injury(s)?

- No  Yes - If yes, how many days: \_\_\_\_\_ days

31. Did you ever report an incident (harassment, threat or physical assault) to management?

- No  Yes – If yes, describe how management responded and what actions were taken?
- 

### PERSONAL OPINION

32. How concerned are you about your personal safety at work? 

		Not							Very	
		Worried							Worried	
1	2	3	4	5	6	7	8	9	10	

33. How prepared do you feel to handle a violent situation ? 

		Not							Very	
		Prepared							Prepared	
1	2	3	4	5	6	7	8	9	10	

  
(i.e., physical injury, threat, or harassment)?

34. How would you rate your employer's commitment 

		Not							Very	
		Committed							Committed	
1	2	3	4	5	6	7	8	9	10	

  
to preventing workplace violence?

35. Have you seriously considered changing your occupation due to violent incidents you were involved in, witness to, or knew about?

- Yes  
 No

36. Additional comments:

Thank you for taking the time to complete this survey.  
 Survey adapted from the American Federation of State, County, and Municipal  
 Employees (AFSCME)  
 "Survey of Violence in the Workplace".