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Active shooter incidents: Awareness and action

Staff development special

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Yet again the news was somber with reports of another school shooting, this time at Marjory Stoneman Douglas High School in Parkland, Fla. The tragedy, which occurred on February 14, 2018, claimed the lives of 17 people, wounded 17 others, and forever changed the world for Broward County community members.[1,2] This incident illustrates that mass shootings can happen anywhere at any time, and can impact healthcare personnel in any setting, not just those in metropolitan areas, working at trauma centers, or first responders. Nurses, both as community members and hospital-based clinicians, must be ready to respond in the event of a mass shooting.

This article provides guidance for nurses based on recommendations from the International Nursing Coalition for Mass Casualty Education (INCMCE), best practices, and lessons learned from the experiences of hospitals that have navigated this type of catastrophe.[3]

Mass shooting statistics

The term *mass shooting* has multiple definitions. The FBI provides data on active shooter incidents and defines them as "an individual actively engaged in killing or attempting to kill people in a confined and populated area" with a firearm.[4] Mother Jones, a nonprofit news organization, provides an open-source database of mass shootings that includes gun crimes in which four or more people were wounded or killed, not related to gang violence or another criminal act such as a robbery, and where victims weren't all family members.[5] Its definition for incidents occurring after 2013 reflects a decrease to three or more victims.[5] These distinctions are significant, as they explain discrepancies in data. Regardless, the statistics are staggering.

According to FBI reports, 250 active shooter incidents occurred in the US between 2000 and 2017, killing 799 individuals and wounding an additional 1,418.[6] These statistics include the two deadliest US shootings to date at the Pulse nightclub in Orlando, Fla., and the Route 91 Harvest Music Festival in Las Vegas, Nev.[2] Mass shootings in America continued to make headlines in 2018, such as the incident at the Tree of Life Synagogue on October 27, 2018, in Pittsburgh, Pa., killing 11.[7]

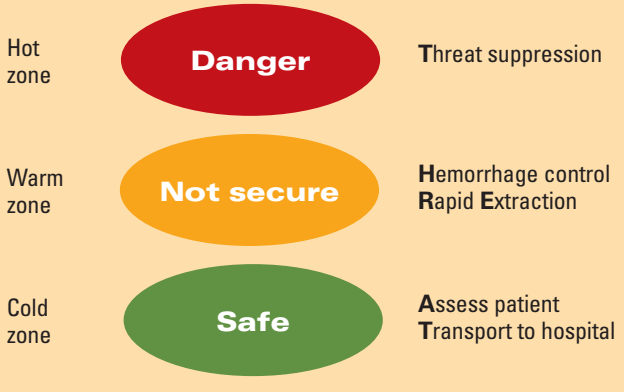
The nurse's role in community emergency preparedness

The INCMCE wrote in 2003 that every nurse "must have sufficient knowledge and skill to recognize the potential for a mass casualty incident (MCI), identify when such an event may have occurred, know how to protect oneself, know how to provide immediate care for those individuals involved, recognize their own role and limitations, and know where to seek additional information and resources."[3] Based on these imperatives, it established a framework for RN competencies in responding to MCIs, including four phases: preparedness, response, recovery, and mitigation.[3] Additionally, the World Health Organization (WHO) and International Council of Nurses developed a framework of disaster nursing competencies in which the first two phases include prevention/mitigation and preparedness.[8] Depending on the number of casualties involved, mass shootings can escalate from a multicasualty event to an MCI requiring hospitals to activate their disaster plans. Prevention and preparedness involve assessing the risks of populations and collaborating with community and government leaders to implement risk reduction strategies.[3,8]

Effective hemorrhage control is one such critical preparedness strategy that nurses should be well equipped to promote widely through community educational efforts. Following the shooting at Sandy Hook Elementary School in Newtown, Conn., the American College of Surgeons convened a group of medical, law enforcement, fire and rescue, and emergency medical services (EMS) senior leaders to discuss strategies to improve survivability of mass shootings.[9] This group published a series of recommendations called "The Hartford Consensus," which are succinctly summarized by the acronym THREAT.[9] (See *The Hartford Consensus THREAT acronym*.) The group asserted that no individual should die of uncontrolled hemorrhage, and that all individuals, including EMS, law enforcement, and non-wounded civilians, can render hemorrhage care.[10-12]

Although some dispute that hemorrhage care will actually result in decreased deaths, the White House; federal agencies, including the Department of Defense; and medical groups, including the American College of Surgeons, have partnered to

The Hartford Consensus THREAT acronym[9]



Used with permission from The Hartford Consensus. Improving Survival Strategies to Enhance Survival in Active Shooter and Intentional Mass Casualty Events: A Compendium. American College of Surgeons. 2015.

raise community awareness and teach effective hemorrhage control techniques through the Stop the Bleed campaign.[13-15] Once educated to properly perform the critical skills necessary, such as direct pressure, tourniquet application, wound packing, and use of a hemostatic dressing, nurses are ideally positioned to teach hemorrhage control techniques and advocate for the availability of bleeding control bags within their community.[11] More information can be obtained by visiting the following websites:[14,15]

- Bleeding Control www.bleedingcontrol.org
- Stop the Bleeding Coalition www.stopthebleedingcoalition.org.

The nurse's role in community response

As community members, nurses may be present during an active shooter event. In this situation, the priority is to survive. Nurses, like all other individuals, should learn and follow the concepts of "Run, Hide, Fight," or be guided by hospital policy if the incident occurs in the workplace.[16] (See *Run, Hide, Fight*.) More information on how to prepare for and respond during an active shooter incident is available on the Federal Emergency Management Agency's website, www.fema.gov.[16]

Run, Hide, Fight[16]

RUN	Run away, leave possessions, warn others if safe, and call 911 when safe.
HIDE	If you can't get away safely, hide from the shooter's view and stay quiet, silence devices, lock and block doors, and turn off lights. Don't hide in groups. Try to communicate with police silently via text or by putting a sign on an exterior window. Stay in place until law enforcement gives the all clear.
FIGHT	As a last resort when in immediate danger, defend yourself. Commit to actions and act aggressively. Ambush the shooter with makeshift weapons (chairs, fire extinguishers, scissors) to distract and disarm them.

Once the threat has been suppressed, uninjured nurses can assist in providing immediate and ongoing medical care. Prehospital, emergency, and critical care nurses may feel best equipped to offer initial aid, especially those trained in Advanced Cardiovascular Life Support and trauma care; for example, the Emergency Nurses Association (ENA) Trauma Nursing Core Course, the Society of Trauma Nurses Advanced Trauma Care for Nurses Course, and the Advanced Trauma Life Support Course. Primary attention should be given to nonambulatory individuals with survivable injuries, such as hemorrhage or chest injury.[11,13] In addition to hemorrhage care, immediate medical care should include prevention of further injury, airway management, proper positioning, hypothermia prevention, and efficient transfer to the appropriate level of care.[13]

Hospital preparedness

Uniformly, the key lesson that hospitals responding to mass shootings espouse is the critical role of preparedness. Throughout the day on June 12, 2016, Orlando Regional Medical Center (ORMC) received 44 victims from the Pulse nightclub shooting, to whom they administered 441 units of blood, platelets, and plasma, and performed 28 surgeries on that day alone.[17] Thirty-five of these individuals survived. While they grieve for those who couldn't be saved, ORMC leaders describe taking pride in their team's performance and believe their work in disaster planning contributed to their outcomes.[18] Only 3 months before the tragedy, ORMC participated in a community-wide active shooter drill involving

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15 hospitals, 50 agencies, and 500 volunteers using fake blood and other materials to make injuries appear realistic.[17,18]

Disaster drills allow systems to identify opportunities for improvement with disaster plans, and for responders to develop expertise, forge relationships, and build trust.[19] It's critical that all individuals involved take these exercises seriously and know their role when the disaster plan is activated. Organizations that don't already have a plan for managing active shooter events should immediately develop one based on the latest guidelines and incorporate it into their overall emergency management plan.

the initial goal is to rapidly increase capacity.[20] The first step in this process is to identify the need to activate the hospital emergency plan. This responsibility commonly falls on the ED physician or charge nurse. Reports from the Virginia Tech and Aurora, Colo., mass shootings indicate that ED charge nurses were the ones to recognize the significance of receiving multiple wounded patients and notify hospital leadership.[23,24]

Once the emergency response has been activated, a command center is typically established using a formal incident command framework, and hospitals rapidly implement several

more patients than the usual nurse-to-patient ratio due to lack of immediate staffing resources to meet overwhelming demand. Disaster care may mean working with more limited resources and well outside of the typical hospital routine.

Another key strategy is to increase capacity by clearing out the ED of nondisaster patients through moving admitted patients to inpatient units (with or without bed assignments), and rapidly discharging those who can be safely sent home. Similarly, nurses on inpatient units need to assess bed availability and increase capacity through proactive discharge strategies

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As a 118-bed community hospital in rural Norway experienced when it received 34 patients from the Utøya youth camp shooting, every hospital must be prepared, no matter if it's a community hospital or a trauma center.[20] The WHO offers guidance on mass casualty management from the individual entity to the national level; the Los Angeles County Emergency Medical Services Agency also offers a robust resource for healthcare entities needing guidance in mass casualty readiness.[21,22]

Hospital-based response

When receiving a surge of patients from a mass shooting,

strategies to increase their capacity to care for the wounded.[25] Response will likely require increased staffing of all necessary personnel, including physicians, nurses, technicians, pharmacists, radiologists, and others, and running teams with fewer individuals than usual.[20,24] Common actions include requesting that extra staff respond from home via telephone or text messaging, holding staff over during a change of shift for additional workforce support, and redeploying personnel from other areas in the hospital to assist in the ED. For the staff members who respond, there may be a need to assume care responsibilities for

and opening alternative treatment spaces if possible. Overflow areas may be activated to serve in a receiving or holding location such as the postanesthesia care unit (PACU), an onsite surgi-center, and even conference rooms or lounges that can be converted to patient treatment spaces. The OR is usually put on hold for scheduled cases and made rapidly available to accept incoming, emergent casualties. The PACU may serve as an ICU. In all areas, nurses must quickly identify the need for additional resources and equipment to be used for patient care and take measures to ensure availability.

Reported strategies and barriers for hospital response to mass shootings[17-20,23,24,26]

	Strategies	Barriers
Communication	• Teamwork • Flexibility • Disaster vests to identify incident command team • Establish hotline for family members	• Overload of phone network due to influx of calls from family members searching for loved ones resulting in communication challenges with field and other hospitals • Lack of credible information regarding number, timing, and severity of incoming patients • Excessive noise level • Handling large-scale language barrier • Emergency communication equipment not charged
Security	• Lockdown • Staging area for family members • Media liaison • Local and state law enforcement presence	• Influx of family members searching for loved ones • Influx of media personnel • Responding workers running into roadblocks established by law enforcement • Reports of ongoing active shooter in area
Logistics	• Cancel elective surgeries • Discharge same-day surgery patients • Use outpatient areas for noncritical victims • Extra blood products on call • Divert unrelated ED patients	• Insufficient supplies • Identifying and tracking nonverbal victims
Personnel	• Increase personnel • Share personnel with regional hospitals • Emergency credentialing of surgeons • Frontline leadership presence • Hospital personnel sent to scene	• Temporary personnel unfamiliar with environment
Triage	• Use of visible triage tags • Use of a triage officer • Surgeon as triage officer • Good field triage	• No central triage or dispatch in field • Minimal triage in field • Private transport resulting in absence of triage

In a community active shooter incident, hospital security becomes a critical element to incorporate into the disaster plan, in partnership with law enforcement.[26] Depending on the circumstances, the hospital may become a secondary target. Facility lockdown procedures, strict visitor control, and perimeter security must be instituted. Unfortunately, these measures can act as a barrier to highly anxious families and friends both visiting and wishing to learn the status of loved ones. Establishing security-controlled family staging areas (that may be offsite), dedicated telephone lines, and digital photo or video feeds, and utilizing crisis workers can help mitigate this situation.

Along the same lines, having a secure area outside the hospital campus for news vans and camera crews and designating a hospital public information officer who communicates regular status updates are important elements of the response protocol. As a general rule, nurses shouldn't communicate with members of the press without both the explicit consent and guidance of high-level facility leadership.

Once the casualties are managed and the hospital returns to more routine operations, attention must be directed at holding a post-event debriefing or "hot wash" for all personnel who were involved as a learning opportunity to discern what went well and what could be improved so the disaster plan can be revised accordingly.[26]

Equally important, but separate from the hot wash, are strategies to evaluate and address the psychological wellbeing of the staff. Caregiver support is critical by those educated in stress debriefing, mental health, and counseling techniques.[26] Such assistance may be needed for an extended period as healthcare

personnel deal with the tragedy on a personal level. (See *Reported strategies and barriers for hospital response to mass shootings*.)

Call to action

As a global nursing community, we have an immediate call to action to become fully educated on active shooter events, undergo training in lifesaving techniques that aren't typically used in inpatient unit settings (tourniquet application, hemostatic dressings, wound packing methods for hemorrhage control), and participate in preparedness and risk mitigation efforts. To this end, professional nursing organizations are ideally suited to develop position statements, policy documents, and educational resources that address the nurse's role related to an active shooter incident, including community education, health screening for at-risk individuals, and prevention initiatives.

The American Academy of Nursing sent a letter to Congress on February 27, 2018, asking for the creation of a bipartisan National Commission on Mass Shootings.[27] The ENA provides guidance through a Topic Brief on Active Shooter Preparedness in the Emergency Department.[26] Like many professional organizations in recent years, the Society of Trauma Nurses recently offered education on the topic of active shooter response at its annual TraumaCon 2018 conference.[28] Other organizations have collaborated on political messaging aimed at gun safety legislation.

Despite these efforts, there's still much room for the active engagement of nursing groups at local, regional, and national levels. To save lives, the gaps in our current knowledge base and preparedness plans must be identified and effectively addressed. NM

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