

Briefings on Hospital Safety

P4 Drill timeline

This graphic shows how Winchester Hospital planned its emergency exercise down to the minute and the patient.

P6 Fire safety in the hospital

It's October, which means it's time for a review of the biggest fire hazards you might not know about in your facility.

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An emergency drill up close

Realistic HAZMAT exercise at Winchester Hospital tests ER response and communication skills

"Winchester control to all units, respond to 620 Washington Street for the motor vehicle crash. Multiple victims involved ..."

The above 911 police dispatch is something that occurs in U.S. cities every day and, unfortunately, a car accident like this will bring victims to the ED with all sorts of injuries.

For the most part, hospital staff in the ED are trained to deal with this kind of accident as a commonplace event. Where it gets challenging is when hospital staff get overwhelmed by circumstances they didn't see coming.

What the initial dispatch above didn't say was that the accident involved three vehicles, including a landscaping truck that was rear-ended, releasing a leak of hazardous chemicals from a tank on the back of the truck. The chemicals killed one person and exposed everyone at the accident scene—including the first responding police officer—and required a full HAZMAT response at the hospital as over a dozen people flooded the ER at Winchester (Massachusetts) Hospital in the suburban Boston town.

The above scenario occurred on August 7, and thankfully it was only a drill designed to test the response of both first responders and the ER staff at the hospital. **Briefings on Hospital Safety** was invited to observe the drill to see what a fullresponse emergency exercise should look like.

"For effective learning, you need to introduce variables that could happen," says **Steven Shea**, **MBA**, **LSSGB**, safety coordinator for Winchester Hospital. "Some of them they knew about, but others forced them to think on their feet."

As part of the accreditation process, The Joint Commission requires hospitals to perform two emergency response exercises every year. One of those drills has to be an escalating scenario, where the local community is unable to support the emergency and extra resources must be called in.

In the Winchester drill, emergency crews set up a mock accident in the parking lot of a local business and practiced a full response, complete with fire engines, police cars, and several ambulances responding with lights and sirens. Their job was to assess the scene, control any dangerous situations, and stabilize victims at the scene.

From there, the exercise went to the hospital, where ER staff practiced communicating and coordinating with emergency crews, set up a full decontamination tent to deal with the chemical spill, and respond to events as they changed and escalated.

There were many lessons learned during the drill-and even some mistakes made that uncovered some improvements that need to be practiced in later exercises. Shea and some of the other officials involved in the drill shared some tips to remember when designing your own emergency drill.

Make it a show. If you're going to test your emergency capability with an all-out war game,

you might as well make it as realistic as possible. Winchester used real cars, real emergency vehicles with sirens blaring as if it were a real emergency response, and used real people who volunteered to be victims.

At the accident scene, the water tank on the damaged chemical truck was filled with water and the valve opened up, simulating an actual chemical spill. Makeup was used to simulate injuries, and a city bus was brought in to bring to the hospital the "walking wounded," or those who would bring themselves to the hospital separately. The idea here is to simulate events almost exactly as they would occur in a real emergency.

The lessons are in the details. The key to having a successful exercise is to plan the finest details to simulate real-world events and problems that would occur in a full-scale disaster response. Winchester Hospital had volunteers in the parking lot act as distraught family members running up to the stretchers as they were pulled out of the ambulances, requiring hospital security to cordon off a perimeter-you can bet in real life that would hap-

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pen. And that's where lessons can be learned: not only are those bystanders a security risk, but now they become potential exposed victims to a chemical leak and they add to the patient count.

How will you handle the media response to a major disaster? Winchester had its public information officer on-site to do a mock press conference so that he could practice dealing with all the reporter questions that would be asked.

"One of the things we learned by talking to hospitals after the Boston Marathon bombing was that patients were calling television stations and telling [reporters] to come to their hospital rooms so they could tell their story," says **Dan Marra**, communications and media specialist at Winchester. "Next thing you know, you have Fox 5 News wandering the halls."

• **Don't scare people.** While you are conducting an exercise that should simulate real-life conditions as much as possible, the fact is that life around you will be going on as usual. Blaring lights and sirens, a full emergency response, and doctors running around the ER are liable to get some people nervous.

You need to let the public know what's happening. The Winchester drill accident scene took place in the parking lot of an off-site cancer center, and signs were placed conspicuously everywhere visitors might be including at the very entrance to the parking lot. In addition, Shea said his hospital subscribes to an online reporting service called Everbridge, which sends out text and email alerts in real time, allowing him to create messages letting people know what is going on. The messages even appeared on the city of Winchester's official website. The drill served as good practice for the system. During the drill, a message was also sent out to 96 staff members to determine who would be available to come into work on a moment's notice to provide support: 14 replied "yes" in the first hour.

"In a disaster situation, it will be very difficult to keep everyone apprised," he says.

At Longmont (Colorado) United Hospital, a fullscale active shooter drill in the ER featured live-action shooting with police officers firing blanks from real shotguns at 6 a.m. The night before the drill, SWAT commanders went to each floor to talk to patients.

"When the shotguns went off, it was loud and

smoky, and the fire alarms went off," says **Mary M. Pancheri, CHEP, HEM,** manager of safety, security and emergency preparedness. "You have to make it as lifelike as possible, because when it happens you won't have a clue."

• **Throw in some surprises.** A well-planned drill throws in a couple twists and turns to test the ability of staff to think on their feet under pressure. It's one thing to test your staff's ability to triage and treat incoming patients, but what about the many who will drive themselves to the hospital and show up in the lobby unexpectedly? One victim in the Winchester drill inadvertently "exposed" a staff member by showing up in the lobby instead of the ER.

"For effective learning, you need to introduce variables that could happen. Some of them they knew about, but others forced them to think on their feet."

- Steven Shea, MBA, LSSGB

Also, there will be many onlookers and families looking for answers during an emergency. As soon as the doors opened on the first arriving ambulance during the drill, two teenage girls instructed to be hysterical family members ran up to the stretcher because they heard their father was in an accident. One of the most important things learned in the drill was the importance of making sure there is police or a strong security presence controlling a perimeter at the hospital.

Lastly, if you are going to throw surprises into the mix, it's important to set ground rules and communicate ahead of time. In a real-life scenario, crews in the field will ask lots of questions and cut off clothing to expose injuries. In the drill, officials did not stress how far they wanted the participants to go, and they missed a "sucking chest wound" on one of the patients because they didn't cut the victim's clothes off as they would in a real situation. You should consider asking your "victims" to wear clothes they don't mind being destroyed.

• **Know when to stop.** In the unlikely event that a real-life emergency happens during your

Winchester Hospital Disaster Drill



Date: August 7, 2014 Time: 09:00–12:00

Real world STOP code: Mountain Lion



Agencies

- Winchester
 Hospital
- Winchester FD
 - Winchester PD
- Winchester DPW
- Boston C-MED
- Armstrong Ambulance
- 12 volunteers

Scenario

A lawn-care truck with a leak of organophosphates has caused the driver to sustain a seizure. He strikes an oncoming car with three passengers head-on. A second vehicle with four passengers strikes the rear of the truck. They are uninjured but did get exposed to the organophosphate that spilled after the rear impact. They have an odorless liquid that sprayed on to them when they exited the vehicle. This is malathion and the rear-end collision disrupted an improperly stored delivery hose and is now under pressure and spraying.



Patient #2: Red 56 yo restrained male driver of sedan struck by lawn-care truck. Is awake but confused. Has a large head lac (underlying cerebral contusion), blunt chest trauma (pulmonary contusions), right closed humerus fracture, bilateral closed femur fractures. No exposure. VS - 90/45, 120, 20, 93%. *Critical actions:* Extrication and recognition as a critical patient. High flow oxygen, IV access and rapid transport.

Patient #3: Red 55 yo F front seat passenger. Was unrestrained. Struck windshield and windshield is spidered. Large frontal laceration, neck pain, upper back pain, blunt chest trauma and an arterial hemorrhage of right elbow/open humerus fracture. She also has some contusions to her knees. Her main injury is the arterial bleed. *VS* – *140/60, 130, 22, 98%.*

Critical actions: Tourniquet control of hemorrhage. If tourniquet not applied within 5 minutes she becomes unresponsive. If it is not applied within 10 minutes she goes into cardiac arrest.

Patient #4: Red 30 yo F rear seat restrained passenger. Complains of midline neck pain as well as chest and abdominal pain. Her chest is contused but otherwise has no underlying injury. Her abdomen is contused and firm with an underlying large liver laceration. She is pale, diaphoretic, and has vomited. *VS: 80/35, 130, 26, 98%.*

Patient #1: Black Driver of lawn-care truck. Had a seizure prior to crash secondary to a leak and subsequent organophosphate exposure. Crashed head-on into oncoming car. Suffered open head injury, massive facial trauma, a pneumothorax and blunt abdominal trauma. Also has L femur fracture. Pulseless and apneic on scene. Should be a black but if transported will require a 30-minute extrication. Patient #5: Green 22 yo M with no injuries but has malathion on face, shirt, and pants.

Patient #6: Green 23 yo M with neck and low back pain, has malathion on shirt and pants.

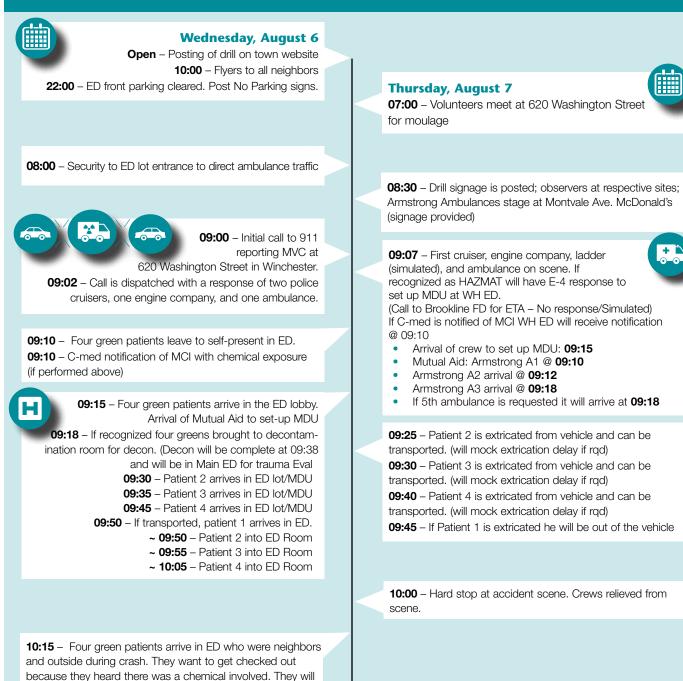
Patient #7: Green 21 yo F with midline neck and back pain and malathion on her pants.

Patient #8: Green 22 yo F with no injuries and malathion only on the soles of her shoes.



Green patients will self-present to the ED. The other patients will require transport. MedFlight will not be available for a scene call but can have helicopters arrive for transport of patients from ED (remote LZ) to Boston.

Winchester Hospital Disaster Drill (cont.)



11:00 – Hard Stop ED
Simulated call to CHEMTREC / Clean Harbors (Informational only)
11:00 – 11:45 – Break-down and clean-up

12:00 - 13:00 - Lunch/Hotwash

Source: Winchester Hospital

have no injuries and no exposure.

BMF 2 arrives at remote LZ @ 10:40

UMASS 1 arrives at remote LZ @ 10:50

If HEMS is activated: BMF 1 arrives remote LZ @ 10:30

drill, or someone gets hurt, it's important that the many hundreds of people who may be involved know when to stop playing make-believe. Shea designed his drill with safety in mind, establishing the term "mountain lion" as the real-world "hard stop" code. Thankfully, everyone was fine, but if that code went over the radios, the drill would stop in place.

"When I was outside, I heard someone yell, 'Oh, my God!' and immediately I assumed someone fell off a stretcher or something," Shea says. "It's a way to stop the action if needed if someone really needed help or got hurt."

• **Make your drill a classroom.** If your exercise is planned correctly, everyone will learn something new, and will likely have old skills refreshed. Like a teacher designing a classroom lesson, it's important to know what learning objectives you have in mind. In Winchester, the objectives were communication with different emergency responders and the timely triage of many patients coming into the ER.

It's also important to have experienced people who are effective teachers joining you in your drill. As one of the added bonuses, ER staff at the hospital who maybe have never seen a mass decontamination tent go up got an impromptu lesson from fire department officials on how to set one up properly.

"In theory, these people won't have any clothes on, and ideally we will have a female and male attendant helping them get their clothes back," explained **Rick Tustin**, a Winchester Fire Department Captain, and chairman of a collaborative of 17 towns that work together to manage emergencies and share resources in emergencies in the Winchester area. Tustin worked with the hospital's engineering staff and other ER staff to show them how even staff not directly involved with patient care could help in a real emergency.

• **Review together.** The last thing that should happen on the day of your drill is something called a "hot wash." After everything has been cleaned up and participants have been given a chance to breathe, get them all in a room with lunch and some coffee and talk about what just happened.

There should be a long conversation that includes what everyone did, what mistakes were made, and a thanks to everyone for a job well done. Review any mistakes, as they will create the blueprint for the skills that will be practiced next time.

October is the time to review fire safety

You'd be surprised how many fire hazards are present in your facility, no matter how well prepared you are

Fires in hospitals are not a common occurrence, and they are designed that way. Since a great majority of the occupants of a hospital are usually nonambulatory and are unable to evacuate themselves in the event of a fire, facilities are generally built with a shelter-in-place mentality. Fire doors, fireproof materials, and compartmentalized designs are used to contain a fire and its resulting smoke.

In addition, as part of the accreditation process, The Joint Commission requires hospitals to show equipment is in good working order and to practice fire drills on a regular basis.

Still, hospitals are not immune from the dangers

of fire. According to statistics from the National Fire Protection Association (NFPA), there were 6,240 fires on healthcare properties from 2006 to 2010 (the latest numbers available), resulting in six civilian deaths, 171 civilian injuries, and \$52.1 million in direct property damage. Of those, almost a quarter of the fires were in hospitals or hospices, and cooking equipment caused a majority of those fires (61%), followed by laundry equipment as a distant second, about 10%.

The NFPA has designated October 5–11 as National Fire Prevention Week, and no doubt you spend lots of time as your facility's safety expert keeping fire safety on the forefront. Our safety experts helped us a compile a list of some of the most overlooked fire hazards in the hospital environment.

• **Construction sites.** This is a bit of a doubleedged sword as construction at a hospital tends to get extra attention when it comes to safety. To meet life safety codes, hospitals are required to show that they are taking steps to mitigate dangers around sites—such as instituting fire watches if fire alarms are turned off or fire doors propped open.

But what happens after the job is done? It's easy to forget that even if your facility was designed completely sealed and fireproof, repairs and modification over the years can cause a problem if fireproofing designed to protect steel infrastructure is removed, and smoke proofing between floors can be compromised when workers open little holes in the walls and floors that are easy to forget about.

"Contractors come in and drill holes for all sorts of reasons," says **Matthew Daniel**, security director for ODS Security Solutions, Sampson Regional Medical Center, in Clinton, North Carolina. "IT contractors pull cables and wires through walls, and you can sign a million forms that they will follow up. Truth be told, it can be a bear to keep on top of it."

• Lithium batteries. An increasing number of devices are being made portable and wireless, and with that convenience comes a danger of fire. Experts say that certain batteries, such as the lithium ion batteries found in laptop computers, can explode with great force.

"While there are not a lot of news reports on this issue, when a lithium ion battery fails, it has the potential of exploding. We had a laptop explode; fortunately it was not being carried when it happened," says **Bruce Cunha**, **RN**, **MS**, **COHNS**, manager of employee health safety at the Marshfield (Wisconsin) Clinic. "Make employees aware that if a battery device starts smoking, to get away from it immediately."

Cunha says that he has seen a few fires also caused by careless disposal of battery-powered surgical equipment. "These were caused by battery cautery units [used by surgeons and others] being disposed of in the sharps container," he says. "If the trigger gets pushed by other stuff in the sharps container, these units will activate and cause a fire."

• **Obstructed corridors and exits.** One would like to think this could get taken off the list, as it's usually one of the most obvious items that Joint Commission surveyors will nail you for during a survey. It's also common sense—beds, chairs, and other stuff left in the hallways make it harder for people and beds to move through them if there is a fire. Yet experts say it's still a commonly found hazard in hospitals.

"Contractors come in and drill holes for all sorts of reasons. IT contractors pull cables and wires through walls, and you can sign a million forms that they will follow up. Truth be told, it can be a bear to keep on top of it."

- Matthew Daniel

"The biggest challenge I see is cardboard boxes delivered to departments left in the corridor or when the boxes are empty, placed in the corridor for pickup," says **Marge McFarlane**, **PhD**, **CHSP**, **CHFM**, **HEM**, **MEP**, **CHEP**, principal of Superior Performance, LLC, in Eau Claire, Wisconsin. "When I discuss this with staff in the area, they indicate the EVS [housekeeping]/Building Service [hours] were reduced and there are times when pickup of these combustible materials is delayed until the next shift but often until the next day."

In addition to being a fire hazard, McFarlane says cardboard boxes lying around can also be an environmental hazard.

"I also feel it is a mold issue; all cartons will get moldy if they get wet," she says. "Who knows where they come from and what kind of bugs are they bringing into your institution over the ocean in containers."

• **Propped doors.** Again, this should be on your "obvious" list. Fireproof doors that are propped open with items won't do their job in a fire,

not to mention it can create a very real hazard if a patient decides to take a walk and shouldn't. It happened in September 2013 at San Francisco General Hospital when Lynne Spalding Ford, a 57-year-old patient who was under the influence of sedation drugs went missing—and was found dead in a fire escape stairwell nine days later. Officials believe she had wandered out a door that was either propped open or had no alarm on it.

"This could be as simple as a door latch taped over, but it's something we see everywhere and that's a huge problem," says Daniel. "I'm pretty sure you could go to just about any facility and find at least one door propped open."

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• **Fire extinguisher training.** Fire extinguishers have become such a ubiquitous piece of equipment, and regulatory agencies require them to be in hospitals as well as sprinkler systems, but when is the last time you had your staff practice using one? You'd be surprised how many people have never picked one up, let alone tried putting a fire out. There are many different types of portable fire extinguishers on the market, used to put out different kinds of fires such as chemical and electrical fires.

"Many people do not realize that OSHA says if firefighting equipment is provided in the workplace, employees must be trained how to use it," says **Dan Scungio, MT (ASCP), SLS,** laboratory safety officer for Sentara Healthcare, a multihospital system in the Tidewater region of Virginia.

• **Patient smoking.** Most hospitals have done away with smoking and don't allow it in patient treatment areas at all, both as a fire safety precaution and a health precaution. But still, patients are still somehow finding ways to sneak a smoke—and causing fires. "They're told we are a non-smoking hospital and they still feel like they can smoke in their bathrooms," says **Chris Walker, MSN, RN, MHA,** director of inpatient mental health units and behavioral access nurses at St. Cloud (Minnesota) Hospital. "It's when their family feels like they're helping them by bringing cigarettes to them."

A fire in an 11th-floor patient room last November at the University of Maryland Medical Center in Baltimore caused the death of a man suspected of smoking.

William Turner, 53, was killed in the fire that apparently started in his hospital bed and caused \$30,000 in damage. An investigation found that the fire apparently started in the bed, and was fueled by oxygen that Turner was on.

A new trend, but apparently not much safer, is the advent of the e-cigarette. Considered safer than regular cigarettes, there have been a small number of cases in which the devices have exploded because the batteries were overcharged or put in wrong, and they are being blamed for a fire last November in a Syracuse, New York hospital that burned a patient on oxygen.

"Some of the challenge is that you never know what liquids are being used in those," Walker says. "We've had some challenges with adolescents getting very ill from that."

• **Hand sanitizer.** The fire danger of hand sanitizer is something that takes a lot of people off guard—after all, how can something that kills germs and stops the spread of infections be so hazardous?

It turns out the demon is in the high alcohol content of hand sanitizer. That's why there are strict fire codes that require a collection cup under dispensers and prevent their installation above electrical outlets.

Fires from hand sanitizer are rare, but they do happen. A fire in February 2012 at Doernbecher Children's Hospital in Portland, Oregon left a 12-year-old girl with third-degree burns over a fifth of her body. The girl, who was in the hospital for kidney cancer treatment, reportedly used hand sanitizer to clean a table and olive oil to remove glue residue from leads stuck to her head. She rubbed the plastic mattress she was lying on and the vapors from the sanitizer caught fire and were fed by the oil in her hair and on her shirt.

The debate over weapons in the ER

More hospital shootings reignite debate over whether ER staff should be able to carry defensive weapons

The perennial debate about whether weapons should be allowed in the ED as a way for clinical staff to defend against violence has been renewed again.

A series of events in recent months—including one in which a doctor is being credited with stopping a mass shooting by firing back with his own gun—has many hospital safety experts debating whether arming hospital staff is a good idea, and if so, what draws the line?

"There's no easy answer to this," says **Thomas A. Smith, CHPA, CPP,** president of Healthcare Security Consultants, Inc., in Chapel Hill, North Carolina. "If any ER says they've never had a gun, they aren't looking or it hasn't been documented. I guarantee there's a gun in every ER in the country." (See Smith's guest column on p. 11..)

A psychiatrist narrowly avoided being shot to death by a patient in a suburban Philadelphia hospital July 24, and his quick response by pulling out his own firearm and shooting the suspect is being credited for saving many more lives at the facility, according to a report from the *Charleston Daily Mail*.

According to the report, the suspect, Richard Plotts, showed up at Mercy Fitzgerald Hospital in Darby, Pennsylvania at around 1:30 p.m., an hour early for an appointment he had with his psychiatrist, Lee Silverman. At some point there was a scuffle, and Plotts pulled out a gun and shot a caseworker in the face, reports said. He then shot at Silverman, who was grazed by a bullet in the temple and thumb but managed to crouch down behind a desk and pull his own weapon out to return fire.

The report added that Plotts—who has a history of gun arrests, violence, and mental health problems—was shot several times, but survived and had to be wrestled to the ground. Reports quoted police as saying Plotts had 39 unspent bullets on him and that it's believed he had planned to shoot more people at the hospital had Silverman not returned fire.

On May 16, a man entered the ER at Cache Valley Hospital in North Logan, Utah, pulled two guns and demanded to see his doctor, reportedly saying that "someone is going to die today." In videos released of the incident, 34-year-old Jason Burr is seen walking into the waiting room area and speaking to the clerk. He then becomes combative, pulls two handguns from his waistband and begins yelling profanities and threats to the staff. Later, a security agent enters the lobby, confronting Burr and shooting him. Reports later said Burr first brandished a Taurus 9mm and loaded a round into the chamber. He later pulled out a smaller .38 caliber Derringer from his pocket, so that he had a gun in each hand.

History of ER weapons

Most violence in the ER historically has stemmed from patient violence, generated by patients who are afraid or anxious, or behavioral health patients who are usually separated from the general hospital population and watched over by security guards who can intervene if needed. But even then, tactics such as verbal de-escalation and, as a last resort, physical restraint have been the preferred way of dealing with them. Guns in the ED have long been considered a taboo in a place that many experts say should remain a safe, violence-free environment. Of the hospitals that choose to use guns in the ER, they are limited to well-trained armed security guards, some of whom are members of the local police departments.

"Obviously, you cannot control what someone does in terms of carrying a weapon in to the hospital, but I think that healthcare institutions should be a safe zone for everyone, including criminals, and that the message should be no guns, no weapons for the staff, and if they violate that, logical consequences will follow," says **Ken Weinberg, BA, MSc, PhD**, consultant in environmental health, safety, and toxicology for Safdoc Systems, LLC, in Stoughton, Massachusetts, and a former director of safety for 12 years at Massachusetts General Hospital in Boston. "At MGH, we had no armed personnel when I was there, but shortly thereafter, they were issued pepper spray, I believe."

As recent events show, however, random shootings by visitors to ERs and disgruntled patients are increasing in number. Some security experts have said it's only a matter of time before the ER becomes a target for a mass shooting that targets large numbers of staff and patients.

Most safety experts agree that we will never see a day when guns are being carried regularly by physicians or nurses, and most hospitals have strict rules against weapons. Still, some hospital staff choose to defy those rules, and the tolerance seems to depend on where the hospitals are located—some states have concealed carry laws, for instance, and the question is whether those laws supersede the hospital policy.

"I can see them allowing a limited number of people to carry weapons if there is a specific threat on a caseby-case basis," says Smith. "In some cases it's a rural area, and shooting and hunting is a way of life for some folks. Whether the crime rate is higher, I don't know."

At Mercy Fitzgerald Hospital, reports say the facility has a very strict policy against weapons, but Silverman apparently chose to ignore that policy. It is not known if Silverman will be reprimanded, but police officials in published reports have said his action "without a doubt" saved lives at the hospital.

Still, experts worry about the implications of doctors who take the law into their own hands in a hospital.

"Could this doctor have known this patient could have been dangerous and is that why he was armed?" asked Smith, who added that a good hospital security plan always starts with a threat assessment team that shares information about potentially harmful patients. "If so, why didn't he tell someone and could they have taken action earlier?"

How far is too far?

Without weapons to defend themselves, hospital staff largely are trained to use tactics designed to talk down the individual, and a last resort use a "run, hide, fight" philosophy that trains them to get themselves and patients out of the line of fire and fight back with items found in their environment if needed.

"Any staff member that has direct patient contact throughout the hospital are all required to take a nonviolent crisis intervention class, which is an eight-hour initial certification class," says **Chris Walker, MSN, RN, MHA,** director of inpatient mental health units and behavioral access nurses at St. Cloud (Minnesota) Hospital.

But what happens if verbal de-escalation isn't going

to be enough to stop a person bent on causing as much carnage as possible in an ER? Some hospitals have been starting to look into less-lethal options such as Tasers for their security staff. Considered less deadly than a gun, a Taser shoots out a metal barb connected to a small electrical charge that can render a subject incapacitated as it delivers a small shock that paralyzes the nervous system.

"We are seeing more hospitals that want Tasers at a minimum," says **Jeff Puttkammer, M.Ed,** Director of Learning and Development for HSS Institute for Leadership, Education, Advancement and Development in Denver. Puttkammer spent 13 years in the military, served on a police SWAT team, and was a security director for a level one trauma center. "We are seeing a huge increase in incidents in the ERs of combative patients and they want to do their due diligence. There is a stigma attached to it, and they need to understand what it can and can't do."

Swedish Medical Center in Seattle in May began arming its 70 security officers with Tasers at six of its seven campuses across the city. Now one of about 230 hospitals across the U.S. to arm their security officers with the devices, Swedish officials have said publicly Tasers would only be used in an extreme circumstance to incapacitate an armed intruder.

"These will never be used on a patient. Period," said Swedish spokesman Clay Holtzman in a published statement. "We cannot stress this enough—these tools are never, ever to be used to subdue an uncooperative patient. They are for preventing or stopping violence that is a danger to staff, other patients, the subject themselves, etc."

Walker, who works as a nurse manager in a behavioral health unit and has about 30 years of experience as a nurse, says the security guards at St. Cloud are trained by the local police department and have used Tasers on patients who were uncontrollable.

"This year in the mental health unit, we have had to use them on patients who were out of control and we've tried everything we can prior to try to de-escalate," she said. "Some of them are psychotic and trying to handle them without harming them can be a challenge. Sometimes these episodes just happen out of the blue and our security had to use the Tasers on them."

Puttkammer says he counsels his clients to look at

Tasers as something to be used as a deterrent, as opposed to something that would be used as a common weapon.

"Tasers are always a last resort," he says. "Just because a patient doesn't get back in bed doesn't mean you can pull a Taser out on them. But as soon as you pull the Taser they are much more likely to comply. They understand there is a violent option. If they've been tased before, they realize, 'This will get my attention and I don't want any part of that."

(See this month's **Healthcare Security Alert** insert for a case study about how Tasers are used in a North Carolina health system.) There may come a time when a security guard may have to use a Taser on a patient if he or she poses a real threat to ER staff, Smith says.

"If you allow them to carry, they say they'll never use it on a patient, but if a patient is committing a crime, they become a criminal and are no longer a patient," he says, adding that hospitals may have a tough time convincing regulatory agencies that using a weapon is justified.

"According to CMS rules, you can't use those devices on a patient, but on the other hand if you don't use it and someone gets hurt, you are at risk for liability. It depends on which way you want to be sued."

Guest column: Should ER docs carry weapons?

Editor's note: **Thomas A. Smith, CHPA, CPP,** is president of Healthcare Security Consultants, Inc., in Chapel Hill, North Carolina, and was formerly director of hospital police and transportation at University of North Carolina Hospitals, Chapel Hill.

In July, a patient shot and killed his case worker and wounded a physician at Mercy Wellness Center in Darby, Pennsylvania. The wounded physician then pulled a gun and shot the gun-wielding patient who was then subdued by other staff members in the clinic. That same week video was released from an incident that had occurred earlier this year in an ED in North Logan, Utah. In this incident, a patient entered the ED waiting room, pulled two guns, and demanded to see his doctor saying that, "Someone is going to die today." This patient was shot four times by law enforcement staff that happened to be on site for something unrelated.

After having been responsible for security operations in healthcare facilities since 1981, I could not help but analyze the police and security response, physical security measures (or lack of) emergency responders, public relations staff, and then the gun control and gun proponents during the news cycle or two after the incident.

The answer to the title queswtion is, of course, no. But what should hospitals do to reduce the potential for these incidents and to effectively respond when they do occur? Violent crime is on the rise in healthcare facilities (HCF) across the country. Regulatory agencies have recognized this in recent years and The Joint Commission (TJC), and OSHA have published additional guidance on workplace violence incidents for surveyors and HCFs. Healthcare workers, particularly those that work in emergency and mental health settings are at higher risk of assault than almost any other employee population (think police, prison guards, and taxi drivers). Professional associations such as the International Association for Healthcare Security and Safety (IAHSS), Emergency Nurses Association, American College of Emergency Physicians, and others have all developed position statements and guidelines for assisting HCFs in mitigating violence.

The cause of this seeming increased level of violence in our HCFs are many and varied, but here are the generally recognized factors that contribute to violent incidents:

- Increased wait times in our EDs
- Unrestricted movement of the public in clinics and hospitals. Many HCFs have moved to "open visitation," meaning friends and family may visit anytime of the day or night. Some facilities are taking this to mean no limits on who or when persons may enter their facilities. I have no argument about the need for people to visit here, but there must be reasonable checks and balances

to limit risks to patients, visitors, and staff.

- Reduced inpatient "institutional" mental health beds for high acuity patients
- A general increase in patient acuity upon arrival in our EDs and clinics. Many acute and chronic mentally ill patients are being released from hospitals without follow-up care. These patients have the right to refuse medicine and can no longer be hospitalized involuntarily unless they pose an immediate threat to themselves or others
- Increasing use of hospitals by police and the criminal justice system for the care of acutely disturbed, violent individuals or as an alternative to already overcrowded jails.

So what can and should hospitals do? Each HCF should at a minimum take the following six actions to assess risk and implement measures to reduce the likelihood of an adverse incident and provide an effective response if one does occur.

1. Conduct a comprehensive evaluation of your security program. Reducing the likelihood of a serious incident involves a layered approach involving many aspects of security including policies, procedures, and training as well as physical security, design, and other factors.

A competent hospital security professional should lead this effort using a multidisciplinary team. Competent means someone with hospital experience and credentials (CHPA and/or CPP). The local PD may have some resources, but you want someone that understands healthcare.

2. Conduct workplace violence policy assessment. Evaluate your policy and make sure it has senior leadership support. There are several excellent resources to assist in this process including OSHA's "Guidelines for Preventing Workplace Violence for Health Care and Social Services Workers," and the ASIS Workplace Violence Prevention and Intervention Standard.

3. Assemble a threat management team. A threat assessment team will be part of any decent workplace violence program. Establish this team (usually composed of representatives from Legal, Security, Human Resources, Psychiatry, local law enforcement, and others depending on the resources readily available in your HCF). Train the team and use them for threats.

This group gets better with experiences as with most teams.

4. Implement flag systems in electronic medical record. Develop policies and procedures for identifying threatening patients and family members, and patients with violent criminal records.

Patients and family members that have previously threatened and or assaulted staff in the past should be identified and flagged so staff members that encounter them in the future have the benefit of the previous experiences. This then allows them to take appropriate measures to protect themselves and others. The best predictor of future behavior is past behavior.

5. Design security into new construction and renovation projects. In the next decade there will be billions of dollars spent on new construction and renovation projects. This is a major opportunity to build security into each project. The IAHSS has developed security design guidelines for healthcare facilities. HCFs and healthcare systems should consider these guidelines and develop systems security requirements that each design project implements as a required part of any new project.

6. Training. Train staff in security sensitive areas on crisis intervention and security policies and procedures. Evaluate your current crisis training and consider if it meets your needs given this new era of violence toward healthcare and human service workers.

This is a call to action. It is easy to become complacent and think these things don't happen here. Every healthcare organization should consider the risks and take action to make sure you have reasonable, appropriate, risk-based security programs in place.

There could be some wiggle room for certain situations where a staff member may be allowed to carry a firearm. During the risk assessment process, each HCF should consider whether it needs an armed capability on its campus to be able to quickly respond to an active shooter situation.

A professionally trained and managed security department has many other benefits in addition to improved capability when responding to emergency situations. Staff and patient opinion scores are positively affected when there is a positive sense of security provided by the organization. These questions need to be considered as a part of the overall risk assessment.

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CPTED offers simple solutions to influence criminal behavior

CPTED principles provide a simple and effective way to improve security, reduce the risk of violence, and increase awareness

Effective healthcare security revolves around control. The most effective security departments control how patients and visitors get into the facility, where they go once they enter the building, and at least attempt to control their behavior once they arrive. Although those elements of control are relatively straightforward, effectively influencing those behavior modifications can be tricky.

The design of your building may play a significant role in behavior modification. Crime prevention through environmental design (CPTED) was first coined in the 1970s by criminologist C. Ray Jeffery, although it wasn't until the 1990s that the principles of CPTED gained widespread acceptance. And although CPTED was originally applied to large scale communities, it wasn't until recently that CPTED design gained traction in the healthcare industry.

Although some hospitals have adopted some of the primary principles of CPTED, many facilities could be using this ideology more effectively to provide a more secure environment, says **William H. Nesbitt, CPP,** president of Security Management Services International[™] in Newbury Park, California.

"I think the answer is that hospitals are using it implicitly, but I don't know that they are using it explicitly," he says. "They might be doing things without putting that label on it, but I think it's something they could be doing more of."

The theoretical principles of CPTED are simple, Nesbitt adds. Elements like "way-finding"—how visitors make their way around the hospital—and line of sight are basic security concepts, but the practical execution of fixing those problems can be complicated.

The benefit of CPTED in the hospital is that it asks the questions that will identify the most pressing security concerns, rather than jumping directly into problem solving that can often lead to the misuse of resources in the hospital environment, says **Randall Atlas, PhD, AIA, CPP,** president of Atlas Safety & Security Design, Inc., in Fort Lauderdale, Florida, and author of *21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention, Second Edition.*

"CPTED asks, 'Where is the front door? Where do you want people to park? Where are the doctors supposed to go in? How are supplies delivered? What is the experience you want in the emergency room?'" he says. "Those are the top four or five questions as compared to just putting cameras here, gating here, and having access cards. It's about problem seeking versus problem solving. That's the starting point and that sets the tone."

Discouraging crime

CPTED revolves around three main principles:

- Natural surveillance: Appropriate lighting, adequate lines of sight, and elimination of hiding places all contribute to natural surveillance
- Territoriality: Discouraging criminal activity by clearly communicating the intended purpose of each area, whether it's public or private
- Access control: Preventing accessibility through signage, locked doors, and fencing

The ultimate purpose of these principles is to discourage crime by making alterations to the physical environment.

"It's how you generally guide someone through the building with suggestive means," Nesbitt says. "Most people will walk where they can walk."

Sometimes those design changes are subtle, and sometimes they are overt. In one hospital Nesbitt consulted with, the reception area was located in the back of the entrance way. A bank of elevators was on one side of the desk, but on the other side was a hallway that visitors had no reason to be in. After

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Thomas A. Smith, MA, CHPA, CPP President Healthcare Security Consultants, Inc. Chapel Hill, North Carolina some discussion, the hospital elected to install a theatre rope to discourage people from walking down that hallway.

"That was a sort of classic CPTED methodology," Nesbitt says.

Too many hospitals rely on damage control while "shamelessly throwing money" at the problems they encounter, Atlas says. Although they also are useful, cameras alone cannot prevent criminal activity. Instead, by utilizing the principles of CPTED the hospital can effectively control circulation patterns, while promoting a design that is user-friendly and functional.

During any renovations, expansions, or hospital construction, hospitals should apply these principles and think about security's role in that space. Using these design elements will make a security officer's job easier, and effectively control the flow of visitors, patients, and employees.

"That's where CPTED shines best," Atlas says. "It's not doing damage control, but thinking about how do we improve circulation patterns, make these spaces functional, and make it user-friendly."

Hospitals can also discourage criminal activity simply by maintaining an orderly environment. A clean, clutter-free campus sends the message that the hospital is well cared for, which detracts criminal activity, Nesbitt says. For example, graffiti often seen on a bathroom stall gives the wrong impression and even promotes gang activity.

"Take a photograph of it because it may be something that gang members can read, but then get rid of it," he says.

Pay attention to your landscape

Although CPTED is best utilized during the building and construction process, the lighting and landscaping around the hospital campus may be one area that can benefit from ongoing changes utilizing CPTED principles. Shrubbery and trees are visually appealing, but overgrown foliage obstructs lines of sight and reduces the effectiveness of outdoor lighting.

Toeing that line between aesthetics and function is crucial and it's a common problem among hospitals, Nesbitt says. Trees that are planted too close to windows or underneath outdoor lighting structures may unintentionally conceal criminal activity. "[Foliage] doesn't have any degree of reflectivity," Nesbitt says. "If you look at the lighting in parking structures, most are very well lit because of the higher reflectivity of the concrete, but where you have foliage and trees, that's all absorbing light."

Preventing overgrowth falls under the natural surveillance principle of CPTED, Atlas adds, and it plays a role in the larger concept of forcing visitors, patients, and employees to use the property appropriately. "When you boil all the fat away, what is left at the end of the day is this: Are people using the property for what its intended use was?" Atlas says. "Whether that's parking a car, dropping off someone at the emergency room, visiting someone at the hospital, a doctor coming in to do surgery or an exam, nurses coming into work, or maintenance showing up and doing their job. How do they get onto the property, do they know where to go and where to park, and does the hospital actually know they have arrived?"

The case for Tasers in the hospital environment

With proper training, Tasers can be an effective tool in de-escalating violent situations and protecting patients, visitors, and officers

For the last nine years, security officers at Carolinas Healthcare System based in Charlotte, North Carolina have been equipped with Tasers, and the benefits have been noticeable.

"We can definitely see a change when a Taserequipped officer arrives on scene," according to **Bryan Warren, MBA, CHPA,** director of corporate security at Carolinas Healthcare System. "Things tend to calm down very quickly."

Warren pushed for the switch to Tasers in 2005, not because of any specific event, but because he felt it was a better alternative to the batons that officers were equipped with at the time. Due to a number of incidents nationally involving the misuse of Tasers, there has been a general aversion to use the device in healthcare facilities. But Warren argues that a few bad incidents have overshadowed the larger number of unreported incidents in which Tasers have prevented violence. He adds that Tasers are a non-lethal option that has benefits over equipment like batons and pepper spray.

"Healthcare is so different than some of the other environments, a Taser really is the best of both worlds as far as what you're trying to do, which is to stop someone without using lethal force," he says. "In an enclosed environment, chemical sprays just aren't viable."

Pepper spray can be problematic because of crosscontamination, particularly if there are patients nearby with respiratory illnesses. Furthermore, pepper spray leaves a residue, which forces evacuation of the area so that it can be decontaminated and interrupts hospital operations. Batons force officers to engage an assailant in close quarters, and can cause more harm in some instances.

"Most physical confrontations are dynamic," says Warren. "When you zig, I zag, and when I meant to hit you in the leg, I hit you in the head, and there's a problem."

In a 2009 study, published in the *Journal of Emergency Medicine*, Jeffrey D. Ho, MD, an emergency physician at Hennepin County Medical Center in Minneapolis, showed that Tasers could effectively prevent and de-escalate violent situations. Over the course of a year, Ho observed 27 Taser deployments. Of those 27 deployments, 24 were categorized as visual displays of the weapon, and only three incidents resulted in probe deployment. It was noted, however, that Ho received funding from Taser International, Inc., and held shares in the company's stock. A separate study published in 2009 showed that 99.7% of people that were stunned had few to no injuries.

According to **Steve Tuttle**, a spokesperson at Taser International, Inc., hospital security has long been a purchaser of Taser equipment. Currently more than 225 hospitals utilize Tasers in some capacity. In 2010 it was reported that 150 hospitals were using Tasers. "It's definitely growing and many of those hospitals that were clients for years have expanded their Taser programs as they've had success with the technology," Tuttle says.

In May, Swedish Medical Center in Seattle announced that it would train 70 security officers to use Tasers on six of its seven campuses. Swedish declined to comment for this story, but hospital spokesman Clay Holtzman told *The Seattle Times* that the healthcare system spent a year considering that addition of Tasers. He also emphasized that the device would not be used to restrain patients in any way.

"We cannot stress this enough—these tools are never, ever to be used to subdue an uncooperative patient. They are for preventing or stopping violence that is a danger to staff, other patients, the subject themselves, etc.," he told *The Seattle Times*.

Utilizing audio and video

Aside from developing sound policies and procedures, one of the most important steps Carolinas Healthcare System took when implementing the use of Tasers was to equip all devices with audio and video recording.

This add-on, known as TASER CAM[™], which must be purchased separately, captures audio and video "prior to, during, and after the potential deployment" of the Taser, according to the company's website. Audio and video recordings can be downloaded to a computer via USB cable.

This feature has been vital to limit liability and to improve training among officers, Warren says. The audio and video feeds allow the security department to corroborate events and review the events that led up to the use of the Taser. After it is vetted, that footage is often used as a training tool for officers, Warren adds.

"It really is, in my opinion, one of the best things in a healthcare environment that a Taser program could have," he says.

Training is crucial

Taser International, Inc., offers its own training and certification program that "emphasizes hands-on, interactive, and scenario-based training," according to its website. The company recommends that end users are recertified annually, and also offers training for instructors and master instructors. Warren says that in addition to the training provided by Taser International, Inc., officers at Carolinas Healthcare System undergo six hours of healthcarespecific Taser training.

"That's our own creation," he says. "We built that after studying the regulatory information out there. We have provided that free of charge as a best practice and a lot of facilities have used that in their research to put Tasers in their healthcare facility."

Warren says the training program revolves around real-life scenarios in the healthcare environment and incorporates the entire spectrum of Taser use, including drawing it from the holster, turning it on, deploying the device, and how to respond to the subject afterward.

Warren has also incorporated live role-playing with actors in which officers actually have to use the Taser in live scenarios.

"Then we pull the video up and say, 'Okay, in this last scenario this is what happened, this is what you did wrong, and this is what you did right," he says. "That's proven to be a very effective tool for us."

Healthcare facilities are sometimes hesitant to utilize Tasers because of liability concerns, but Warren says that with appropriate policies and comprehensive training, Tasers can be as safe and effective as other tools, sometimes more so. His best advice for hospitals that are considering the transition to Tasers is not to skimp on training.

"It really breaks down to policy, procedure, and training, and how the tool is used," he says. "You can have extremely high liability if you have people with batons without training, and extremely low liability if you have officers with firearms and exceptionally good training. It really depends on the tools and how you use them."

Although Warren says the hospital averages just two to three Taser discharges annually, the most important figures—the number of incidents that have been effectively defused simply by the presence of an officer with a Taser—is impossible to calculate.

"It gives our officers a lot more confidence as far as being able to go and diffuse a situation, knowing that if things turn physically aggressive, they have the means to protect patients and visitors," he says.