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PREPAREDNESS AND RESPONSE



TRACIE
HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

Foreword

Challenges Associated with Providing Care During Mass Violence Responses

[ASPR's](#) mission is to save lives and protect Americans from 21st century health security threats. ASPR shares this responsibility with our partners from government, the private sector, and private citizens. The resilience of communities relies on our hospitals; healthcare coalitions (HCCs); local, territorial, tribal, and state governments; and private partners in healthcare. The ASPR mission hinges on the following four priorities: providing strong leadership, sustaining public health security capacity, building a regional disaster healthcare response system, and enhancing the medical countermeasures enterprise.

HCCs are the foundation of our disaster health response system. HCC partners help to ensure states are better prepared for an emergency by having in place the necessary guidelines and agreements for identifying who is doing what, when, and with what resources (equipment and personnel). However, 21st century health security threats may overwhelm the capacity and capabilities of our highly prepared HCCs. In order to be ready for these events, the Regional Disaster Health Response System will build on this foundation, expanding the scope of HCCs to include other public and private sector partners, including trauma and burn centers, public health laboratories, and outpatient care facilities. But being prepared is only part of the disaster response equation. States and territories also need to be ready to respond quickly and efficiently; no-notice incidents can challenge traditional triage assumptions and medical surge can test even the most prepared systems in the early hours after an incident.

The articles in this issue of *The Exchange* highlight the healthcare response to no-notice incidents (in this case, mass shootings). Because our stakeholders include members from a wide variety of communities, fields, and actual or potential HCC partners, we try to highlight varied perspectives in every issue. Here, we share lessons learned from mass shootings at a large outdoor concert attended by thousands, at a nightclub that could hold hundreds, and at a relatively small place of worship. The professionals we interviewed discussed how they provided emergency healthcare in the minutes, hours, and days after mass casualty incidents, how their plans worked (or were challenged), and how they will implement lessons learned to planning and exercises to bolster their response should another no-notice incident occur. Their stories provide compelling examples of professional courage, innovation, and institutional commitment to saving lives that embody the ideal of readiness. ASPR is honored to provide a platform from which they can educate us all.

ASPR provides proven, operationally focused resources and templates to our stakeholders through several channels, including ASPR TRACIE. Subject matter experts with direct experiences planning for and responding to disasters or public health emergencies develop and review many of these resources. You can access specific [ASPR TRACIE-developed resources](#), resources specific to [mass violence](#), or the rest of our site from any page. [Please share](#) your own promising practices, lessons learned, or questions about no-notice incidents with us so others may learn from your experiences. As always, we welcome your feedback and we wish you a healthy, safe summer.



Dr. Kevin Yeskey,
Principal Deputy Assistant
Secretary for Preparedness
& Response

Welcome to Issue 7!

In this issue of the [ASPR TRACIE](#) newsletter, *The Exchange*, we discuss the challenges associated with providing care during no-notice incidents (e.g., mass shootings). We interviewed healthcare practitioners and first responders to highlight experiences from the pre-hospital, trauma hospital, non-trauma hospital, and rural hospital perspectives. We hope that these real-life experiences shared by your colleagues across the nation help you plan (and adjust existing plans) for no-notice incidents. Please visit our [Select Mass Violence Resources](#) page where you can find links to [tip sheets on no-notice incidents](#) and the webinar [Healthcare Response to a No-Notice Incident: Las Vegas](#).

We also continue to release new [Topic Collections](#) and respond to a variety of [requests for technical assistance](#). Your feedback is what makes us successful—please [contact us](#) with comments, questions, technical assistance needs, and resources to share. We look forward to our continued collaboration!

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ASPR

What's New With ASPR?

Much has happened in the months since [the last issue of *The Exchange*](#) (which focused on healthcare facility evacuation) was published. The Secretary [renewed the determination that a public health emergency exists](#) because of the opioid crisis. The Biomedical Advanced Research and Development Authority (BARDA) announced the effort to [develop new treatment for seizures caused by nerve agents](#). BARDA also summarized their role in the evolution of pandemic preparedness in [this blog post](#), emphasizing the importance of diversifying domestic vaccine technology and production. The Hospital Preparedness Program [celebrated their 15-year anniversary](#); there are currently more than 470 healthcare coalitions

across the country! In [this blog post](#), ASPR's [At-Risk Individuals, Behavioral Health, and Community Resilience](#) highlighted how behavioral health coalitions helped strengthen psychological readiness after the 2017 hurricane season. ASPR also released [A Decision Makers Guide: Medical Planning and Response for a Nuclear Detonation](#), providing easily accessible information on the critical scientific and medical aspects of a nuclear incident as well as the anticipated resources needed for a comprehensive response. Visit the [ASPR homepage](#) and [blog](#) to learn more about how ASPR is working to strengthen the nation's ability to prepare for, respond to, and recover from emergencies.



Pre-Hospital Considerations in No-Notice Incidents

An Interview with Deputy Chiefs Jon Klassen, Jon Wiercinski, and Jeff Buchanan from the Clark County, NV Fire Department



Abstract: On October 1, 2017 a gunman opened fire on thousands of people attending an outdoor concert in Las Vegas, killing 58 and contributing to the injuries of 851 people (more than half by gunfire). ASPR TRACIE interviewed Deputy Chiefs Jon Klassen, Jon Wiercinski, and Jeff Buchanan from the Clark County (NV) Fire Department to learn more about their experiences and lessons learned responding to the scene of this mass casualty incident.

John Hick (JH): Could you provide an overview of Clark County Fire Department and your role in the response?

Jon Klassen (JK): We are a combination department with 30 full-time paid stations and

14 volunteer stations. The paid stations cover the urban, though unincorporated areas of Clark County—pretty much everything you think of when you think of Las Vegas (LV). We cover the Strip, the convention centers, McCarran International Airport, the University of Nevada, Las Vegas (UNLV) campus and three sports arenas. We ran 153,998 calls in 2017. Our volunteer stations cover the outlying desert communities that surround LV in unincorporated parts of the county. We have robust, automatic mutual aid agreements with neighboring departments. We all have advanced life support capability and we have rescue companies in all but three stations. We do

have the ability to transport, but we typically contract that out to three private ambulance companies under a franchise agreement.

JH: Tell us about your Rescue Task Forces (RTF).

Jeff Buchanan (JB): I can share some historical and policy information that led up to the formation of the RTFs. In 2010, the Southern Nevada Fire Operations (SNFO) group was formed and included members from Clark County Fire Department, North Las Vegas, Las Vegas Fire and Rescue, Boulder City, and Henderson. In late 2011, a special hospital mass casualty incident (MCI) subgroup was formed and they developed a hospital MCI

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policy. There were many meetings, lots of information was shared, and more members—including law enforcement—were integrated. We started off as fire only, but we quickly realized without the buy-in from law enforcement, and having some of their decision makers in the room, the overall evolution to true unified command wouldn't happen. I want to emphasize that more than six years of preparation, training, and policy-making contributed to the success of the response on 10/1.

Jon Wiercinski (JW): As Jeff said, the RTF is a product of our hospital MCI policy that coincided with our inclusion in the Las Vegas Metropolitan Police Department's (LVMPD) [Southern Nevada Counter Terrorism Center](#). That coordination was the beginning of policy development. Together with LVMPD's MACTAC (advanced tactics for police officers in the field so they don't over converge on an event) they looked historically at events such as the 2008 Mumbai attacks and MCIs that have taken place inside the U.S. We know our area is a major target.

JK: One of the driving factors behind establishing these teams is that we assumed in an MCI, a lot of people would be bleeding to death on the scene from penetrating trauma, and we thought we could otherwise save them. RTFs allow us to go into the scene under police protection.

Instead of having to wait for the whole scene to be stabilized, the room is cleared, victims are located, and quickly extracted and transported to hospitals.

JH: Please describe different configurations of the RTF and how you work with law enforcement on the scene.

JW: Within a warm zone configuration, we would have the RTF identify the need for extraction teams (litter carriers who have police protection). By policy, RTFs should have a company officer, for a minimum total of four law enforcement officers on the task force. Based on lessons learned from the October 1 incident, we realize that there might be instances where fire department leadership levels are relatively low. That night, we identified several individuals and moved them forward as team leaders. Another configuration we are considering is having RTFs with fewer law enforcement partners. Operating in the warm zone is a new thing for most public safety organizations; in active shooter cases, the warm zone is not often clearly defined. Further, we could come into contact with an assailant. What is the role of the police department when it comes to clearing and securing the scene? We are still trying to review and incorporate these lessons learned into our RTF plans.

JK: The shooter neutralized himself between 10:16 and 10:18 pm; we were in full on response mode for hours, dealing with the incredible amount of misinformation being shared within our system—we had hundreds of gunshot wound (GSW) patients who left the site of the shooting and went to casinos, Denny's, and the airports, and called 911 from those locations. These "echo calls" suddenly became "active shooter" calls at all of these locations. All of these sites needed to be cleared by the RTFs. While we never deployed any more than three RTFs at a time, we had 19 teams operating that night. Nobody knew when we were going to encounter an active shooter—at one point, we thought we had active shooters in eight or nine locations simultaneously.

JH: Let's talk about personal protective equipment (PPE). Are all of you moving from ceramic to metal body armor plates, and do you have PPE on every rescue?

JB: There is a movement towards using metal plates, and all engines and rescues have the PPE on board. Three individuals led the effort to gather the funding necessary to apply for and win the grant that funded the PPE—specifically ballistic equipment: Captain Evan Hanna, Captain Mark Kittleson [both from Clark County], and John Wright from North Las Vegas.

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JH: Can you describe the throw kits and supplies like tourniquets and pre-packaged hemorrhage kits you store on your engines?

JK: Throw kits are on all of our rescue trucks and police cars in the Valley. They contain shrink-wrapped “Stop the Bleed” kits and supplemental supplies assembled in a bag and stored in battalion chief vehicles, allowing the battalion chief to restock the groups as necessary. We supply fanny packs to the responders working in the warm zone; these include occlusive dressings and tourniquets that can help address the immediate needs of the patients. We also carry a number of disposable litters for the transfer of patients. We also have an MCI truck that was put together with grant funding from years ago. Our emergency medical services (EMS) coordinator was instrumental in assembling that and while it is fully stocked, it’s just one vehicle, located at one station, and it’s not manned. It was requested and deployed on October 1. Our goal is to have a total of 1,000 throw kits that we can distribute to bystanders or other first responders for use.

JH: The chaos of communications was intense; how difficult did that make it to establish on-scene triage and treatment?

JK: I was actually down in the mix that night—I responded from home and reacted to radio traffic. I was stunned by the speed at which everything was moving. Even with our best plans and organization, people were just not going to stop to be triaged, treated, and transported in an orderly manner. I was stunned by the number of shoes and boots I found lying around—if people are running out of their shoes, that’s a sign. People were moving past us en masse. Even if we had been prepared to more formally perform triage and send patients to certain areas that just was not going to happen. There were makeshift litters and barricades, and people performing CPR. Others were screaming and running and crying: nothing that reflected our traditional training approach. What we realized was that there was a large number of self-transports (which we knew would happen), and we should have concentrated our efforts at the local hospitals. We had two trauma centers nearby, but the closest hospital—Desert Springs—was nowhere near prepared for the surge of patients they received. Our efforts would have been valuable there. We are working on a Valley-wide policy now that calls for us to determine the closest hospital to all mass gathering events and position pre-loaded fire department resources to the nearby hospitals to help with triage, traffic control, crowd control, and the like in the event of another MCI.

This particular concert was very expensive—so it was a pretty responsible group of 22,000 people. Country music really appeals to off-duty cops, firefighters, military personnel, and nurses. The crowd that night was to our advantage. We had a good deal of off-duty first responders and medical providers; there was a lot of clear thinking, first aid, direct pressure, tourniquets, and CPR being carried out. We had a lot of resources in the form of civilian attendees.

Deputy Chief Jon Klassen

JH: Can you share some information about the Family Assistance Center (FAC) you established and how it worked?

JW: At about 2:00 am, we did establish the FAC, first at the Thomas and Mac Stadium (part of UNLV property), but later, we moved it to the Las Vegas Convention Center. That was one of the high points for us as an organization. By 8:00 that morning, they were laying out the FAC at the convention center, and it was operational at about 1:00 pm. This helped people reunify with their loved ones, establish medical and travel needs, child care, lodging, benefits, and compensation. We’ve highlighted standing up and

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To say we followed our MCI plan steps one by one—it wasn't possible. We were drinking from a fire hydrant.

Deputy Chief Jon Klassen

operationalizing the FAC as a best practice in our after action report.

JK: The FAC was impressive. We are very proud of how it worked out. In conjunction, our Office of Emergency Management established a resilience center to address their long-term mental health and financial needs.

JH: Did you use a ribbon system for on-scene triage?

JK: All RTFs have been assembled with orange and black tape. Orange indicates transport

and black indicates a fatality. But this incident moved so quickly and was so spread out. If the ribbons were being used, we didn't see them.

JH: How do you establish a command post in a setting like that?

JK: Once I arrived, I asked the battalion chief how I could help, he gave me his phone. One of our off-duty guys who was at the concert was on the line, frantically asking for help and saying how bad the incident was. I told the battalion chief I was going to the east side and establishing East Division. I went in my marked vehicle, and was deluged with people when they saw my lights—everyone was asking for help for their hurt friends and loved ones. Off-duty emergency medical technicians (EMTs) who were attending the concert were describing injuries to me. People were running by

me using makeshift litters made out of barriers. CPR was being performed in trucks speeding by the other way. I offered my first aid kit, and I started directing people who self-identified as EMTs and firefighters to find people who needed help and help them. Saying I was resource poor doesn't really do it justice; I asked North Division to send as many ambulances as possible. Chief Buchanan joined me shortly thereafter, but to say we followed our MCI plan steps one by one—it just wasn't possible. We were drinking from a fire hydrant.

JB: I checked in with the incident command post and migrated down to where Chief Klassen was. The seas of humanity had already left the scene and what was left was a few dead bodies and loved

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ones. But there was so much misinformation being transmitted through the radios—they still didn't know if there was a single or multiple shooters. We did not know if we were in a safe location for quite some time, as some reports indicated there was another active shooter within the venue. This was quickly debunked, but it was extremely challenging to sift through what was being conveyed as facts and make decisions while taking the safety of our crews into consideration. I don't remember feeling unsafe, but I do remember there being some question about whether we were in the best location based on the limited information we were gathering.

JH: Would it have been a benefit to have Clark County Fire Department embedded with security at the event?

JK: We do have a state statute that outlines what needs to be on scene for specific events. Any mass gathering of 15,000 or more will have a Clark County Fire Department presence. The numbers change by venue and agreement, and what we determine with the event promoter and/or host. We were instrumental in the development of that statute. We do interact with the security staff up and down the Strip, and we had a very capable group from Community Ambulance at the concert and were in communication with them. We had a crew on scene; you could hear the gunfire in the background of

our captain's radio traffic. We were on scene immediately.

JH: Incidents like these can be very traumatizing to work. Can you share any lessons learned regarding safeguarding the mental health effects on responders?

JB: We are taking this very seriously in Clark County. We realize as an organization that a healthy person mentally makes a healthy physical employee. As an organization, we have been working towards improving how we react and proactively engage in the mental health of our employees. Peer, emotional, and mental support of our emergency responders is critical and it needs to be viewed as such.

JH: Can you share any other lessons learned from a crowd and scene management standpoint?

JK: Some things went very well that night. From my perspective as an EMS chief and provider, if I could make one change, it would be to finalize the work on this Valley-wide collaboration to get the fire departments and emergency rooms on the same page. Law enforcement has agreed to expand their reach in the event of another MCI to ensure security at the hospitals is as tight as possible.

We just need to be aware that we're not going to change mass self-transport. We need to accept it and work within that framework.

The ASPR TRACIE [Pre-Hospital Topic Collection](#) can help first responders prepare for and respond to a variety of events. More specific information can be found in these Topic Collections:

- [Fatality Management](#)
- [Responder Safety and Health](#)
- [Burns](#)
- [Explosives and Mass Shooting](#)
- [Alternate Care Sites](#)
- [Mass Gathering/Special Events](#)
- [Pediatric](#)
- [On-Scene Mass Casualty Triage and Trauma Care](#)

How can we best manage that phenomenon? We now know we can better manage the scene at the hospitals that are understaffed and need us. Our trauma centers are somewhat better at that, but the non-trauma centers need our assistance. We need hospital staff to know that the fire department is coming. We need task lists available, staff identifiable, and everyone brought up to speed on the plans so that they can easily access the site and immediately begin working. If we look at self-transport through another lens, it has its advantages. We need to embrace that now and change our training. ■

The Role of Non-Trauma Hospitals in No-Notice Incidents

An Interview with Dr. Don Reisch, Ryan Jensen, Dr. Dan McBride, and Karen Donnahie, Desert Springs Hospital Medical Center, Las Vegas, NV



Desert Springs Hospital received posters, banners, letters, and notes from all over the U.S., and they were prominently displayed as they arrived. Photo credit: Gretchen Papez

Abstract: Though they treat patients who arrive directly from the Las Vegas Strip, very few trauma cases are handled by the healthcare providers at Desert Springs Hospital Medical Center. That changed quickly on the night of October 1, 2017 when a surge of more than 100 patients with varying degrees of injuries appeared after the Harvest Festival mass shooting. ASPR TRACIE interviewed Dr. Don Reisch (former Emergency Department Medical Director and currently an emergency medicine physician on the medical staff), Ryan Jensen (Chief Executive Officer), Dr. Dan McBride (Chief Medical Officer of The Valley Health System), and Karen Donnahie (Emergency Room [ER] Registered Nurse [RN] and Emergency Preparedness Coordinator) to learn more about how non-trauma hospitals can prepare for similar mass casualty incidents.

John Hick (JH): Please give us an overview of that night before the incident occurred, and your hospital in general.

Don Reisch (DR): Desert Springs Hospital is a 257-bed community hospital that typically sees about 149 patients in the emergency room (ER) on a Sunday; that number may increase or decrease depending upon what's happening on the Las Vegas Strip or elsewhere in town. The hospital focuses on cardiac and surgical services. If needed, we stabilize and transfer neurosurgery, OB/GYN, and pediatric patients. A Level 2 trauma center is located about two miles away, and our community emergency medical services (EMS) protocols indicate all trauma patients must be transported to a trauma center.

The night of October 1, I found out about the incident from my son. His roommate was listening to the police radio and heard gunfire over

the radio. He told my son, who called me, and I reported to the hospital within 30 minutes of the first shot being fired.

We already had two emergency medicine physicians and two Advanced Practice Providers (APPs) on duty. Another 29 providers arrived to support them.

As soon as I arrived, three nurses took me to see patients. I became the Medical Incident Commander, and focused on triaging patients, directing their movement to appropriate areas or requesting transfers, and contacting more physicians.

We called in four operating room (OR) teams. We had a vascular surgeon, general surgeon, and orthopedic surgeon come in, and were able to operate the ORs simultaneously.

Four patients were dead on arrival to us, and five patients arrived with significant chest, abdominal, and closed head injuries and needed to be moved immediately. We had them transported to a Level 3

Check out this ASPR TRACIE tip sheet on the [Emergency Medical Treatment and Labor Act \(EMTALA\)](#) and Disasters.

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trauma center and sister hospitals that were not as inundated by the incident or had capabilities that we do not.

Desert Springs Hospital is part of The Valley Health System (VHS), a six-hospital system in Las Vegas. VHS operates its own transfer center, handling transfers to and from our own hospitals and to hospitals outside our system. They were extremely helpful. I could tell them, “I have two abdomens, two chests, and a head wound—what can you do?” and they arranged patient transfers to other facilities based upon their capabilities.

JH: How many patients did you end up transferring, and how did the process go?

DR: We transferred seven critically injured patients to other facilities because we didn’t have the subspecialty surgeons available (i.e., neurosurgical, gynecological).

The second group of patients who were transferred had minimal injuries and may or may not have been seen or triaged in the waiting room. EMS arrived in their ambulances, went to the waiting room, triaged and pulled 2-3 patients each, and transferred them to hospitals that had providers standing by.

I also learned about a new resource we have in Las Vegas, an ambulance bus (AMBUS), that could hold multiple patients, and we used that to transfer out the less serious patients, too.

JH: How did patients arrive to the hospital?

DR: People either self-evacuated or arrived by car.

Ryan Jensen (RJ): We even had a city bus drop off patients at our main entrance.

Karen Donnahie (KD): Of the over 100 patients that came to Desert Springs, only 11 came by ambulance.

JH: How long did it take you to activate your disaster plan?

RJ: The official time we called our disaster code was 2318. I came in around the same time. Our Incident Command Center is located on the other side of the hospital, so we had a mobile command center and met in the ER breakroom on a regular basis for incident updates and to discuss pressing needs.

JH: Were any activations or notifications made or codes called?

KD: We initially called a Code Lockdown shortly after the first patient with a gunshot wound (GSW) appeared. This means Security locks down all hospital entrances except the ER; this is a standard safety procedure when a patient with a GSW or knife wound arrives at our ER by private vehicle.

RJ: Phone trees were activated, leadership was texted, and as staff heard about it on social media, the news or through coworkers, they just came in to help, even if they weren’t called or scheduled.

JH: This poses particular challenges for staff in the ER—you’ve got a lot of patients coming in who need triage, and at the same time, you’re prioritizing who needs surgery versus who needs to be transferred—how did you go about making these decisions?

DR: We don’t see GSW patients unless they walk in, but when we do, we typically throw all our resources to stabilize and transfer them to a trauma center. On October 1, we had four people arrive DOA. We had to redirect our resources to all the survivors.

Our other challenge was triage. With so many walk-in patients, we had to look at everyone as quickly as possible. For me, one of the hardest things was moving patients into either critical or non-critical areas. We did rounds and talked to every patient in the hospital. We found some who had gotten lost, and some who were stoic or were losing consciousness. We didn’t know how seriously they had been injured until we spoke with them and re-triaged them. We admitted 19, and 11 of those were critical. They were admitted to either ICU or a medical/surgical unit.

JH: How many patients did you send to an OR that night?

DR: Three. Other patients had orthopedic injuries and we could safely wait on them until the next day.

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After the incident, a reporter asked me what the “typical” injury was for this event. After the Boston Marathon bombing, for example, the “typical” injury was perforated eardrums. In this case, patients had a lot of bullet shrapnel injuries because the attacker was shooting from so high. The bullets shattered when they hit the pavement and ricocheted before hitting people.

Don Reisch, MD, former Emergency Department Medical Director (current emergency medicine physician)

JH: How did you track patients in the ER? Did you have any challenges?

DR: Our greatest challenge was handling the volume, and we didn’t have trauma tags immediately available in the ER. We now have paperwork with pre-registered Cerner numbers so when we need to, we can pull the paperwork and the records will work with our electronic medical record (EMR) system.

JH: Did you have any issues with supplies in the ER or OR?

RJ: We are a “just-in-time” facility. We receive supplies daily, and we’re looking at updating this in our facility master plan right now. Because of the volume and types of injuries, we didn’t have some of the necessary trauma supplies on hand. However, we were able to call other hospitals in our system for

additional supplies (e.g., bandages, gauze, and chest tubes).

KD: When we ran low on lidocaine, we switched to marcaine. It was easier for us to replenish supplies because of our sister hospitals.

JH: What other lessons from the ED would you like to share with our readers?

KD: In the future, providers will have a bundle of colored armbands they can snap onto patients to indicate who had been seen and by whom.

DR: During disaster preparedness training, you have an opportunity to connect with key partners in your community, like the fire departments, county management, city management, police and EMS. A key takeaway is that everyone remembers to ask one another: “What can we do to help you right now?” That night, I needed someone to send me empty ambulances that could transport patients to other facilities. That’s when I learned about the AMBUS.

Having the transfer center was so helpful. When you have an

Incident Command center, one of the actions is call around quickly to determine where we can start sending patients. A good question to ask is “do we have the infrastructure in place to quickly transfer multiple people, and if so, who is going to handle?”

JH: Karen, tell us more about your role and how you think events went from a systems standpoint.

KD: I am the Emergency Preparedness Coordinator for Desert Springs Hospital and Henderson Hospital. The entire staff of Desert Springs Hospital, from the housekeepers to the IT Director, to the CEO, to security guards, were beyond phenomenal. In our debriefing, we identified some important communication opportunities. For example, staff came in, but didn’t tell anyone they were there. Some staff were hurt that they weren’t called in, but we explained that we needed people who were fresh and ready to take over at 7 a.m. instead of being physically and emotionally exhausted. We also focused on



Dr. Reisch is interviewed by the media.
Photo credit: Gretchen Papez

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re-educating our staff on using the county-wide triage system.

JH: Was the response a challenge for your OR staff?

RJ: While we aren't a designated trauma center, we have a very strong open heart program, along with orthopedic and general surgery. The physicians were available, and we had multiple OR teams running that night. I think the OR teams and surgeons did a great job.

JH: Let's talk about any issues you might have had with communication—internally and with the media.

KD: On the night of the event, I issued two-way radios to all physicians and myself, but no one used them for anything. We'd like to increase staff familiarity with using the radio—they work well throughout the hospital. Another communications challenge involved our cell service going down for a period of time. Everyone was trying to communicate with their loved ones and it was difficult to make outgoing calls.

RJ: People looking for loved ones was a challenge until the community-wide Missing Persons number was set up. Our main switchboard was overwhelmed. Fortunately, our operators could check if a person was at any of our six hospitals. Our social media channels were also overwhelmed. UHS (our parent company) assigned remote staff to answer questions that came

in via social media and post updated information.

Our public relations and media director (Gretchen Papez) and the marketing team worked with the media and took the calls. I would say a lot of the public relations efforts really occurred Monday through Thursday since the incident occurred Sunday night.

JH: From a Hospital Command Center and administrative standpoint, what were the primary roles of the CEO and CMO? Were they more command or support in nature?

RJ: When I arrived, the hospital looked like a MASH (Mobile Army Surgical Hospital) unit. I let the staff continue doing the great job they were doing. I spent a lot of time with law enforcement and families of the four deceased victims that came in, making sure they had what they needed, including a place where they could have some peace and quiet and wait for additional family members to arrive. I also tried to provide support to staff wherever I could.

JH: The next day, what pieces did you have to put together?

RJ: First, everyone needed some rest. I went home, hoping to get at least 2 hours of sleep. I'm from NJ originally, so the news was breaking there as soon as I got home. I got a lot of calls and texts from my contacts on the east coast.

I live about 30 minutes away from the hospital. By the time I returned to work (about two hours after I

went home), most of the ER had been cleared; I was amazed. Staff did a great job cleaning up and getting patients up to their rooms. My next steps were finding out how our critical patients were doing, meeting with media, and updating family members. I spent a lot of time over the next two weeks with critical patients' loved ones.

We also began receiving tons of donations and worked to manage the kindness and graciousness of the people of Las Vegas. People brought our staff food, donated food trucks for family members. The Veterans Administration sent mental health professionals. Organizing all of these resources that people were so willing to give was amazing, but also time consuming.

Dan McBride (DM): Once I became aware of the event, I immediately visited each of the hospitals, starting with Spring Valley Hospital. One thing that was remarkable to me was how quiet things were at seven in the morning. CEOs, CNOs, and administrative staff did a fantastic job supporting and taking care of family members and loved ones over the next two weeks. Valley

Organizing all of these resources that people were so willing to give was amazing, but also time consuming.

Ryan Jensen, CEO

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"Comfort Dogs" consoled Desert Springs Hospital patients, visitors, and staff.
Photo credit: Gretchen Papez

Hospital had a number of patients in the ICU who were critically injured. The destruction caused by these high-caliber bullets was far greater than a typical gunshot wound. When the bullets struck bone, they shattered it; rather than a single GSW and its trajectory, you'd have a scattering of bullet fragments. Several patients had shrapnel-related injuries that became more apparent in the following days. One patient had an unrecognized lung injury—she was shot in the liver, but the bullet ricocheted into her lung. She went into respiratory distress, and the lung injury became apparent several days later. Another patient was shot in the lower pelvic area and that bullet shattered. It became apparent a couple of days later that the shrapnel also caused an injury to his rectum.

The response from the surgical team was truly remarkable. Many had not performed trauma surgery for some time—these are very

well-trained general surgeons who came in voluntarily. The rest of the staff, who worked with families and dealt with media attention and inquiries over the next couple of weeks, displayed remarkable stamina and made a great effort.

Dr. Jeff Davidson, the ER Medical Director at Valley Hospital, works closely with EMS. He made a number of personal calls to surgeons with certain specialties to perform surgeries on patients with iliac artery injuries, facial wounds, and a through-and-through GSW involving both lungs.

I've never been through something like this, and the coordination was something to see. This includes all of the facilities involved—the response was truly amazing.

JH: Do you have any recommendations for facilities of your type/size?

KD: Continued training is essential. We also have to prepare for things that are beyond our imagination. The biggest thing that happened

from October 1 is a paradigm shift. In all of our professional mass casualty incident (MCI) trainings, we've been told that EMS will evenly distribute patients, they will all come via ambulance, in a neat package, with clearly marked triage tags.

On October 1, we learned that Siri, Google maps, and Uber came before EMS. People will not wait patiently on the green tarp, so hospitals—regardless of their location and size—need to be prepared for a medical surge event.

DM: Continued resources need to be placed throughout the community – maybe additional Level 3 trauma centers. We might not know where the next MCI will take place, but we want to have a greater level of training for all of our nursing, ED, support staff, surgeons, and administration. We need to explain to others the importance of preparing hospitals for things that may happen in the future. We need to maintain that level of training and broaden it to the medical community.

KD: At Desert Springs Hospital, we now have full-time ED staff attending the Trauma Nursing Core Course ([TNCC](#)). Even though we aren't a trauma center, we will be trained at this level. Education makes all the difference in the world. ■

People go where they know, or where their phone tells them they should go.

*Karen Donahie, RN,
Emergency Preparedness
Coordinator*

Trauma Hospitals and Mass Shootings

An Interview with Dr. Michael Cheatham (Orlando, FL) and Comilla Sasson (Formerly from Aurora, CO)



Abstract: Effective trauma care is a direct result of all parts of a system working well together (on scene, during transport, in facility, and--if necessary--during transfer and beyond). In the U.S., major trauma centers are able to provide comprehensive total care for every aspect of injury. ASPR TRACIE interviewed two physicians who shared their experiences providing patient care after mass shooting incidents, with a focus on the importance of conducting initial and follow-up triage. Dr. Michael Cheatham (Orlando Regional Medical Center [ORMC], Level 1, approximately 800 beds) spoke about the June 2016 Pulse Nightclub mass shooting. Dr. Comilla Sasson (who at the time worked for the University of Colorado Hospital, Level 2, nearly 450 beds) discussed the response to the July 2012 Aurora movie theatre mass shooting.

John Hick (JH): Can both of you summarize your roles during these incidents?

Michael Cheatham (MC): I ended up taking on three different roles that night. I was one of the first trauma surgeons that got called in to assist because I live so close to the hospital. As more of my partners reported to the hospital, I switched hats and worked as the medical director of the Incident Command Center. As the morning progressed, the hospital's president asked me to serve as the hospital's media spokesperson.

Comilla Sasson (CS): I was one of the two attending emergency department (ED) physicians the night of the Aurora shooting. I wasn't supposed to be working, but I agreed to cover for a sick colleague. I currently work for the VA hospital in Denver, Colorado and maintain an appointment within the University of Colorado School of Medicine and Colorado School of Public Health.

JH: Dr. Cheatham, is your facility the only Level 1 trauma center in your area?

MC: Yes, and emergency medical services (EMS) providers will typically take patients with penetrating trauma injuries such as gunshot wounds (GSW) to our Level 1 or Level 2 trauma centers. There are two Level 2s in the area (one north and one south of us). EMS frequently chooses to bring GSW patients to ORMC, the Level 1 trauma center. ORMC is also located 2,100 feet from the front door of Pulse Nightclub; the Level 2 facilities are about 25 minutes away.

JH: Tell us about patient arrival and triage status after the nightclub shooting.

MC: The initial wave of 36 patients came to ORMC about 10 minutes after the incident

For more information on lessons learned from the Pulse Nightclub shooting by Dr. Cheatham and his colleagues, access [Issue 3 of The Exchange](#).

ORMC also published a [free, online book](#) with chapters that detail how each department responded to the Pulse shooting. Registration is required to access this document.

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began. We received one patient a minute during the initial wave. The second wave of patients (9-10 total), which left the scene after the SWAT team breached the nightclub and neutralized the gunman, were taken to ORMC. There were another 10 victims that were taken to other hospitals with minor injuries. This was a decision made by EMS; they knew we had received so many patients earlier.

About half of the first wave were transported by bystanders and law enforcement. No field triage was done. EMS did set up an area on scene and were able to triage subsequent victims, but many patients from the first wave were driven to or carried to the hospital by bystanders, or driven there by police.

JH: Does ORMC use a specific tagging or triage process, and who leads this initial assessment?

MC: The initial assessment is done by the medical director for the ED. The on-call trauma surgeon assumes the role of trauma director. For this incident, he was primarily focused on resuscitating the red patients in the trauma

bay and identifying patients to be sent to the operating room (OR). We have triage tags available as part of our plan, but we did not use them that day. The volume of patients made that impossible. The first 36 patients arrived in 36 minutes.

JH: Dr. Sasson, how did patients arrive to your hospital after the theatre shooting?

CS: We received two or three patients by ambulance, and the rest (of 23 patients) came by foot, private vehicle, or in the back of police cars. One patient actually ran three miles to get to us. It was a unique situation--no triage was done at the scene. They didn't allow ambulances in until they were able to clear the scene and ensure there wasn't an active threat. For the first 20 minutes or so, the only people allowed on the scene were law enforcement.

JH: Once they arrived, what was the triage process like?

CS: I was one of the two attending ED physicians and we had two residents. We stayed in the ambulance bay (next to the resuscitation bay) and performed spot triage. We'd send patients to either the resuscitation bay, a "hall spot" (we were already full when the incident occurred), or, if they needed immediate OR activation, we had them transported right away to the OR. There was no time for triage tags. We had to activate the OR teams because it was late at night. The trauma surgery attending basically called up the

other surgeons—it was essentially an "all hands on deck" situation.

JH: Dr. Cheatham, was there a need for prioritization, or secondary triage after the nightclub shooting?

MC: That is the rule the trauma director followed. In fact, the very first patient who arrived with a GSW to the abdomen was actually one of the last patients to go to the OR. He was hemodynamically stable and alert, and more critically ill patients arrived and "bumped" him. On a daily basis, we have two ORs that run around the clock. As we brought in more teams over the next two hours, we were able to run eight ORs and we were able to get people to the ORs as quickly as we needed to.

JH: Did either of your teams perform "damage control" surgeries that night?

MC: Because of the magnitude and time involved, we really didn't know how many more patients were coming. After they breached the club's wall, law enforcement told us we had another 40 victims coming. We were expecting a third wave of patients, but unfortunately, this didn't materialize because those patrons were deceased. Not knowing this was the case, we did many damage control operations that day in order to free up the ORs; patients were returned to the OR within 1-2 days for the completion of their procedures.

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None of these things ever happen in the middle of the day when you have a full OR staff.

Comilla Sasson, MD

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CS: We had a similar situation. If someone needed a chest tube, the ED doc would handle that, and get the patient stable enough for the OR. We had quite a few patients who had been shot in the head as well. It was a constant process of prioritization. Once the attendings got there, they helped with the triage and re-prioritization. There were some patients who had to return to the OR in the days after the incident.

JH: Were there any challenges from a supply standpoint?

MC: We did run short of chest tubes because of the number of chest GSWs we treated. We brought additional chest tubes over from our pediatric trauma center and restocked the emergency department from our disaster supplies.

CS: We had a similar situation in our ED. We had one of our emergency medical technicians who is also an ED technician run around the OR collecting as many chest tubes as he could find. You're just not usually stocked for that much penetrating trauma in the ED.

JH: How much blood did your hospitals go through after the incidents?

CS: We went through 300 units of packed cells that night. We were able to work with our blood donation site to get what we needed, but the region was definitely depleted for a few weeks after. We made this part of our

public information campaign—there were many in the community who wanted to help, so we emphasized that blood was one of the things they could contribute.

MC: We transfused 441 units of blood that night. Our challenge was different from Aurora's. I was asked by a reporter during one of the initial press conferences if people could donate blood. We said yes, and over the next three days, people donated 28,000 units of blood. Our local blood bank was overwhelmed. One of the lessons we learned, however, was the value of a relationship with the blood bank. One of the very first calls Incident Command received was from the blood bank, telling us how many units they had already sent and offering to send us blood until we told them we didn't need anymore. They made eight trips to us that day and brought 600 units of blood. They initiated this on their own after watching the news, and it was extremely helpful. One of the lessons we try to emphasize during our lectures is the importance of getting to know your blood bank in non-emergency times and involving them in your disaster planning.

JH: Dr. Cheatham, did you have any issues with plasma?

MC: No, we actually keep plasma thawed so we don't have a delay. The volume we go through between the trauma center and cancer center allows us to keep units thawed and ready to go. Because there was so much blood on scene, many patients

were exposed to other patients' blood, so we vaccinated everyone against hepatitis B (reference [this article](#) for more information on postexposure interventions to prevent infection in patients after mass casualty incidents).

JH: Were there any issues with other supplies?

CS: Having enough clean supplies on hand ready to go in the middle of the night was a bit of a challenge for us.

MC: We keep quite a few instrument trays on hand and chest tube insertion trays, in particular, were scarce. One of our sister hospitals in the area did help us with instrument sterilization after the fact because of the sheer volume of cases and the length of time it takes to process and sterilize the trays.

JH: How did you handle surge and related capacity issues?

CS: Our hospital-wide response allowed us to discharge people to make room for these patients. EMS informally diverted patients for a bit. The incident took place at about 12:30 a.m. and at 5:00 a.m., most of the ED was empty. At 7:00 a.m., some colleagues who hadn't seen the news reports came in to the ED assuming it had been a quiet night. Being able to expedite the discharges from the ED and hospital at large was extremely important.

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MC: Our surge plans were adequate, and we were able to move people out pretty quickly. We were also able to triage ICU patients to our step-down units, and patients from our step-down units were sent to the floor. I've never seen an ER quieter than it was the morning after the Pulse incident. We literally had to tell EMS to bring us patients again (they had put us on divert in the electronic status system, assuming we were overwhelmed). That said, it was extremely difficult to get to ORMC that morning because of roadblocks that had been set up to allow for the scene to be investigated, and the media taking up a lot of room. Ambulances would not have been able to take their usual routes to the hospital. This continued for about a week after the incident.

JH: *Do you have any closing comments to share with our readers?*

MC: You certainly want to do frequent exercises and drills. You want to drill to fail. So many hospitals practice drills to bring people to the ED, and after an hour, they say "We're done."

In this 2012 article, Dr. Sasson shares her experience that night and discusses how the incident affected her and her colleagues.

We really need to involve all departments of the hospital in these exercises to truly test all parts of the system. It's better to have too many staff than finding that you have not summoned enough resources and your patients are suffering as a result.

CS: You can't practice enough for mass casualty incidents. Your plan may or may not go as expected, but as we experience more no-notice incidents, we have more opportunities to test different scenarios. Also, we really need to take care of the employees—from housekeeping staff to first responders and those who became non-traditional healthcare providers during the incident. We need to recognize that healing is a process, and you're honestly likely to lose people. We did a staff debriefing at my house two weeks after the event. There was a psychiatrist there who discussed

In the recent ASPR TRACIE webinar [Healthcare Response to a No-Notice Incident: Las Vegas](#), healthcare providers who responded to the mass shooting incident share their experiences and recommendations that can help others prepare for similar incidents. Links to the webinar and the related series of tip sheets on no-notice incidents are available on our [Select Mass Violence Resources webpage](#).

the expected response to traumatic events like this and this helped many of us understand the reactions we were having. It is so important to continue to follow up with people to ensure their mental health needs are being identified and met. ■



Mass Shootings and Rural Areas

An Interview with Mandi Sralla, Connally Memorial Medical Center, Floresville, TX



Abstract: On November 5, 2017, a gunman opened fire in the First Baptist Church of Sutherland Springs (TX), killing 26 and injuring 20. While most of the wounded were taken by helicopter or ambulance to the closest Level 1 trauma center in San Antonio, some were brought to Connally Memorial Medical Center in Floresville first. Mandi Sralla was the director of this facility's emergency department (ED) at the time of the shooting and shared her experiences with ASPR TRACIE.

John Hick (JH): Please tell us about your facility and your role on the day of the shooting at the First Baptist Church.

Mandi Sralla (MS): Connally Memorial Medical Center is a 44 bed licensed facility. We have four beds in the intensive care unit, and

our ED has 10 beds with one major trauma bay. The other 9 rooms are centrally monitored rooms or OB/GYN rooms. Our average daily census is 8-10 patients per day; this increases to between 18 and 20 patients in the wintertime. In the ER, we average 35 visits a day, with higher peak times (up to 60 visits) in the wintertime. Our ER is a "one-doc shop." While some used to work 24 hour shifts, most now work 12 hour shifts.

I moved here from Houston when I was 15. I've been at Connally for 15 years. I started as an ER technician, then served as a registered nurse (RN). I was asked to move to management, and I've been the ED director for eight years—this is the position I held on the day of the incident. Running a rural ER has been a rewarding experience for me.

JH: How close are you to a major trauma center?

MS: Sutherland Springs is a very small community made up of a few hundred residents. It is about 15-20 miles east of Floresville, the county seat, which has a population close to 8,000. The closest Level 1 is 45 minutes away by ground with no traffic. We're about the same distance to both of the Level 1 trauma centers in San Antonio.

JH: What ambulance services do you have in your area?

MS: We have three ambulance services in Wilson County and all three systems were dispatched to the incident.

JH: Because this happened on a Sunday, I'm curious if staffing was a challenge. Can you share how your staffing is set up during the week versus on weekends?

In this article and related video, Dr. Kingdon (a physician working in Connally's ER on the day of the shooting) shares his thoughts about the patients and the incident in general.

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MS: It's standard for us to have 2 RNs on duty in the ER at all times during the day and night shifts. During the day, we have two mid-shift staff working (LVN or RN) from 8:00 a.m. till 8:00 p.m. and from 1:00 p.m. till 1:00 a.m. We have one technician and a clerk who work the 11:00 a.m. to 11:00 p.m. shift. We never have fewer than two nurses and no more than four working at a time. We also have a laboratory and blood bank in house.

JH: *Please walk us through how you first found out about the incident.*

MS: At about 11:30 that morning I was getting gas at the station right next to the hospital. My charge nurse called me and said there had been a "tone out" on the radio for a possible shooting in Sutherland Springs, and she asked if I was available. We still have police scanners here, so we

can hear what is going on in the county, and this gives us a heads up, often before we are notified of a transport. I said yes, and told her I would call her back in a few minutes. When I called her back about five minutes later, her voice had dramatically changed, and she said there had been a shooting at a church and there had been multiple victims.

When I walked in, I was greeted by some nurses whose children and/or spouses had been at church with family members during the time of the shooting. They didn't know which church had been affected at the time, so they were frantically trying to figure that out. Within a few minutes of my arrival, it was confirmed by EMS on the scene that this would be a multiple fatality incident. They asked for all available units in the county, including air services to be launched to the scene.

I was so fortunate to have Dr. Kingdon working with us that day; he's an experienced military trauma surgeon who managed to keep everyone calm and follow the process in the few minutes we had before we received patients. Furthermore, my tech that day was a retired Army veteran who did 18 years as a flight medic. He started gathering supplies (e.g., tourniquets, QuikClot®, gowns, and extra blankets) to prepare for patients' arrival.

To top that off, University Hospital was having a trauma surgeon conference on the day of the incident. So not only did we have our own excellent in-house resources, but they had 10 extra trauma surgeons who pitched in to help with the patients received from the field and those we transferred.



Wilson County first responders and Airlife staff.
Photo courtesy of Mandi Srala.

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Overview of Events

11:15 a.m.	Incident Command requested all mass casualty resources.
12:00 p.m.	Incident Command came back over the air and reported that there were more than 20 wounded, including children. We had the benefit of hearing this over the radio before patients arrived, giving us time to prepare.
12:15 p.m.	<p>The first call came from EMS stating they were inbound with a small child with multiple GSW. This patient ended up being the most severely injured we received. Injuries included multiple suspected entrance and exit wounds, a shattered pelvis and femur, and we could see the back of the patient's spine. The patient was bleeding profusely, so the first things Dr. Kingdon and our tech did were pack the wounds with QuikClot® and administer blood. We called the aircraft for a transfer.</p> <p>The IC and mass triage at the scene had already isolated who needed to go by air or by ground and who was deceased. They were able to divert one of the aircraft coming from San Antonio to us to pick up this young patient. During a subsequent hot wash, we found out that the reason this pediatric patient lived is because we stopped the bleeding. This child is now back at school and doing well physically.</p>
12:25 p.m.	EMS pulled up with three patients in the back. These patients had GSW to the extremities and abdomen, and were varying levels of critical.
12:35 p.m.	MEDCOM called us back and said they would auto accept all trauma transfers; we just needed to have the doctor call and provide a full patient report.
12:50 p.m.	Received three adult patients.
12:53 p.m.	<p>Received two more patients.</p> <p>After that, some patients came in their own cars, primarily with ricochet injuries. The church is very small and there was only one exit door. People were trying to escape, but they were crushing each other in the process; this led to additional injuries.</p>
1:50 p.m.	We transferred our last patient to a Level 1 facility. One was transferred by helicopter, three went by ground. MEDCOM did help arrange the ambulances and air transport. Only one patient was admitted to our hospital.

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Dr. Kingdon immediately called the STRAC (the [Southwest Texas Regional Advisory Council](#)). Within the STRAC is MEDCOM, the trauma dispatching system we use. If an incident meets the [MEDCOM criteria](#), we call them, explain the situation, and ask for transfers to nearby Level 1 trauma centers. After we called STRAC, we called the South Texas Blood and Tissue Center in San Antonio to let them know what was going on. Then we activated our phone tree system. Our general surgeon, our orthopedic surgeon and our general medical director were en route, too, so we knew help was coming.

JH: Are most of your ER physicians local?

MS: No—they all work for Victoria Emergency Associates. Some are from the San Antonio area (e.g., Dr. Kingdon), others are from the Austin area. Some also come from the coast to work a few shifts per month, then go back home.

JH: What did you have to deal with once the patients were transferred?

MS: Many of the clergy and church members from surrounding houses of worship started reporting to the hospital and asking what they could do to help. The scary part is we all knew each other. A few nurses took them by the hand and led them to pray with the patients' loved ones. These people were separated from their loved ones—either they didn't know if they'd been killed, or they saw them killed

before their own eyes. In such a chaotic scene, our healthcare providers didn't have the time to stop and be sympathetic with loved ones, so that's what the clergy did. In a sense, this was very eerie. So many patients were so calm—not frightened or panicked. I think the clergy helped with that, too.

There was just a lot of raw emotion in some of the rooms. What could we say to the one lady who had just lost all five of her family members? But community members and clergy helped so much. While our medical mindsets were to get everyone stable, knowing we had people providing emotional care for patients' loved ones was so helpful.

There were games and tournaments taking place in the community that day, and they all stopped. In some cases, parents were cooking for the tournament and brought food and water to the hospital instead.

We immediately began receiving calls from media from all over the world. They would call our general line and press one for the ED—we quickly became inundated by the calls. There we were, trying to use the phone to arrange patient transfers, and our lines were tied up. We quickly arranged for some marketing personnel to go to an office and take the media calls to enable us to keep working.

Another challenge was that it took over 24 hours for authorities to positively identify most of the

bodies in the church, so we had a lot of family members calling and coming to the hospital because they wanted information on their loved ones. Dealing with that secondary wave of emotions—where we had to tell people that their loved ones hadn't come to our facility for care—was another challenge.

JH: Was there a transition to a community-based center to relieve pressure on the hospital?

MS: Yes, and our CEO did a good job managing this. We held one press conference. The media presence at the actual scene was outrageous—responders had to work hard to block cameras as they extricated casualties.

We were able to use a different church as a “healing center.” This is where investigators released the names of the deceased, and there were counselors and clergy available to meet with loved ones. While this process took a little more than a day, every minute was like hours to them, waiting to hear

The [entire press conference](#), featuring Dr. Kingdon, Mandi Salla, and Dr. Preston Morehead is available via Facebook.

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if their loved one's body was still in the church.

My hospital's stroke coordinator and her husband are also the pastors of the church that became the healing center. She recently resigned from the hospital, because the demand for mental health services is still so great. They are still providing equine therapy and other types of assistance to residents.

JH: *How have hospital staff done as far as mental health goes?*

MS: I think they've done really well overall. We prepared and tried to

Access Mandi's presentation "[When It's Not a Drill](#)" to learn more about the hospital's response to this no-notice incident.

plan for these incidents, but you never think it's going to happen in your community. I think at first they were overwhelmed, but our community helped us out so much and continue to do so. We've had the opportunity to talk and vent to them and to each other to share our feelings and experiences. Our staff have all been pretty resilient. I think that the first responders who had to work the scene and see the deceased have had a harder time managing the negative emotional effects of seeing so many young victims. A lot of

them are younger—the Incident Commander was 24. And hearing from the patients—some of them experiencing survivor guilt—was very hard for the responders. The shooter was tormenting people as he went through the church. Those stories hit our staff and responders the hardest. You simply can't fathom this type of scenario. Two quit altogether, another took an extended leave of absence, and another has been taking part in long-term counseling.

JH: *Are there any other lessons learned you would like to share?*

MS: We recently revamped our phone tree process, as it was initially geared towards disaster response (e.g., tornado). But in a mass casualty incident, you need more people and faster. People didn't follow the phone tree process and we had a large number of staff reporting, making the scene a bit more chaotic for us. We also learned that we needed to prepare to work with the media.

As far as physical resources, we had what we needed, but since the incident, we've increased the number of tourniquets we have and we have increased our levels of "Stop the Bleed" teaching to the community and law enforcement. We also make sure all ambulances have QuikClot® on board. A physician at University Hospital recently wrote a grant that will help provide us with whole blood for the helicopters and hospitals.

The biggest key to success is having clear, effective communication from the scene. Establish who your Incident Commanders are, and who is in charge at the hospital. Setting up Incident Command at the hospital and making sure people are following established procedures will also help the response be as smooth as possible. Had our incident lasted longer, we would have set up an actual room where this could take place.

Education and training are just so important and should be a priority. It is worth the extra dollars, and there are available resources out there. You can never know enough. In a sense, this changed our exercise approach—everyone knows how to stabilize a patient, how to transfer, and the like, but making sure each department is on the same playing field and communication with the county is working well needs to be exercised, too.

ASPR TRACIE's [Select Disaster Behavioral Health Resources](#) page and [Rural Disaster Health Topic Collection](#) include links to helpful resources.

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Rural Mass Violence Considerations

Unfortunately, mass violence incidents are not confined to urban areas, and in rural settings, there are often substantial differences in terms of resources, response, and recovery. Some key considerations drawn from incidents in rural areas (such as the [2005 Red Lake \(MN\) Reservation shooting](#), where 10 people died [including the shooter] and 5 were injured at the high school) include:

- Law enforcement response times are longer, and fewer officers may be available to initiate “task force” responses with EMS and fire personnel.
- The local hospital may have limited staffing and capability to handle multiple critical trauma patients. For example, Red Lake IHS Hospital is licensed for 12 beds and is located half a mile from the high school. While rapid call-in resulted in adequate staffing after the shooting, in many rural communities, there simply may not be enough physicians and nurses available.
- Hospitals and first responders in all communities can be targets of primary or secondary attacks.
- While rural facilities may have better entrance controls than larger facilities, they often lack security staff. Local law enforcement should be familiar with the hospital’s emergency management plan and need for support.
- Alternative communication mechanisms should exist for requesting support when hospital phone lines are not working (after an incident, they will be jammed and cell service unavailable).
- Local EMS resources may be overwhelmed and mutual aid minimal; surrounding communities may only be able to spare a single ambulance to assist and travel distances may be long. Hospitals should collaborate with surrounding EMS agencies to ensure that mutual aid planning for inter-facility transfers is a priority (including identifying landing areas for multiple helicopters).
- Incoming EMS assets (both ground and air) could also be used to deliver additional personnel or supplies (e.g., blood, chest tubes). This should be part of local and regional mass casualty plans.
- In some cases, EMS personnel responding to conduct secondary transport to another healthcare facility may be needed to assist with immediate patient care at the originating hospital prior to initiating that transport.
- Smaller hospitals may have limited resources and space to deal with the influx of loved ones, phone calls, and media after an incident. Community planning for family assistance (including a location in which to provide it) is vital. Hospitals should also have pre-drafted messages to share via traditional and social media and plans for a variety of incidents.
- In smaller communities, responders and hospital staff are more likely to know patients and their loved ones, which could affect triage and treatment decisions as well as profoundly increase stress on providers during and after the event.
- Events occurring on tribal lands create specific challenges relative to sovereignty. Entrance to the reservation may be restricted or closed, and the tribe may govern themselves for the most part, but may directly engage federal resources in some cases. Understanding the unique local and regional differences and incorporating them into emergency management planning are key to successful response and recovery. ■



Connally ER staff pose with a banner sent from Sunrise hospitals in Las Vegas. Photo courtesy of Mandi Sralla.

Editor's Notes

Contributed by John L. Hick, MD, Senior Editor for ASPR TRACIE, Hennepin County (MN) Medical Center

First, I want to thank and recognize the responders to these incidents and those providers who took the time to share their lessons with us. They are truly heroes whether they would admit that or not, and hopefully what they have learned and shared will save lives in the future. These incidents pose unique challenges to our response systems and it is imperative that we adopt new procedures to ensure the safety of our responders and the survival of as many patients as possible.

Historically, mass casualty management has been geared toward conventional incidents (transportation, structural collapse, natural disaster) where injuries follow a pattern of 85% minor and 15% major injuries. After moving all the victims to a collection point, EMS personnel would use standard triage schemes to tag and sequentially transport patients by priority to trauma centers.

If your community still is working off these assumptions, let the articles in this issue convince you that this paradigm has limited applicability in a mass violence incident and should be abandoned.

Some things to consider:

- **You won't get to choose.** Whether you're working in a hospital or for EMS, you will not

have control over where and how people get to you for care – they just will – by whatever means necessary. So be prepared to deal with what's in front of you – whether that's critical trauma patients at hospitals that seldom see them or figuring out where you're going to place your EMS assets when you have a dynamic and potentially unsafe scene. Healthcare coalition planning can be key to ensuring this happens in a coordinated fashion and that each discipline understands the priorities and resources of the others.

- **Prepare to be overwhelmed.** Make sure your line personnel are ready to “drink from the hydrant” and enlist bystander assistance when needed. Have “Stop the Bleed” supplies on hand for them to use as practical. *Encourage* the wounded to self-transport if inadequate EMS resources are available. Try to direct them to an appropriate facility if possible. If you're not thinking about what you'll do when you're overwhelmed with the wounded, bystanders, and patients, you probably won't formulate a very good plan during the event. Think about your crisis care plans: if you're a pediatric specialist, be prepared to care for adults and if you're an adult general surgeon,

be ready to care for a child. Think about how you'll adapt usual emergency and trauma care principles to mass care situations. How will you prioritize patients for the OR? What supplies and staff will you need?

- **Prioritize access to patients.** EMS should work with local law enforcement and fire now to make sure you have solid plans for unsecured scene management and the use of rescue task forces and other constructs designed to facilitate access to and extraction of victims as quickly as possible from mass violence incidents.
- **Re-think triage.** Triage is still important – [Frykberg](#) and others have provided excellent evidence – and if you have the luxury of time then it's fine to go through a structured process. But do START and SALT work well for penetrating trauma incidents? Should we be taking the time to assess and place tags on scene, before it has been secured? Almost certainly not. As our interviews have shown, after a mass violence incident victims tend to fall into one of three categories: those that have already left the scene, those that are too injured to leave,

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and those that did not survive. Remember: your clinical skill is key to good triage decision-making. Experienced providers know sick patients and how to treat them: control external hemorrhage, recognize truncal penetrating trauma, shock, airway/breathing issues, and/or mental status changes, and get those patients transported!

- **Prioritize rapid transport.**

Do not plan on staging many EMS resources on scene. Quickly determine access, get ambulances in, load multiple patients into each ambulance, and transport. Minimizing time on scene minimizes patient and provider risk. Time is of the essence, especially with penetrating and blast trauma injuries.

- **Pre-determine destinations.** If EMS always transports gunshot wounds to certain trauma centers, unless there's a different plan for mass violence incidents, you're going to wind up with the same result. Try to direct only critical trauma to trauma centers when there are large numbers of patients and communicate frequently between EMS and hospitals about hospital status.

- **Offer assistance.** In some cases, patients will leave the scene so quickly that responders may briefly find themselves without specific assignments. It is important for someone in a leadership position to

make contact via dispatch / coordination center with the area hospitals and see what they need. Make sure EMS has a liaison at the major trauma center / hospital to provide accurate information. EMS can provide critical support for hospital triage, initial treatment, and secondary transfers to assure that trauma patients get the best care available based on the resources available.

- **Communication is key.**

Before an incident, EMS, law enforcement, fire, and local hospitals should have agreed on solid communications roles and mechanisms. To help manage congestion, pre-determine who will collect and vet what information and how it will be shared. Communications discipline (e.g., not assigning too many tactical channels) can prevent the loss of critical information and can help minimize rumors.

- **Care for yourself and your colleagues.** Regardless of your field or specialty, you'll likely encounter survivors who are injured, scared, angry, shut down, and/or in shock. In a more rural area, you'll know victims and their loved ones. Remember that you're not immune to the same challenges and feelings experienced by the people you are caring for. Plan ahead to protect yourself and help ensure that you can be fully present and effective while on scene (and

beyond). There are disaster behavioral health resources available at local, regional, state, and federal levels.

If you don't have enough transportation for the patients you have, you may have to do more collection and triage and "stay and play" while addressing the needs of the critically injured – but that hopefully will be the exception and not the rule.

No mass casualty incident is going to be exactly like another. No guideline is going to suit the needs of every service in every jurisdiction – the needs and challenges in urban areas are different from those in rural areas. Make sure that your plans are regularly exercised and include all community partners. This will provide personnel with a solid foundation from which to operate and the confidence to be flexible enough to meet incident-specific challenges. ■

This [ASPR blog post](#) lists lessons learned from the Las Vegas Festival Shooting that can help healthcare coalitions with their planning.

RECOMMENDED RESOURCES

TECHNICAL
RESOURCES

ASPR TRACIE recently released Topic Collections on [Chemical Hazards](#), [Coalition Response Operations](#), [Electronic Health Records](#), [Mass Distribution and Dispensing of Medical Countermeasures](#), and [Social Media in Emergency Response](#). Be sure to bookmark our page that includes [all comprehensively-developed Topic Collections](#), as it is updated often. You can also learn more about rating, commenting on, and saving resources [in this short tutorial](#).

ASSISTANCE
CENTER

We encourage readers to access the [summary sample of our technical assistance \(TA\) requests](#). We recently responded to TA requests for [Primary Care Clinic Resources](#) (includes links to information on recommended supplies/ equipment for primary care clinics during emergencies, for both staff and patients, and [Sterile Processing Department Resources](#) (includes links to plans, tools, templates, and other resources). For assistance navigating the Assistance Center, [check out this new tutorial](#)!

INFORMATION
EXCHANGE

[Register for the ASPR TRACIE Information Exchange](#), where you can click on the various threads and share your opinions and resources with us and your colleagues. Already have an account? Simply log in and share your feedback! Need help registering for the Information Exchange? [Access our quick tutorial](#)!

UPCOMING 2018 EVENTS

Now Available: Select ASPR Presentations from the 2018 Preparedness Summit

Did you miss a session? Were you unable to make it to the Summit this year? You can now access select presentations on our [ASPR Preparedness Summit Presentations](#) web page. Visit today to learn more about how ASPR is working to save lives and protect Americans from 21st century health security threats.

July

July 10-12; New Orleans, LA [NACCHO Annual Conference](#)

The theme of this year's conference, "Unleashing the Power of Local Public Health," highlights the unique opportunity local public health has to convene discussions and efforts around population health, clinical medicine, and the management of systems that measure health and healthcare outcomes.

August

August 20-23; Atlanta, GA [Public Health Informatics Conference](#)

The theme for the 2018 PHI Conference is "Connecting Systems and People to Improve Population Health;" presentations will be offered under six related topics.

September

September 25-27; Alexandria, VA [ASTHO Annual Conference](#)

Monitor the conference page for more information as it is made available by Association of State and Territorial Health Officials!

October

October 19-24; Grand Rapids, MI [International Association of Emergency Managers Conference](#)

This conference includes a multitude of topics across the emergency management spectrum, enhancing knowledge and providing strong networking opportunities.

November

November 5-7; Scottsdale, AZ [AHEPP National Conference](#)

This event is dedicated to advancing emergency preparedness in healthcare facilities, and specifically focuses on providing the latest research, education, and networking opportunities. Check out the ASPR TRACIE session on Wednesday, November 7th, 2018, from 12:45pm to 1:45pm!

November 27-29, 2018: New Orleans, LA [National Healthcare Coalition Preparedness Conference](#)

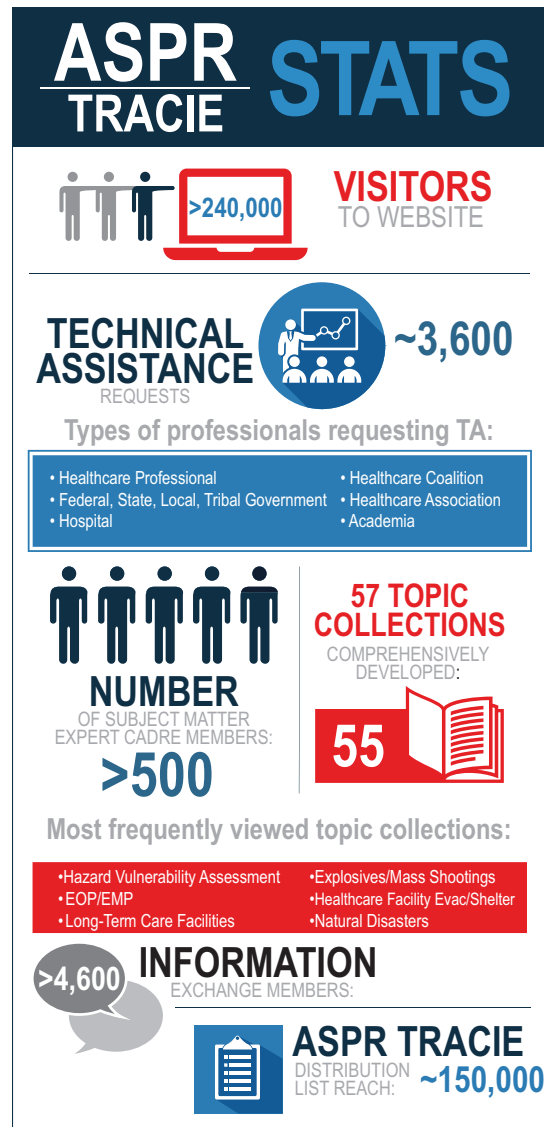
This conference highlights best practices, training models, plans, tools, and other resources that promote and advance development of healthcare coalitions and describe effective coalition work in preparedness and response.

ASPR TRACIE:

Your Healthcare Emergency Preparedness Information Gateway

The Exchange is produced by the Office of the Assistant Secretary for Preparedness and Response (ASPR) Technical Resources, Assistance Center, and Information Exchange (TRACIE). Through the pages of *The Exchange*, emergency health professionals share firsthand experiences, information, and resources while examining the disaster medicine, healthcare system preparedness, and public health emergency preparedness issues that are important to the field. To receive *The Exchange*, visit <https://asprtracie.hhs.gov/listserv> and enter your email address.

ASPR TRACIE was created to meet the information and technical assistance needs of ASPR staff, healthcare coalitions, healthcare entities, healthcare providers, emergency managers, public health practitioners, and others working in disaster medicine, healthcare system preparedness, and public health emergency preparedness. The infographic illustrates ASPR TRACIE's reach since launching in September 2015.




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