



the E X CHANGE

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PREPAREDNESS AND RESPONSE



TRACIE
HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

FOREWORD

Preparing for and Responding to Wildfires and Planned Outages

While the world of public health focuses on monitoring and responding to the evolving COVID-19 situation amid the annual influenza season, those of us in health emergency readiness and response recognize that we also must remain vigilant on another front: the ongoing threat of natural disasters. ASPR, along with our partners and stakeholders, continues to monitor earthquake recovery in Puerto Rico and periodic wildfires on the west coast of the continental United States. I encourage you to visit our [2020 Earthquakes in Puerto Rico](#) webpage and monitor CDC's pages on [Coronavirus Disease 2019 \(COVID-19\)](#) and [Influenza](#).

In ASPR's [National Health Security Strategy \(NHSS\)](#), extreme weather and natural disasters are listed first under the Strategic Environment and Threat Landscape (p. 4). As we have witnessed over the past few years—both at home and abroad—wildfires are gaining in frequency, duration, and severity. In addition, as specified in the NHSS, these types of incidents can:

- “Result in surge for services that can overwhelm public health and medical resources;
- Damage or destroy health infrastructure further limiting access to life-saving or life sustaining products and/or services; and
- Result in damages to communities' public health and health care systems resulting in loss of services and economic impact.”

The State of California in particular has experienced significant increases in wildfire frequency and severity since 2017, due to a variety of factors including drought, extreme/sustained winds, and the buildup of dry vegetation ([CAL FIRE, 2020](#)). These factors have also contributed to an increase in the length of “wildfire season.” In addition, Pacific Gas and Electric (which serves more than five million customers in CA) has implemented “Public Safety Power Shutoffs” to minimize wildfire risks and while they update infrastructure. These electricity interruptions represent “planned disasters” that present challenges to the healthcare system and residents, particularly those who depend on electrically powered equipment (e.g., ventilators and at-home dialysis machines).

Along those lines, emergency managers across the country are encouraged to make use of the [HHS emPOWER Map](#), which “gives every public health official, emergency manager, hospital, first responder, electric company, and community member the power to discover the electricity-dependent Medicare population in their state, territory, county, and ZIP Code.” With the entire suite of emPOWER tools, we also are working with California communities to learn from recent outage experiences and share this information to bolster readiness and resilience nationwide.

The articles in this issue of *The Exchange* highlight lessons learned (from the responder, practitioner, and planner perspectives in Colorado and California) specific to wildfire evacuation, patient tracking and repatriation, managing planned power shutoffs, and planning for the future.

ASPR provides proven, operationally focused resources and templates to our stakeholders through several channels, including ASPR TRACIE. Our resources are developed or reviewed by subject matter experts who have direct experiences with planning for and responding to disasters or public health emergencies. We encourage you to access [ASPR TRACIE-developed resources](#) and CDC's [Wildfires page](#). **Please share** your own promising practices, lessons learned, or questions about wildfires and public safety power shutoffs with us so others may learn from your experiences. As always, we welcome your feedback.



Bryan Shuy

Deputy Assistant Secretary for
Preparedness and Response,
HHS ASPR

WELCOME TO ISSUE 10!

In this issue of *The Exchange*, we discuss lessons learned from recent wildfires, evacuating and receiving patients, and preparing for planned power outages. ASPR TRACIE interviewed a variety of subject matter experts from emergency medicine, emergency management, and the federal government to learn more about the effects of these incidents on local hospitals and communities at large. We hope that these real-life experiences shared by your colleagues across the nation help you plan (and adjust existing plans) for wildfires, evacuations, and power outages. Please visit our [Natural Disasters, Utility Failures, Access and Functional Needs, and Healthcare Facility Evacuation /Sheltering Topic Collections](#) and [Issue 6](#) (which focused solely on evacuating healthcare facilities) for more information.

We continue to refresh our comprehensively developed [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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Dr. John L. Hick summarizes the articles in this issue and highlights key considerations for healthcare planners and practitioners.



WHAT'S NEW WITH ASPR?

The last issue of *The Exchange* focused on preparing for and responding to chemical incidents. A lot has happened at ASPR since that was published. We are working with our partners to coordinate a response to the 2019 Novel Coronavirus outbreak and the 2020 earthquakes in Puerto Rico. In December, Dr. Robert Kadlec (the ASPR), blogged about the world's first FDA-approved Ebola vaccine, which received support from the Biomedical Advanced Research and Development Authority (BARDA). Another blog describes how BARDA is partnering with others to develop rapid diagnostic tests that protect patients from antibiotic resistant infections during disasters and every day (check out the related post on Dr. Rick Bright's, BARDA Director and Deputy ASPR, experience with methicillin-resistant *Staphylococcus aureus* [MRSA] and how his garden proved that the U.S. needs more, rapid, diagnostics for antimicrobial resistant infections). The first adjuvanted, cell-based influenza vaccine (targeted at H5N1) was licensed at the end of January, bolstering our nation's pandemic preparedness. The first Project BioShield contract was issued to advance the development for treatment of anthrax lung infections. Visit the [ASPR homepage](#) and [blog](#) and follow us on [LinkedIn](#), [Facebook](#), and [Twitter](#) to learn more about how ASPR is working to strengthen the nation's ability to prepare for, respond to, and recover from emergencies.



Evacuating and Receiving Patients in the Midst of a Wildfire

ABSTRACT

At the end of June 2018, the State of Colorado (CO) experienced the third largest wildfire in state history. Dave McGraw, the Safety and Security Officer of Spanish Peaks Regional Health Center found himself and the facility Incident Command Team having to evacuate more than 100 patients and residents. Karen Bryant, who was serving as the Chief Operating Officer and overseeing the emergency preparedness program at Prowers Medical Center at the time, helped to coordinate a team in their preparation to receive 14 of those residents. This article highlights their experiences and how they applied lessons learned from years of training and past incidents to the success of patient evacuation and return.

■ John Hick (JH)

Let's start off with both of you describing your facilities for our readers.

■ Dave McGraw (DM)

Spanish Peaks Regional Health Center is located in a rural area of southern Colorado, just west of Walsenburg (population 3000) and 150 miles south of Denver. One of the facilities that makes up this center is a veterans nursing home, with 120 beds (13 devoted to residents with memory care challenges). Our census average is between 100 and 115. On the day we evacuated, it was 91. We are also attached to a 20-bed critical access hospital, the only hospital within 40 miles of our community.

■ Karen Bryant (KB)

Prowers Medical Center is a critical access hospital, licensed for 25 beds. We also have a 24/7 emergency room, a rural health clinic, and an outpatient specialty clinic where visiting providers treat patients. We are a little over two hours and nearly 110 miles away from Spanish Peaks.

■ JH

Take us through the period leading up to the evacuation.

■ DM

It was early during the day on June 28, and our area was already under a total fire restriction. We were made aware of a human-caused fire close to our facility. At first, we activated incident command to ensure situational awareness and take advantage of the time we had. We had five patients with more serious pre-existing respiratory issues, and we arranged to transfer them to other facilities because the air quality was declining. We activated WebEOC to enable us to communicate with staff and keep everyone apprised of the situation.

A group of us were in the parking lot waiting for nightshift staff to make the full transition when a cloud of smoke suddenly settled on top of us. It started to snow ash and visibility went from 10 miles to less than half a mile in one minute. We turned around, went back in, and



reactivated incident command at 9:45 PM. We identified 17 more residents who had to be evacuated and started the process.

I JH

This wasn't your first experience with a wildfire, though—were you able to apply any lessons learned from the 2013 incident to this fire? Did anything take you by surprise in 2018?

I DM

In 2013, we did not leave the building, but we did learn some lessons that we incorporated into our plans. Because we have a longer-term, predictable population, it is easier for us to have more things prepared in advance. We keep medical record summaries current and, in this case, we were able to print and grab those and match them to every resident prior to evacuation. We also learned the importance of (and challenges associated with) having patients maintain go-bags of pre-identified personal items that would allow them to be comfortable for several days. In 2013, we also realized that the amount of supplies it takes to relocate a resident is larger than we had planned for, so we adjusted and created arrangements with our vendors to divert supply orders to receiving facilities as needed.

We did not have a continuity of operations plan in 2013 either, and we made some mistakes shutting down computers. Now we have a plan for downtime procedures that includes shutting down and reconnecting computers and more effectively preserving vital records.

The biggest surprise was how fast the fire moved. We were never threatened by the actual flames, but the smoke plume that drifted over our facility did so very quickly.

Check out the ASPR TRACIE Healthcare Facility Evacuation / Sheltering Topic Collection and Issue 6: Evacuating Healthcare Facilities for helpful resources and more information.

I JH

Who made the decision to evacuate? Did you work with local emergency management, Emergency Medical Services (EMS), and other hospitals before you evacuated?

Resident/Patient Evacuation Supply Considerations

- Clothes (e.g., pajamas, slippers)
- Portable food/snacks
- Water
- Medications
- Undergarments for incontinence
- Personal care and grooming products (e.g., lotions, specialty cleansing products for sensitive skin, specialty shampoo, toothpaste)
- Small personal effects (e.g., photos, blankets, pillows)

One challenge associated with having these “go-bags” prepared in advance for residents is that they take up space (a premium in healthcare facilities). Another is that they must be kept current with seasons, weight gain/loss, treatment changes, and other factors. Items also must be labeled and inventoried to ensure they return with residents. Tracking involves so much more than just the physical location of residents and patients.

-- Dave McGraw



Wildfire smoke approaches the facility. Photo courtesy of Dave McGraw.



DM

Our county Emergency Operations Center (EOC) told us we could decide on a facility basis. At that point we were contacting anyone we could get a hold of and our executive team was contacting their colleagues at other facilities. I used WebEOC as our primary tool to communicate with the EOC. I didn't want to overwhelm them with phone calls—they were working with the town of La Veta and were very busy. We also regularly shared information with local and state health departments and regulatory agencies like the Centers for Medicare and Medicaid Services (CMS), the U.S. Department of Veterans Affairs (VA), U.S. Department of Health and Human Services (HHS), and the regional healthcare coalition.

JH

Take us through the actual evacuation—were there staging areas? How did you track patients?

DM

On June 27, the fire started on the west side of the mountain. We could see the smoke, but we hoped it wouldn't be a big deal. On June 28, it was obvious that it would become a long-term event. Our biggest concern was the direction of the smoke. In 2013 the fire was far enough away that you could smell and see it, but it wasn't inundating our facility. This time, the ash was inundating our area and we are charged with taking care of elderly people who can't take in a lot of air without oxygen therapy. At first, we were able to close our dampers and keep residents inside. But once the plume settled over our facility, that changed. We were all having trouble breathing, then we realized smoke was getting in the building. We had doors and windows taped shut—we did everything we could do but we knew we had to get our residents out that night.

All identification and labeling took place in our main lobby, which is on the second floor. We labeled everything that went out with residents, including the residents! Once this process was complete, we moved residents to the first floor where the main staging area for load out took place. We had a checklist we used to confirm details with the drivers and we successfully worked with our partners to move 17 patients between 9:30 PM and 3:00 AM the next day. By 1:10 PM on June 29, we had evacuated all 104 patients and residents.

We really didn't encounter any challenges—we have a regional compact and a licensure agreement between CO and New Mexico (NM) that allows providers to care for patients in both states. We also have a Memorandum of

Residents waiting to evacuate. Photo courtesy of Dave McGraw.



Understanding (MOU) with a nearby community, and they sent a few vehicles down to help with transportation. Most of our receiving facilities also sent buses down and we used some of our own vehicles. Only one resident needed specialized transportation.

JH

Did the critical access hospital maintain operations during the incident?

DM

We evacuated all units but kept the emergency department functioning and kept most outpatient services other than surgery operational. These were needed to support our Level 4 Trauma Emergency Department.

JH

Karen, what was the situation like on your end?

KB

On the evening of June 28, the Chief Executive Officer (CEO) at Spanish Peaks reached out to our CEO to advise him of the situation in Walsenburg and inquired whether our hospital was in a position to receive 17 patients. Our CEO reached out to me and our Chief Clinical Officer, asking for us to activate call trees to determine if we had enough staff to receive that many patients. I was also asked to be on "stand by" to activate our external disaster procedures. The next day, at about 8:40 am, we were in our morning huddles. The Chief Clinical Officer holds her huddle next door to my office. The CEO at Walsenburg had reached out once again asking if we had room for 14 patients. We had 15 beds available at the time, so when we found out about the need to receive 14 patients, we joined her "huddle," invited some other key



representatives, and started brainstorming the process for receipt of patients. One of the bigger issues that I know a lot of other facilities deal with is wheelchairs; they are often missing parts. We had someone conduct a “wheelchair roundup” to ensure we had enough complete wheelchairs for the incoming patients.

Because we are a small rural community, and due to the distance between us, we often must be creative and consider local and regional assets that could be helpful. In our case, we have a MOU with two local agencies to develop alternate care sites in case the patient surge exceeds our capability. We worked directly with city and county agencies (in Lamar, where we are located) and we also have an agreement with the community college wellness center. I knew we had transportation alternatives, so that was helpful.

Everyone was on board right away. Not all the vehicles were accessible (particularly the college vehicles), so we worked out the logistics to make sure the trip was safe for all. Shortly thereafter, we found out that Spanish Peaks had secured the necessary transportation and the patients were on their way, with their own wheelchairs. I called the college and commissioner back to cancel the request for transportation.

Our staff was phenomenal, from providers to registration staff—everyone offered to help.

I JH

Were there any surprises related to patient transport or their records/belongings?

I DM

We had already practiced and exercised evacuating patients and residents to an alternate care site four miles outside of town. Part of our plan was to use school buses. When the bus showed up, we realized non-ambulatory people could not board those buses. That was a good lesson to learn in an exercise. We had MOUs with transportation companies in Pueblo (50 miles north) and we had five vans.

One thing we did do on the fly for tracking purposes is take pictures of all residents on the vans, then photographed the van’s license plate and side placard to ensure we were accurately tracking patients. We also verified with the driver that they were taking their passengers to the correct facility.

I JH

What other communications did you share with family members?

I DM

We started communicating during the day of the 28th when we were preparing to evacuate. Our social services department put together a small team and began contacting family members. They shared our plan every step of the way. In 2013, we learned that regular communication with family members and residents kept them from being stressed out and overly concerned. Don’t be afraid to tell people what your plan is.

Throughout the day and into the late-night hours, we contacted those 14 families and told them which facilities we were taking their loved ones to and let them know approximately what time they could meet them there. We also sent some of our staff to the receiving facilities to ensure patients were familiar with some providers.

I JH

Karen, were there any issues on your end with records transfer and belongings?

I KB

No, we actually received enough information that allowed us to begin entering patient information into our electronic health records system. They all arrived here with packets as Dave mentioned, and that was helpful. We were able to move four of our existing patients from one side of the wing to another and into an adjacent department so we could keep all the evacuees together to minimize confusion and maximize comfort. We also had a line of staff waiting to greet the evacuees, escort them down the hallways, and get them settled in their rooms. Our staff did a great job—our hospitalist helped complete all assessments when each patient arrived; she was able to work with the staff Dave sent to collect information and provide continuity of care. The communication between CEOs and other staff allowed the transition to be a very smooth one.

I JH

How many staff were sent?

I KB

We had two to three staff members sent to us per day on a rotating basis.

I DM

We also transported some supplies along with staff. We had eight partners in total that took patients from our facility. Karen’s facility was the farthest, but we also had another receiving facility in NM, who had sent us

six residents due to a fire earlier that month. Looking outside of your traditional regions and areas when you need a response partner, especially from a rural facility, is important. You must plan for the longer distances as well as for the fire to shift directions.

I JH

Karen, did you have to care for any patients in non-traditional ways?

I KB

The biggest issue we had that we didn't think about ahead of time was laundry. We do not have on-site laundry services; we contract that out to a local vendor. We struggled with being able to maintain inventory of linens and the quality of our linens had been an issue for a while. Long-term care patients require more linen changes than acute care patients. We had to be resourceful and reach out to our network (BridgeCare) which includes five hospitals—I reached out to a hospital that had a long-term care hospital on site to request help with laundering. I was told if I could figure out transportation, they could help, and we created a MOU. One of their staff members (who lived close to our facility) came by at 6 a.m. every morning, picked up the soiled laundry, took it to his facility where it was laundered during his shift, and brought it back clean throughout the duration of the event.

Prior to creating the MOU, one of our operating room nurses took residents' laundry to the local laundromat three times until we could get a more formal process in place.

I JH

Do you require residents and staff to have go-bags?

I DM

Residents have a two-day change of clothing, which we found wasn't enough for the whole situation. As far as staff goes, we encourage them and educate them about how to create and maintain go-bags in their cars. We try to model this behavior from a leadership perspective, too.

I KB

The training and ongoing exercising is key. One thing that helped us tremendously is we had just completed an evacuation exercise in which Prowers Medical Center was identified as a receiving facility as part of the Southeast Regional Healthcare Coalition. We participated with a neighboring community hospital about 36 miles northwest. Members of the coalition participated, and we learned about developing go-bags and consistent forms throughout the region to make it easier for evacuating and receiving facilities.

Related Resources

- Durable Medical Equipment in Disasters
- Online Course: Wildfire Smoke and Your Patients' Health
- Smoke Sense Study: A Citizen Science Project Using a Mobile App
- The National Center for Disaster Medicine and Public Health Wildfires Webinar
- Wildfire Smoke: Considerations for California's Public Health Officials

I JH

Were there any acute respiratory issues due to smoke inhalation?

I DM

We did not have any patients or residents with any issues. Our cardiovascular department providers regularly tested residents and patients to make sure their oxygen saturation levels were healthy. We did identify two of our staff whose levels had fallen into the mid-80s due to the smoke effects and had to be treated with oxygen and sent to different facilities (their homes were affected by the wildfire smoke, too). We gave all residents, patients, and staff N95 masks almost immediately, and they wore them until we were able to evacuate them.

I JH

How many days were you evacuated, and were there challenges associated with reoccupation?

I DB

We were partially evacuated for three days and fully evacuated for six, a total of nine days fully or partially evacuated. Reoccupation is never practiced, and it takes a lot of time to plan to reoccupy your facility. Not having any income for nine days also created a large financial hit for staff—we were trying to get back to normal business as quickly as possible.

We met with climatologists who were on the incident management team at least twice a day and they told us we needed to have two consecutive days of good air quality and a weather forecast that suggested continued good air quality.



I JT

Did you have to conduct any special type of cleaning to recertify your facility?

I DM

When you evacuate your facility, according to the VA and CMS, if there is no damage to your structure and you haven't made any significant modifications to your floorplans, you do not have to recertify. We did have to perform a lot of smoke cleanup. On the first good air quality day, our environmental service staff (who were amazing) came in, stripped all beds, did all laundry, remade beds, and took down, laundered, and replaced all cubicle curtains. Our janitorial staff extracted all carpeting in the building. Nearly 60 percent of our floors were carpeted at the time.

I JH

Karen, were there any issues with the patients and staff you received or upon their return?

I KB

We treated these residents like our other patients. We had no significant issues—we helped them gather their belongings and send them on their way.

There were some issues with visiting staff members. As we mentioned, some staff came with the patients and did not have their own clothing or other supplies. One thing receiving facilities need to keep in mind is if staff aren't coming with per diem money, you need to plan to accommodate their meals and some housing. We worked very closely with local hotels; they were willing to adjust the schedules of their environmental services teams which allowed them to clean rooms between the rotation of medical staff. Our staff also reached out to local restaurants and made arrangements that would allow the restaurant to bill the hospital directly for visiting staff members' meals (as long as they provided proper identification).

Another issue we had to manage was the verification of staff licensure. After we checked that, we had each person complete a confidentiality statement and an emergency contact form. We also maintained communication with Spanish Peaks staff because they were concerned about their team members and patients who were miles away.

I DM

The response was phenomenal—the hospital and community supported a hurting facility. The decision to evacuate was taken very seriously by the entire incident command team. We are the largest employer in our

community, and we knew there would be an economic impact while we weren't able to provide the healthcare they are used to receiving. I have surveyed our command team several times since then, and without hesitation, each one has stated that we would not have done anything differently.

The other thing I will continue to preach is you have got to exercise and practice your plans. We've been doing evacuation drills for 18 years—long before we were mandated to. Practice moving people—figure out what worked and make changes, then practice it again. We had no injuries and no loss of life, and I attribute that to knowing what our plans were and being very open with our residents and their family members to minimize stress.

In a real event, there will be volunteers that just show up unsolicited because everyone wants to help during a crisis. Be prepared to manage this. Most of these people, supplies, vehicles, and other things may not be needed, but it's important to acknowledge their efforts and concern. This never occurs during an exercise. Also, try to include the press and media with your exercise when appropriate. Command teams and public information officers don't often get to practice during an exercise as exercises tend to end when patients or residents are triaged and relocated. Crowd management is also something that should be considered during an exercise. Are these people the walking wounded who self-presented? Family members? Or are they just curious onlookers? These things happen in a real event and should be exercised.

I KB

It is so important to have the partnerships and develop the creative resources—there will always be hiccups. Make sure you're addressing issues identified in your After-Action Reports and incorporating them into your plans. ■





Applying Lessons Learned to Hospital Evacuation

ABSTRACT

In 2018, ASPR TRACIE interviewed staff from Kaiser Permanente Hospital Santa Rosa in California (including Dr. Joshua Weil, the incident commander at the time) who shared their experiences [evacuating the facility during the 2017 wildfires](#) that decimated many employees' homes in addition to thousands of acres. For this issue, Dr. Weil and Dr. Susan Fitzgerald shared how they had incorporated lessons learned from the 2017 wildfires into plans they executed in 2019 when faced with a similar scenario.

■ John Hick (JH)

Thank you for taking the time to meet with us. Please describe your roles both in 2017 and during the 2019 Kincade Fire.

■ Joshua Weil (JW)

For eight years, I served as Kaiser Permanente (KP) Santa Rosa's Assistant Physician Chief for Hospital Operations. It was in that capacity that I was in the command center during the 2017 wildfire. In May 2019, I stepped down from that role and in December, I took on the role of Emergency Management Lead Physician. I continue to practice emergency medicine full-time. During the Kincade wildfire, I was engaged at the command center as a consultant and content expert, given my past experience.

■ Susan Fitzgerald (SF)

I work clinically in Santa Rosa as an Emergency Management Physician half-time. I also work regionally, in disaster planning and training, with our Regional Emergency Management Team in KP Northern California (KP NCAL). In 2017, I was involved in the evacuation along with Josh and played a supportive role in the command center and hospital. Following the 2017

experience, we developed evacuation training materials, along with an evacuation toolkit, which is in the final stage of development. I keep a set of these materials at home for training. In 2019, I brought them in with me and KP Santa Rosa ended up using those materials to help with the actual evacuation.

■ JH

Let's compare and contrast your experiences in 2017 and 2019. For example, who made the decision for the full-scale evacuation, and how was that communicated out to staff? We know in 2017, the threat was rapidly evolving and there wasn't much time to make the decisions.

■ JW

In 2017, I was the Incident Commander for the evacuation event. As you point out, things evolved very quickly. Within a matter of hours, we went from "There's a fire in the area" to "There's a fire on our doorstep." In 2017, the on-site fire Incident Commander was not advising us to evacuate—we were told to shelter in place. But with the fire literally a couple hundred yards off our property, I made the decision, in conjunction with other hospital leaders in the room, to evacuate because the hospital was under imminent



threat. It was something none of us had experienced. Even communications were different in 2017. Initially we weren't even sending out messages to "hold" because it didn't seem that there was a message to give until it was actually time to go. Dr. Fitzgerald was on scene then, out amongst the staff and first responders, helping to mobilize staff and prepare patients, while I was in the command center.

Read more about the 2017 evacuation in the Exchange article [The Last Stand: Evacuating a Hospital in the Middle of a Wildfire](#).

ISF

In 2017, the first lesson learned was make sure you are truly ready at home to leave your house quickly along with the people, animals, and personal belongings you are most concerned about. I also had to get through a roadblock to get to the hospital. Luckily, I had my KP ID and they let me through, so that was the second lesson learned. I got to the hospital and it was filled with smoke; the fire was directly next door. Pretty quickly after the decision was made to evacuate, a cadre of police officers showed up to help us out. Our hospital command center staff teamed with these police officers and went floor to floor to stage the non-ambulatory patients for transport downstairs, and then conducted sweeps on every floor to make sure all rooms and areas were empty. We didn't have enough wheelchairs, so we used rolling office chairs for non-ambulatory patients who were able to sit up safely in these chairs. We staged the gurney, wheelchair, and office chair patients next to the elevator. We were fortunate the majority of our patients were stable that day; we only had two Intensive Care Unit patients and one intermediate-level care infant, and they were evacuated separately by their critical care teams. Another helpful thing we did was ask all staff—both clinical and non-clinical—to assign themselves to one patient each so we could visually monitor and interact with all patients. These staff could also advocate for the patients and help move their gurneys and chairs to facilitate evacuation.

IJW

It's important to note that these people can be non-clinical. In some cases, non-clinical staff notified clinical staff that "their" patients were having trouble and it was addressed quickly.

In 2017, we used private vehicles and city buses to evacuate more ambulatory patients to another KP facility in Marin County. At first, we didn't have enough ambulances, and those we did have were used to transport more critical patients. There was also confusion about whether city buses could leave Santa Rosa and Sonoma County. This is a good thing to discuss and plan for ahead of time.

ISF

It's important to be aware of and plan with your county agencies, as well as the other hospitals in your area—and realize resources may be spread thin depending on the disaster. In the case of the 2017 evacuation, one of our neighbor hospitals was closer to the encroaching fire, and as a result, had to evacuate first. When we started our own evacuation slightly later, ambulance resources were scarce.

IJW

We also didn't have an evacuation tagging system. We made it up on the fly; we used our secure KP cell phones to take pictures of patient's wristbands. This was another lesson learned that we incorporated into the evacuation toolkit Dr. Fitzgerald alluded to, and we now have more comprehensive tags that account for a variety of patient considerations.

ISF

Another thing the tags help with is knowing what each patient needs for the safest possible transport, including things like oxygen, intravenous fluids, medications, or isolation precautions. This protects the patient as well as the other patients and staff in the area.

We were fortunate in that we had a lot of staff and providers to help with our evacuation, as they were no longer working on the evacuated units. That said, many had to leave quickly to evacuate their own homes and families.

Another lesson we learned was about prioritization. Traditionally, we are taught to evacuate the most ambulatory and least sick patients first, and to save the most critical for last. What we found, however, is that evacuation for all patients started at the same time. Of course, it took longer for the non-ambulatory and critical care patients to be evacuated. We also learned that critical care staff and providers are most likely going to stay with their critical care patients and are most likely to be the ones to help them evacuate.

I JW

Things were very different in 2019. We opened the command center days before the fire became an issue. The county mandated evacuation for 250,000 residents and ordered us to evacuate the hospital while the fire was still miles away.

In 2017, we completely closed, evacuated, and took offline two out of three major hospitals in the area. We know that reopening a hospital that has been fully shut down is extremely challenging. In 2019, we used what we called a “controlled transfer process” in anticipation of evacuating, which made the evacuation easier. What we realized after the 2017 fires is that if we had “decompressed” but kept minimal operations open (e.g., the emergency department) and kept patients who were most susceptible to decompensation with movement in place, we could continue to serve some of the needs of the community during the crisis and we wouldn’t have to formally “re-open.” We could have come back online much faster. This would not have been an option in 2017 but may be so in the future.

I SF

As conditions started to deteriorate, we began to identify patients most stable for transfer, and to locate inpatient beds in our other KP Northern California hospitals. We began this “controlled transfer” process early on. As the situation progressed, and evacuation became more likely, we looked more closely at who was left and how we could ensure their safety during the likely evacuation. At that point, we pre-staged for evacuation. We learned that your process doesn’t have to be “all or none.” You can go ahead and stage for evacuation—fill out the evacuation tags and prepare to evacuate—and best-case scenario, you’ve wasted some paper. Although you may encounter some staff anxiety when you make the decision to break out those tags, I honestly feel that our staff was more reassured than worried by the presence of the evacuation tags and planning; it showed we had a clearly defined process in place that everyone could follow.

I JH

Knowing that most healthcare facilities use electronic health records (EHRs), and you can’t necessarily “grab the chart on the way out,” what key elements of information do you want to be sure accompany patients when evacuating a facility?

I JW

Years ago, one of our emergency management team members created an EHR evacuation printout that is a couple of pages long. In 2017, as we prepared to

evacuate, we made sure staff knew how to print them out. Unfortunately, there was a glitch in the system, and one of the reports printed out about 500 pages.

I SF

The regional emergency management team has actually done a lot of work over the years with our EHR to make it more user-friendly in disaster scenarios including evacuation and surge.

The evacuation toolkit we used in 2019 is made up of the vendor-created tags and tracking system and we created very brief job action sheets (e.g., for bedside registered nurses to use when prepping patients for evacuation) and checklists (e.g., unit leader, transport). They are Hospital Incident Command-like materials but are specific to rapid evacuation. We’ve also added directions for setting up the staging area in a way that makes it both easier to identify and track patients pre-evacuation, and easier to locate them when it’s their turn to be transported out of the medical center. This approach came directly from our 2019 experience—while we had everyone tagged and staged, we didn’t group patients by destination, and this added time to the already rushed process. We are currently working with our vendor to tailor this toolkit to all KP NCAL facilities.

I JH

You mentioned that you are using tags for patient tracking—how do you use EHR and your tools to close the loop to ensure that patients go where they are supposed to?

I SF

KP has 21 medical centers in Northern California and in both 2017 and 2019, our KP NCAL Regional Command Center helped coordinate that process for us. In 2017, we primarily used our KP-provided (secure) cell phones and the printouts of EHR to manually track patients. The regional staff worked closely with us to support patient tracking. In 2019, we used the evacuation tags and tracking system.

I JW

Something else to note about 2017 is that most of our patients went to one KP facility with few exceptions. In 2019, we dispersed them between several facilities. The new tag system that is part of the toolkit allowed us to reconcile records and patients more quickly.

I JH

What are the key safety issues command staff need to be aware of for staff and patients during an evacuation?



ISF

First and foremost, be aware of the environment itself. You need to be able to maintain an environment of care that is as safe as possible given the event. That means controlling access to the medical center and keeping doors shut if there's a lot of smoke in the air. Communication is another key area—it's really where everything starts and ends. It's hard to know exactly what to communicate when, as you don't want to create panic, but you must inform people and ensure the message goes out widely throughout the entire hospital to all staff, providers, patients, and family members.

Of course, as you're getting patients down the stairs or in the elevators, you are going to do everything you can to keep them as safe as possible, with as much care as possible. And when you get them to transport, whether by car, bus, or EMS, do whatever you can to give your staff the tools they might need to care for patients. This helps with both actual patient safety and the psychological safety of staff and providers. For example, in 2017, we put providers and additional supplies on every bus, and I served as a consult / medical control resource for staff on the buses.

Suggested Supplies for Buses Used in Evacuation

- IV supplies
- Nitroglycerin
- Lorazepam
- Levetiracetam
- Albuterol
- Furosemide
- Acetaminophen/ibuprofen
- Narcotic pain medications



I JW

I agree; communication is key. In 2017, I really struggled with how much to communicate from the command center, but I learned that people just wanted to feel engaged and informed. In 2019, I made rounds through the hospital and talked to people on every floor to make sure they knew how to operate equipment, print out tags, contact transportation to request buses, and the like.

Another lesson we learned was when to open the command center. In 2017, the hospital was inundated with smoke and patients were complaining about it. We continued operating normally, and it wasn't literally until my house burned down and our vice president called me right before her house burned down, that we opened the command center.

Fast forward to 2019, the fires were many miles away from us, and there was no immediate threat. We opened the command center nearly five days before we had to evacuate the hospital. This made a big difference. When you run a code, sometimes the hardest thing is announcing that we're running a code, but once you take that step, people know what to do. Opening the command center is a similar decision point, but once it's done, people have the position and framework from where to work.

ISF

It really does free your mind to think differently, acknowledge the severity of the event, and then follow those pre-determined disaster management steps.

I JW

Another thing I would reiterate is practice and drill. It helps people perform better. From an administrative perspective, review the systems you have, make sure you have practical plans to follow in similar situations. In 2017 we learned we didn't have a good evacuation toolkit, so we spent the past two years creating one.

ISF

I want to second that. Test your plan, fix it, and test it again. We held an evacuation drill about eight months after the 2017 evacuation and that was very helpful, as we were able to use much of what we learned in the 2019 Kincade Fire shortly thereafter.

I JW

In 2017, Dr. Fitzgerald was very aware of the need to support the staff who lost their homes and continued to work in crisis mode. She ensured that we brought in staff from other facilities to support Santa Rosa staff, allowing those of us affected by the fire to take some time to address what was happening for us personally.

I JH

If you had a wish list of items hospitals need to prepare for future evacuations, what would be on it?

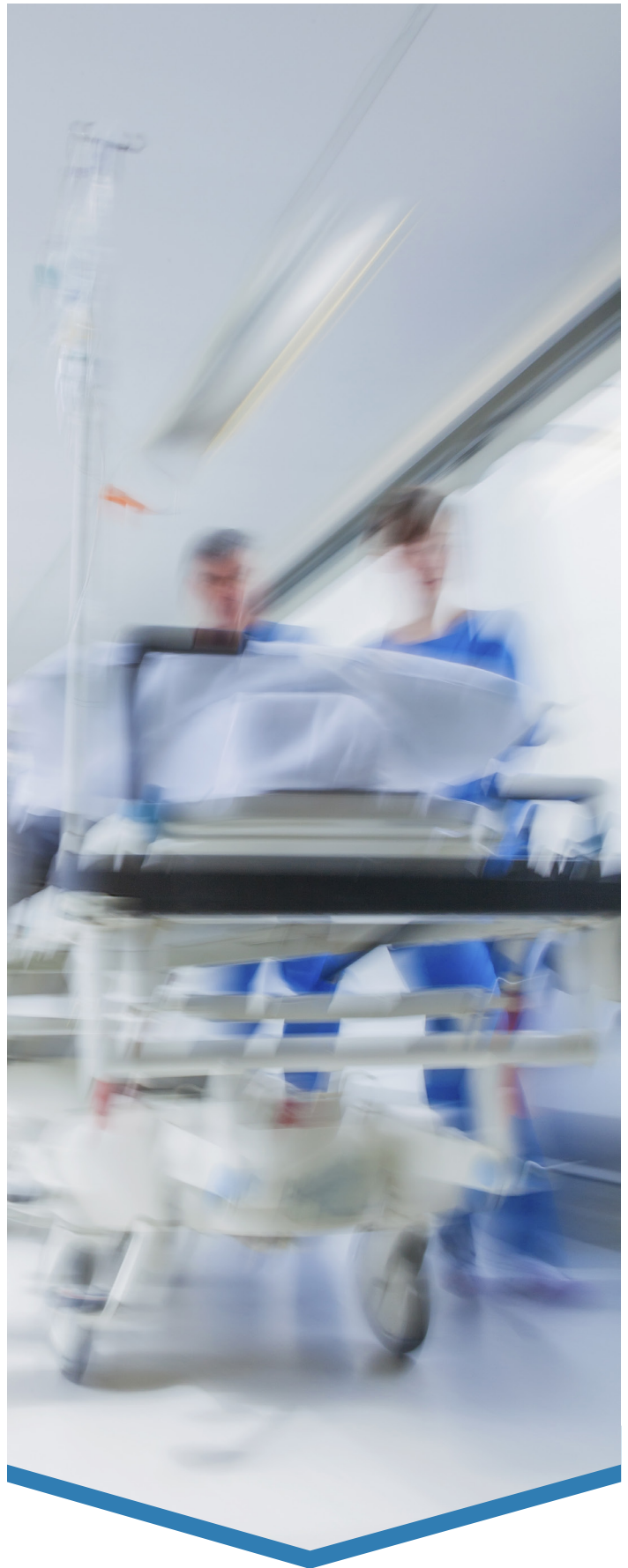
I SF

Yearly, comprehensive drills with our facility, the community, county, and surrounding medical centers. The more we practice and communicate, the better we'll get and the more we'll learn. You can also start with smaller tabletop discussions in your department or medical center-- anything is better than nothing. Work both together and on your own to think through actions your department and medical center can take during disaster events.

I JW

My wish list would include more robust, real-time communication systems between all entities. We were able to have some back-channel communications through the county, but less so with other hospitals and transport providers.

It sounds simple, but we were better prepared in 2019 because we incorporated the lessons we learned in 2017. It's hard to do because you have daily operations to manage but making the time and space to drill and practice, and address what is challenging you in exercises will lead you to be better prepared when a real crisis happens. ■





Wildfires and Public Safety Planned Shutoffs: Napa County's Experience

ABSTRACT

Dr. Karen Relucio and Shaun Vincent have both worked for Napa County, California for nearly five years. ASPR TRACIE asked them to compare their experiences with the 2017 and 2019 wildfires, to include the transport of evacuees and support of medical shelters. They also discussed the effect of public safety planned shutoffs on their community.

■ John Hick (JH)

Please tell our readers about your current roles and how long you have had them.

■ Dr. Karen Relucio (KR)

I am a health officer and the Public Health Director in Napa County, California (CA) and have been for almost five years.

■ Shaun Vincent (SV)

I am the healthcare coalition coordinator in Napa County, and I function as the Medical Health Branch Director during disasters—I've also been here for nearly five years.

■ JH

How has the coalition role evolved during wildfires and other experiences?

■ SV

In terms of the coalition itself, our healthcare coalition (HCC) serves as a supporting organization. We identify gaps and coordinate resources. We have evolved as far as being a response agency; coordination is key. During the 2015 fires, we used the HCC a bit; since then, we engage them much more.

■ JH

There is so much diversity in how HCCs function. Karen, do you represent Emergency Support Function (ESF) 8 at the Emergency Operations Center (EOC)?

■ KR

Yes, we do. Looking back, I agree—we have improved our response. I came from another county where I was involved in emergency preparedness. I didn't practice response as much because we didn't have too many major incidents other than the 2009 H1N1 pandemic, an airplane crash and pipeline explosion. When I started in Napa County, the EOC and the Departmental Operations Center (DOC) were two different entities, with Health and Human Services operating the DOC and our Office of Emergency Services (OES) operating the EOC. In the 2017 Valley Fire, we combined them, and it's been a great way to operate, especially in a smaller county like Napa.

■ JH

Let's discuss the 2017 fires—for example, what were the key functions each of you performed? And let's contrast that with key roles and responses during the recent planned power outages.

IKR

Two key roles we had were medical transport of evacuees (e.g., the Veterans Home) and regularly communicating with hospitals regarding status. Another critical role was supporting the shelters, including conducting epidemiological assessments in each and providing medical care. We used a modified/shortened version of CASPER (Community Assessment for Public Health Emergency Response) to understand the evacuees' needs. Messaging was also critical—I ran around from the EOC to town hall meetings to media interviews and messaged on health information. We also worked with the public information officer (PIO) in the EOC who set up a call center that allowed residents to ask about more general issues (our 911 system was overwhelmed with fire-related emergency calls).

ISV

Our responsibilities by California statute include identifying two individuals who function as the Medical Health Operational Coordinator. That role statutorily is held by Dr. Relucio (our county health officer) and my manager (the Emergency Medical Services [EMS] administrator). Under California's Medical Health Operational Area Coordination, or MHOAC, we have the responsibility to support our local healthcare system under 17 functional categories, as they relate to EMS, public health, environmental health, and mental health. During this relatively long event that picked up quickly, then slowed down for a period, we were initially focused on evacuation and life safety. Next, we focused on getting ambulance resources into Napa County.

In 2017, there was no way nine ambulances could have supported an evacuation that size without coordinated regional support. Evacuations occurred over multiple days. As the need arose and after orders were given by Unified Command, the Medical Health Branch supported those operations with personnel and equipment. However, each operation was performed in a matter of a few hours. Our next priority was supporting the shelters. In 2015, during the Valley Fires in Lake County, we learned that a general population shelter may not be a medical needs shelter, but a significant portion of those who go to those shelters have medical needs. They evacuate without their medication and durable medical equipment (e.g., canes, hearing aids). In 2017, we established four shelter operations with full 24/7 clinical staff comprised of local healthcare partners and Medical Reserve Corps volunteers from across the Bay Area—all drawn from the MHOAC program. These were operational for several weeks.

A general population shelter may not be a medical needs shelter, but a significant portion of those who go to those shelters have medical needs.

-- Shaun Vincent



As Dr. Relucio mentioned, we conducted rapid health assessments of shelter occupants and since then our county has partnered with the University of California, Los Angeles (UCLA) to utilize their rapid mental health assessment PsySTART™. This single questionnaire merged PsySTART™ and CASPER and allowed us to quickly identify medical and mental health needs. We used both paper surveys and tablets to collect information and securely send these questionnaires to the EOC and this helped us adjust our resource deployments. More recently, during the power shutoffs, we have tried to focus more on using tablets to collect, store, and share the data.

I JH

Regarding EMS coordination and transport needs, where did the mutual aid come from?

ISV

We have a regional-to-state system; California is divided into six mutual aid regions. Napa County is part of Region 2 with all of the other coastal counties from Monterey all the way up to the Oregon border.

IKR

We used the [Standardized Emergency Management System](#) (SEMS) which originated in CA. We have several medical health operational areas in each mutual aid region.



ISV

Evacuating the Veterans Home was a pretty significant lift. We were ordering ambulance resources at the same time as Sonoma (a neighboring county) was. At one point early on, one of our first teams came from Sonoma because fire hadn't broken there yet. They immediately had to turn around to deal with their own fires, but we were able to leverage each other's resources as needed throughout the fires. At our peak, when we evacuated the home, we had about 75 ambulances in the county helping. The HCC identified destinations that could receive patients. We leveraged relationships with our local HCC members from skilled nursing, who have partnering agencies outside of the county and region—this allowed us to successfully evacuate, track, and repatriate 164 individuals.

IJH

How did you track those individuals?

ISV

At the time, most of our partners in Region 2 were using a system called "ReddiNet," which offers several modules to enhance healthcare situational awareness. We were granted access to ReddiNet, which enhanced our capability for tracking our patients. We have since procured the software and use it to coordinate with our HCC and EMS partners.

California's Health and Safety Code describes operational areas and the role of the county health officer and local EMS agency administrator under MHOAC.

There was no cellular coverage when we evacuated the Veterans Home; communication was very spotty. We had to use an "old school" big board, our triage tag tracking system, and pen and paper. Once we had all the information, we were able to upload it from the EOC.

IJH

Were there any other challenges during the 2017 wildfire responses you want to share with our readers?

IKR

Post-fire debris cleanup is complicated, and we had to message about it quite frequently. First, we messaged residents about wearing personal protective equipment while sifting through debris and advised on the safest

way to clean up ash if they were able to repopulate their homes. In addition, we declared both a local emergency and a local health emergency at the same time, which enabled us to access state and federal resources to help with debris cleanup. Both Sonoma and Napa Counties had to use federal resources to help with this task because of the large scale of the damage.

There are two phases of debris cleanup—the first phase entails removing immediately hazardous materials such as batteries, propane tanks, and chemicals. Normally, in a smaller-scale incident, this would be handled by the state's Department of Toxic Substances Control. Because of the scale of the response, California had to engage the U.S. Environmental Protection Agency to help with phase 1.

Phase 2 is removing the rest of the materials, which contain potentially toxic materials such as asbestos, lead, arsenic and other heavy metals. Removing thousands of tons of leftover materials from properties must be done a certain way to 1) prevent toxic dust from moving around, and 2) avoid the improper disposal that can negatively affect water systems and natural bodies of water. In a smaller incident, phase 2 would have been handled by Cal Recycle, but in this case, it was handled by the Army Corps of Engineers. We had a Recovery Operations Center open for months; debris removal and clean up were one of several focus areas. Once cleanup was done, the areas had to be tested for heavy metal and asbestos levels to ensure that the area was safe for rebuilding. This testing was run by the state. Our Environmental Health and Planning Department was busy, and I served as the deputy code enforcer to prevent and reduce as many public health threats as possible. Debris cleanup took over a year to complete.

IJH

How long were shelters in operation?

ISV

Just a couple of weeks. Several homes that burned in Napa were in less densely populated, affluent areas with large acreage, and in some cases not the owners' primary residence. Some who came to our shelters were there due to mandatory evacuation orders and returned home once the orders were lifted. This was not the case in Sonoma, where residents stayed in shelters for a bit longer.

IJH

Looking at the scheduled public safety power shutoffs (PSPS)—how are they driving some of your coalition activities?

■ SV

We have two hospitals in Napa County, and one is in the shutoff area. This vulnerability has heightened their awareness and helped them bolster their already hardy preparedness efforts. Our coalition will serve a support and coordination purpose. For example, if you run a generator for a month, there is bound to be some kind of mechanical issue. The coalition would facilitate the sharing of ideas and resources. Identifying gaps in facilities that others can backfill is ongoing, but the majority of our HCC members are relatively self-sufficient. Most of our medical health response efforts are focused on outreach and identifying and working with the more vulnerable residents in the county and making sure they had plans for PSPS. We used emPOWER and some of our local programs to mitigate risk. Communicating about and ensuring food and water safety also took up a large amount of time.

■ JH

How do you communicate with vulnerable populations?

■ KR

We make phone calls to our most vulnerable residents. The goal is to talk to someone live. We also engage law enforcement and Community Emergency Response Teams (CERT) to go to homes and check on people.

■ SV

If you have several overlapping events, we do try to avoid duplicating communication efforts.

■ JH

Has the hospital in the shutoff area changed any of their logistics because of this risk?

■ SV

They are working through that. They have a single generator for their facility and recognize the significant gap. Their facilities director is assessing how and when to purchase a second generator. They are an older facility that specializes in cardiac care and are working on several initiatives to harden the facility's infrastructure.

■ JH

Are there any long-term care facilities in that area?

■ SV

There is one, and they have a generator. We also have seven skilled nursing facilities in Napa County; six of them are in the city. One of them is located in the impacted area, but they had generators and we worked directly with them to ensure a smooth response.

In terms of PSPS, we can declare an emergency, but we won't receive any financial support—it's essentially an unfunded disaster. We have been trying to help the public utilities commission understand this. We have responded to nine shutoffs since 2018; seven were in 2019. We do not get reimbursed for this response and it takes away staff time for other necessary, billable services.

-- Karen Relucio



■ JH

Karen, can you talk through some of the challenges associated with these "planned disasters?"

■ KR

As Shaun alluded, we are most worried about our medically vulnerable residents who are dependent on electricity for health reasons (e.g., ventilators, cardiac devices, people on home dialysis, people who need power for mobility's sake). One goal is to work with this population to help them plan and not use 911 unless it is absolutely necessary.

In terms of PSPS, we can declare an emergency, but we won't receive any financial support—it's essentially an unfunded disaster. We have been trying to help the public utilities commission understand this. We have responded to nine shutoffs since 2018; seven were in 2019. We do not get reimbursed for this response and it takes away staff time for other necessary, billable services.



I JH

What level of services aside from contacting those at-risk individuals are available? Do you set up hotlines or shelters, for example?

I KR

Sometimes we find people who don't have the physical ability to either be prepared or manage their response—they may have a generator but can't physically refill it with gas. We also had a lot of people on CPAP or BIPAP calling us and telling us that they needed a place to sleep overnight. The shelters set up by the power company were only open during the day, and hotels in our area can be very expensive.

I SV

We were able to work with Community Organizations Active in Disasters (COAD), provide support with Meals on Wheels, and help some individuals with procuring hotel rooms. When a private, for-profit organization is making the decision to shut off power, they create a manufactured disaster, and we work within the parameters we've been given. When you have 50% of the counties in the state without power and there's no state declaration or mechanism to receive some reimbursement, even if it reduces the risk of wildfires, there are many unintended consequences. When a wildfire took place at the same time as one of the shutdowns, we were able to activate the traditional disaster declaration process and receive the financial support necessary to support Napa County's response efforts establishing shelters.

Beyond the generators having mechanical issues, oxygen suppliers do a really good job backfilling with tanks when you run out of concentrator, but when 50% of the state is out of power, and people who rely on oxygen have used up their backup supplies, the suppliers run out. This is a statewide issue. Even if they were being ordered based on protocol, there were no resources to backfill that. This was a big gap for us. We have worked with suppliers since then and they are going to bolster their backup supplies, especially in anticipation of the next fire season.

I JH

What's been the longest duration of a PSPS so far?

I SV

The October 26, 2019 event lasted about 48 hours in total, but Pacific Gas and Electric Company (PG&E) uses their own algorithm to generate a red flag warning. Once an area is shut down, it takes three to five days to reenergize the areas. We had one weather event on October 26, 2019

When a private, for-profit organization is making the decision to shut off power, they create a manufactured disaster, and we work within the parameters we've been given. When you have 50% of the counties in the state without power and there's no state declaration or mechanism to receive some reimbursement, even if it reduces the risk of wildfires, there are many unintended consequences.

-- Shaun Vincent



and another on October 29, 2019, and some people were not reenergized for five days.

I JH

Is this the new normal?

I KR

It looks like this is our new normal for at least a decade because that is how long it is estimated to take PG&E to update the infrastructure and bury the lines.

I JH

Any last things you want to touch on?

I KR

These shutoffs are called "public safety power shut offs," but unless the health consequences are considered, they aren't protecting or promoting public safety. ■



CHALLENGES AND CONSIDERATIONS FOR HEALTHCARE FACILITIES AND RESIDENTS AFFECTED BY PLANNED POWER OUTAGES

Kristen Finne, Director of the HHS emPOWER Program and Senior Program Analyst, Office of Emergency Management and Medical Operations

Over the past few years, wildfires have increased in frequency, severity, and duration. Additionally, in 2019, utility companies began to mitigate fire and other potential risks by shutting off power to whole communities if weather conditions were expected to increase the risk of fire or the potential for critical infrastructure failure.

Localized and widespread power outages related to wildfires, whether planned or unplanned, create significant challenges for the healthcare sector and communities in the event of an emergency. When power goes out during a disaster, public health and medical risks increase for individuals with access and functional needs that live independently in the community and rely on life-maintaining electricity-dependent medical and assistive equipment (e.g., oxygen concentrator, home dialysis, wheelchairs) and health care services (e.g., outpatient facility dialysis, oxygen services). Many of these individuals may rapidly seek assistance from emergency medical services (EMS) or overwhelm hospitals and shelters when seeking access to care or secure power. Others may shelter in place as they are unable to evacuate safely without assistance, putting their lives at risk. This is of significant concern, especially as technology and health and human service program advancements, including [long-term support service programs](#), are assisting more at-risk individuals to live independently in their communities.

Power outages also cause life-threatening risks to hospitals and other community-based healthcare facilities and providers. For example, when hospitals lose power, their ability to provide emergency care and surgical interventions, as well as dialysis and other critical services, is significantly impacted.

Successful mitigation of these risks requires an integrated, multi-sector, and local, state, territory, and federal governmental planning strategy. The strategy should leverage best practices, identify planning actions and mitigation measures, and use new data and health information technology capabilities, tools, and resources to help prevent adverse health impacts and death from a widespread power outage.

HHS emPOWER Program

ASPR, in partnership with the Centers for Medicare & Medicaid Services (CMS), developed and launched the HHS emPOWER Program in 2013 to help public health authorities, emergency managers, healthcare providers, first responders, aging agencies, volunteer organizations, and other community partners anticipate, plan for, and respond to the emergency needs of the over 4.2 million Medicare beneficiaries and other community members who rely on electricity-dependent medical and assistive equipment.

The HHS emPOWER Program provides multiple tools and resources, including the [HHS emPOWER Map](#), an interactive, online tool that is updated monthly and displays the total number of at-risk electricity-dependent Medicare beneficiaries in a geographic area, down to the ZIP code.

Check out these resources for more information on the HHS emPOWER Program:

- [HHS emPOWER Program Fact Sheet](#)
- [HHS emPOWER Program Executive Summary](#)
- [HHS emPOWER Program Web-Based Training](#)
- [HHS emPOWER REST Service Job Aid](#)

The HHS emPOWER Map enhances population-based situational awareness and provides actionable information for those assisting at-risk populations that may be impacted by wildfires, severe power outages, and other disasters. For example:

- Public health and emergency management officials can optimize shelter locations and shelter resource needs, plan for evacuations by identifying potential evacuation routes, and develop improved public communications to ensure individuals know where they can go to get assistance.
- Healthcare coalitions (HCC), hospitals, and first responders, including EMS, can identify healthcare

resource needs and potential areas of hospital and EMS surge. They can also work with public health officials and emergency managers to mitigate potential surge.

- Local electric companies can identify the areas that may require prioritized power restoration and offer power charging station options to protect health and save lives during the outage.
- Civic and volunteer organizations and community businesses can use the data to identify ways to provide support to the community in an emergency, such as offering access to power or charging stations (e.g., for backup batteries).

ASPR also provides related [technical assistance and tools](#) for health and emergency management professionals.

Wildfire- and Public Safety Power Shutoff (PSPS)-Related Challenges Encountered by Emergency Management, Healthcare, and Residents

Over the past few years, wildfires and PSPS events have challenged healthcare and related fields in the following ways:

- Critical infrastructure lacked back up power support to ensure communications, transportation routes, and other essential services were consistently able to operate during the prolonged power outages. Lack of cell tower generators and internet resulted in communication failures and a need for satellite, radio and other alternate options to support communications.
- Healthcare and related data was critical to assessing electricity, health and human services needs as power company medical baseline registries did not reflect the actual populations in the communities which impacted resource and power restoration prioritization.
- Power company information and timelines for de-energizing, location of power stations, and actual areas to be impacted were inconsistent. This significantly impacted the ability of local governmental agencies, healthcare providers, first responders and others to respond due to continually changing requirements.
- At-risk residents lacked information, resources and transportation to seek alternate safe locations (e.g., shelters, power stations, hotels, and family/friends) which led many to seek access to power and assistance through EMS and in hospital settings.

Planning for At-Risk Electricity and Healthcare Dependent Populations

In advance of the next wildfire season, healthcare facilities should consider the following best practices when planning for at-risk populations with access and functional needs who rely on life-maintaining, electricity-dependent medical and assistive equipment and healthcare services:

- Use the emPOWER data and tools to inform situational awareness, emergency planning and response activities prior to such events. Community partners should also leverage the [HHS emPOWER Map](#) to identify the number of electricity-dependent Medicare beneficiaries in their state/territory, county, and ZIP Code to obtain a minimum baseline for potential assistance needs and opportunities to assist.
- Equip shelters with generators and plan for charging stations, either independently or in coordination with utility companies, local businesses, or organizations that are accessible to individuals with access and functional needs.
- Anticipate at-risk population dependency on local medical assistive and public transportation resources to ensure continuity for access to critical healthcare services (e.g., dialysis) and temporary shelter and charging station locations.
- Provide consistent and timely communication updates and resources (e.g., website, hotlines, media, landline and mobile phone alerts) to ensure residents understand the location of planned charging stations, shelters and other services (e.g., transportation, food, medical care, heating/cooling) that may be provided to assist community members.
- Perform legal and administrative reviews now to know and understand existing legal authorities and program or policy allowances that can support responses to a severe power outage which does not result in a local, state, or federal declaration. Ensure plans and agreements (with both government and non-government agencies) are updated to enable rapid execution for shelters and other resources in non-declared events.



Please contact empower@hhs.gov for more information.



Shelter from the (Fire) Storm: Sonoma County's Experience

ABSTRACT

In 2017, the Tubbs Fire burned through sections of Sonoma, Napa, and Lake Counties, California (CA). Two years later, the Kincade Fire struck Sonoma County. Oscar Chavez, the Assistant Director of Sonoma County's Department of Human Services, shared how lessons were incorporated between the fires from a mass sheltering perspective.

John Hick (JH)

Please tell us about your role and jurisdiction. How have things changed since you started?

Oscar Chavez (OC)

I'm the Assistant Director for the Sonoma County Department of Human Services. This department is housed separately from our health department. I oversee our planning, research and evaluation functions, and on behalf of the department, I lead a county-sponsored initiative called "Upstream Investments" whose goal is to advance prevention-focused strategies and services aimed at mitigating costly downstream problems. We work with different sectors to address complex issues in our community, including closing the early learning education gap, poverty, violence prevention, and homelessness. Our work in emergency response drastically changed as a result of the Tubbs Fire in 2017. Since then, our role in disaster preparedness, care and shelter management and supporting our county's emergency operations has significantly increased over the past three years.

JH

How did your role change after the fire?

OC

The primary responsibility of our department is to support mass care and shelter operations for the county during times of disasters. Prior to the Tubbs Fire, if there was a flood, for example, we would deploy staff to support shelter activities, but not to the same scale. In contrast, the response to the Tubbs Fire required our department to deploy hundreds of staff to support shelter operations, contact at-risk In-Home Supportive Services recipients, staff the county's Emergency Operation Center (EOC) and coordinate 24/7 communication and scheduling to support and provide staff to the 40+ shelters that were activated during the fires. Combined, the shelters housed and supported over 4,000 evacuees. As a department we have started to incorporate disaster preparedness as part of our ongoing strategic planning and are looking at ways to better support and mitigate the impacts of disasters and extreme weather on vulnerable populations.



I JH

Tell us about those shelters—what was the range of number of occupants?

I OC

It varied. Shelters were operated by the American Red Cross, the county, cities and community and faith-based organizations. I was deployed to the shelter housed in my community's high school gymnasium in the town of Windsor. At peak, over 250 people were staying there. This was my first and largest sheltering event I have ever helped to manage; I practically lived in and helped to manage that shelter for ten days. Shelters consolidated over time as evacuees were allowed to return home and extended sheltering services were provided to individuals unable to find housing after the fires.

The ASPR TRACIE Alternate Care Sites Topic Collection includes links to shelter-related resources.

Since the Tubbs Fire, we've reviewed our lessons learned and have implemented department-wide training on the fundamentals of working in, and managing shelters as well working with community-based organizations to address the long-term needs of vulnerable populations.

I JH

Who were your key partners in managing shelter efforts? What challenges did you encounter?

I OC

The county, cities, and emergency management departments have overall disaster management responsibility. Our department's role was to support mass care and shelter operations. At the shelter I managed, we worked directly with our EOC to coordinate staffing needs and the procurement of equipment, medical, and general supplies; conduct shelter head counts; and address security issues. Together with local community leaders and volunteers, we coordinated with local restaurants to provide meals to shelter evacuees during the 10 days that the shelter was open. Local volunteers and many of the shelter evacuees pitched in to help manage and organize donations coming into the shelter. Seeing our community come together for neighbors in need was an incredible show of comradery and solidarity.

With so many people evacuated, we had a lot of pets that needed to be sheltered. We coordinated with local



veterinarians and rescue facilities to provide food and pet crates to house small animals. Evacuees with larger animals were directed to the shelter located at the fairgrounds. We also had to move people with more complex health-related needs to other shelters that could better accommodate them. At the shelter in Windsor, our staff assessed the needs of the evacuees to make sure they had a plan in place once they left the shelter. This included providing them with resources and information available at the local assistance center that was created to support evacuees with insurance, document replacement, housing assistance, Supplemental Nutrition Assistance Program benefits, and disaster unemployment services among other things.

One particular shelter housed a number of individuals with limited English proficiency and some non-English speakers, including indigenous people from Mexico who did not speak Spanish either. In the months prior to the fires, many members of our immigrant community expressed fear and concern over immigration raids. When the fires hit, many of those members also expressed concern about seeking shelter for fear of deportation.

Our local, bilingual public radio station helped to calm fears and provided trusted information about the fires and shelter locations. Many groups took to social media to disseminate this information to our Latino and immigrant communities. We also relied on our local 2-1-1 information and referral provider to take calls from survivors and to provide them with up-to-date information about the fire and local resources for evacuees.

Finally, the loss of 5,300 homes has had a huge impact on our community which was already experiencing a housing supply shortage. The limited supply of housing



and increased rents forced many community members to leave and seek more affordable and available housing in surrounding counties.

I JH

How did you help people with significant medical needs or any other unexpected issues in the shelters?

I OC

When people came in to register at the shelter, they were assessed by the onsite nurse or doctor. If people came in with serious health issues, the medical team coordinated with ambulance services to get them to the hospital if they didn't have someone to transport them. We also saw a lot of people who, as the days went on, became increasingly frail and needed additional behavioral health support. We were fortunate to have behavioral health staff conduct morning and evening rounds with shelter evacuees. We also had people who ended up in the shelter who—up to that point—were not enrolled in county safety net services. Having them in the shelter provided an opportunity for us to connect them to helpful resources. I recall an elderly woman who was so distraught; she was crying and wouldn't eat. We talked to her and found that not only had she lost her trailer; she was also concerned that the storage facility where her son's ashes were had burned down. I was able to find someone who went and took a picture of the facility to show her it had not been impacted by the fires. That completely changed her outlook. She shared more with us and based on her needs, we worked with our Adult and Aging Division social workers to find her a group living environment.

Most recently, during the Kincade Fire (the largest fire in terms of acreage), we experienced the largest mass evacuation in our county's history (nearly 200,000 people). For the Kincade Fire, I was asked to support one of our larger shelters at the Veterans Building in Santa Rosa. Large numbers of people came to the shelters; close to 100 elderly and frail seniors from several memory care facilities and retirement homes came in with their caretakers. To accommodate their needs, we set up a separate wing for them and their caretakers.

I JH

What level of medical care was available in the shelters? Were there shelters or areas within the facility for people with access and functional needs?

I OC

Nurses and doctors from our local hospitals were onsite to provide medical care and to dispense medication. For the Kincade Fire, we were fortunate to have Functional

Assessment Services Team (FAST) members deployed to the shelter to conduct assessments for people with access and functional needs. The FAST team assessed people as they came in and determined what resources were needed to accommodate them during their stay in the shelter. They also coordinated and provided durable medical equipment, consumable medical supplies, and prescription medications for shelter evacuees. For our most vulnerable residents, we set up a wing specifically with larger cots that could move up and down. There was more room for them to walk around. This was new for us as the FAST teams were not used in the Tubbs Fire response, and it worked really well. We were able to get specific supplies (e.g., canes and wheelchairs), diet-specific food, and medication to these individuals so that they could remain comfortable in the shelters.

Unlike the shelter in Windsor, the shelter at the Santa Rosa Veterans Building was managed by the American Red Cross and we used their processes for intake, assessment, and checkout. There were also contracts in place for meals, security, and janitorial services to keep the shelter clean and to avoid the potential for an infectious disease outbreak. The shelter also housed an isolation room for sick evacuees and biowaste containers that allowed us to dispose of contaminated waste, which is one of the best practices I've noted.

I JH

From the shelter operations standpoint, what was learned from the Tubbs Fire that you applied to the Kincade Fire?

I OC

Having gone through two fires and worked in two different shelters, I did see significant improvement in the supply chain of how equipment and resources were delivered to the shelters. Donations management also improved; our county is very giving, and we did a better job communicating to our community about the types of donations needed at the shelters. Because our staff had been trained in shelter work, they were more prepared and coordinated during the Kincade Fire. We had developed a continuity of operations plan across the county that clearly outlined our role in a disaster. We also improved our call-taking capacity and how we communicate to our residents in multiple languages. We invested in the resource and referral system to streamline information collection and dissemination as well.

We were much better prepared. I think these extreme weather patterns will continue, so training staff for disaster response is our new reality. To the extent that we can



better assess the vulnerability of our community when there is not a disaster going on can help us be more proactive in mitigating harm to our clients. For example, we have a rapidly growing adult population. When we have extreme heat events, we need to think about the clients who don't have air conditioning in their homes or the resources to pay for it, or transportation to get to the cooling centers. How can we better prepare to support them during these situations? We are now reviewing where clients are geographically located and trying to plan ahead (and helping them prepare) for certain types of disasters.

I JH

We do see this unfortunate pattern where disasters affect those most vulnerable populations. One of the reasons associated with increased deaths during recent fires has been access to communication and transportation. Are you conducting any related outreach or activities with vulnerable populations to help mitigate these threats?

I OC

Yes, during the recent public safety power shutoffs (PSPS), we called all our medically fragile clients who we know have access and functional needs. We asked them if they had transportation needs or if they had medical equipment that needed electricity. We also used GIS mapping to geocode the location of our clients in the event of a fire. As a community with so many medically fragile residents we really need to plan for future PSPS events and find workable solutions to mitigate the impacts that put them at risk. Our county leadership is looking at this as other communities have started to put plans in place to support medically fragile residents during PSPS events. For example, some communities are considering providing solar panels or batteries that could help vulnerable residents keep their equipment running and preserve food and medication.

I JH

How have the PSPS events affected your agency as far as resources?

I OC

These shutoffs have certainly impacted our department. When these things happen, we call thousands of clients, taking away from other essential work. During four of the PSPS events we experienced last fall, we had to divert 80 of our staff from their regular work to make calls and face-to-face home contacts.

I JH

Is there anything you want to highlight regarding partner collaboration or recommendations?

I OC

I want to underscore the importance of partnerships. The county has invested significant time and resources to develop a strong disaster preparedness campaign. If our neighbors can be prepared and have the right support and supplies for a couple of days, that will go a long way. Community support has been tremendous. We know that it takes 24 to 48 hours for government to help with mass care and sheltering, so for the first few days, it is up to our community to help each other. I've seen a huge difference between the Tubbs and Kincade Fires, but there is still a lot of work to do.

I JH

From a mental health standpoint, were you taken by surprise by the amount of resources required during or after the response?

I OC

We learned from other disasters that some of the signs of trauma may not show up for a year or so. The county made investments to help community providers bolster their trauma care and support. We provided community education focused on trauma and healing, and our school districts invested heavily in supporting students deal with trauma related to the fires. It's one of the bright spots of our response to these fires—we saturated our communities with the ability to manage disaster-related stress.

Learn more about provider self-care (before, during, and after disasters) in ASPR TRACIE's Self Care for Healthcare Workers Modules.

As a department, we have developed our own internal capacity to provide training around trauma-informed care, enabling us to better support clients and our own staff. This is a new area that has been integrated across our educational, health and human services, and other organizations in the community.



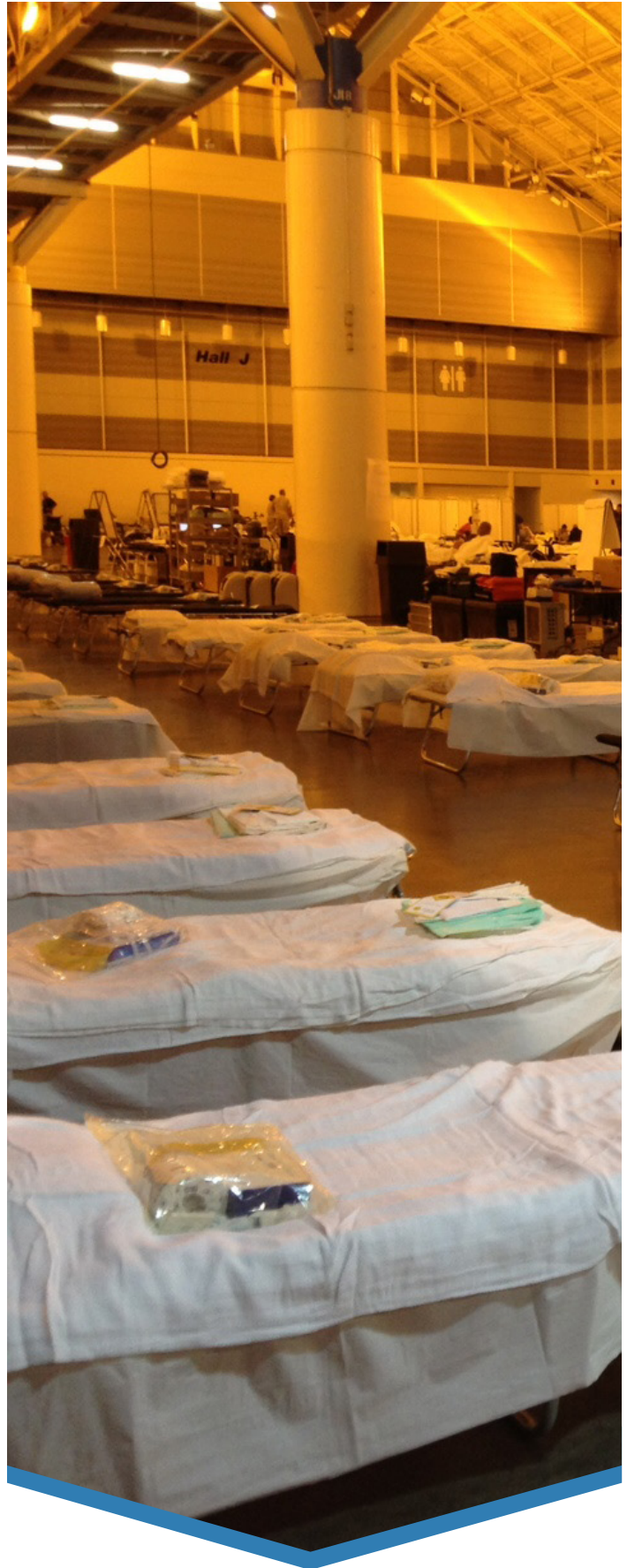
I JH

Looking five years ahead, what would you like to see shelter operations look like?

I OC

After the Tubbs Fire, our county board of supervisors created the Office of Recovery and Resiliency and developed a framework with goals and strategies to help our community recover and prepare for future events. Within the workplan, the safety net departments have identified goals and strategies to enhance our capacity to manage shelters, expand collaborations with community partners around disaster preparedness and trauma-informed support, and develop strategies to quickly assist vulnerable people with holistic wraparound services in coordination with other county departments. We have learned so much from our recent fire experience and we are determined to keep disaster preparedness and mitigation at the forefront of our work so that in five years, responding to disasters and extreme weather events is fully integrated in our service delivery system.

I also think that individuals choose to work in the health and human services field because they care deeply about serving people and their community. That said, I think it is equally important to support staff—including shelter workers and first responders—and ensure they are getting what they need as far as their wellbeing. ■



RECOVERY IN BUTTE COUNTY A YEAR AFTER THE CAMP FIRE

Rachel Kaul, Senior Advisor for Behavioral Health, HHS ASPR Division for At-Risk Individuals, Behavioral Health & Community Resilience (ABC)

Background

In November 2018, the Camp Fire—the deadliest and most destructive fire in California history—raged through Paradise, in the northern part of the state. The numbers are staggering—85 residents lost their lives, and nearly 19,000 buildings were destroyed, including 11,000 houses. The toll on residents and responders was significant. One year later, and based on findings from needs assessments and general observations, ASPR Recovery staff identified the need to address stress, distress, and compassion fatigue among residents, Federal Emergency Management Agency (FEMA) staff, and city municipal workers impacted by long-term exposure of the Camp Fire.

ASPR's behavioral health subject matter experts developed training curricula to target the specific needs of the following groups still deeply engaged in recovery work in California:

- FEMA Recovery leadership staff in Sacramento
- FEMA field staff staged in Oroville
- School counselors in Butte County
- Municipal workers in Oroville, Chico, and Paradise
- Police personnel working in Paradise

The goal of these trainings is to assist participants to communicate effectively with people who are in crisis and to manage difficult or distressing conversations. Each session included content on self-care and resilience strategies to prevent or address compassion fatigue to use at work as well as in everyday life. These interactive workshops allowed participants to share things they had experienced or done that been helpful in terms of self-care and stress management over the past year.

Process Changes and Feedback by Target Group

FEMA Recovery leadership staff in Sacramento were very interested in organizational approaches to resilience and communication strategies. They had less direct exposure to the fires but were extremely concerned about workers who were still managing the needs of survivors – themselves included.

FEMA field staff were mandated to attend the sessions and thus were a little resistant at first. ASPR Recovery staff realized that time was a stressor for these employees, as their individual workloads increased while the recovery mission wound down and staff transitioned out. To acknowledge this, staff abbreviated the original four-hour course to two-hour sessions. Participants became very engaged and seemed to particularly enjoy sharing experiences in which they felt they had been able to be helpful or comforting to survivors. Several of these workers were also survivors and robust discussion about empathy and the inherent risks in identifying strongly with clients occurred. The field sessions all concluded on very positive notes with participants providing specific examples of how each would improve or enhance their own self-care.

Butte County school counselors participated in a session on Compassion Fatigue and Cognitive Strengthening. This group was well versed in the concepts of grief, stress, trauma, and empathy. They discussed the elements that made their work fulfilling, even as difficult as it can be day to day. The children these practitioners work with are often in difficult and unpredictable home situations and many had lost homes, possessions, and even pets in the fire.

ASPR ABC's [Building Workforce Resilience through the Practice of Psychological First Aid](#) is a free course available through NACCHO University (free registration required). Access the [ABC Resource Library](#) for additional resources.

ASPR TRACIE's modules on [Self Care for Healthcare Workers Modules](#) provide information on understanding and managing stress, compassion fatigue, and more. Links to additional resources can be found on the [Disaster Behavioral Health Resources](#) page.





The focus of these school counselors was to manage daily exposure to these stressors and remain healthy and connected to their work. One takeaway from this session was that helping each other make sense of this tragedy on a regular basis was important.

The sessions conducted with *municipal workers and city staff in Chico and in Paradise* were particularly challenging. The pressure these individuals were under to rapidly advance recovery and rebuilding made it challenging to take any time for self-care or self-reflection. As with the FEMA field staff, most of these individuals were directly impacted by the fires and virtually all of them had a close family member or friend who had lost their homes. They felt it important that their role of “first responders” during the fire and in the aftermath be understood. They had more interest in explaining their specific roles in the recovery efforts – whether that was reestablishing utilities, assisting survivors with building permits and financial assistance, or navigating the political landscape with the county and the state as assistance and funding became more available. The City Managers for Chico and for Paradise each attended a session and city leadership was well represented. The diverse nature of these groups made it prudent to spend a little more time on identifying stress reactions and pragmatic ways to address them. Evaluations from this group were strong as it seemed there had been very little opportunity for this kind of gathering and discussion that was focused on their needs and not just on those they serve and assist.

The final session was directed to the *Paradise Police Department*. The entire force attended the training sessions, including the Chief of Police. This group was extremely impacted by the fires; most had their own homes and possessions in harm’s way while they worked to swiftly evacuate the town in extremely dangerous

circumstances. After the fire, most of the officers and staff relocated to nearby communities which further contributed to disrupted social cohesion. The department suffered from a loss of officers who went to work for other police departments (e.g., Oroville and Chico). The City Manager and Police Chief stressed that decisions such as increasing wages for officers were helpful in mitigating some of the staff turnover but not completely successful in ensuring a full staff for the ongoing efforts to prepare the town for rebuilding. As a group, the officers were less forthcoming, but this is still common for many in this profession. Many emphasized their reliance on one another and noted that everyone remained willing to pitch in to help each other. That said, several officers described stress reactions that were concerning and in some cases were resulting in broader health concerns. The content of this course emphasized resources that this population would be more likely to access given the perceived stigma often associated with help-seeking among this group.

Conclusion

Overall, the sessions conducted in the recovery phase of the California Wildfires were valuable and appreciated. However, the ongoing and cumulative effects of a slow and challenging recovery are posing great risks to everyone involved. In order to continue to address these issues and promote helpful, healing resources, additional educational materials were provided electronically after the sessions. However, a training curriculum designed to train community members to provide these kinds of small group, interactive workshops should be developed to make a lasting contribution to Paradise and Butte County residents. This curriculum could also be tailored by other communities in response to or in advance of future disasters.

Encouraging pre-disaster, cross-jurisdictional planning to identify resources and assets and to leverage training opportunities could make the work in the recovery phase more seamless.



Please contact disaster.recovery@hhs.gov for more information.



Challenges Associated with Wildfires and Planned Power Outages

Listening to the stories from California brings a sense of disbelief, gratitude, and also dread. Disbelief at how, in the space of a decade, the very nature of wildfires has changed dramatically, resulting in generational tragedies such as the Paradise Fire. Gratitude for the many public health and healthcare workers who saved so many lives through dedicated efforts to protect at-risk populations, evacuate at-risk facilities, and rescue those in harm's way. And finally, dread that this "new normal" will keep killing; even in the absence of fire, lives will be lost due to the impacts of the PSPS occurring that are—and should be considered—"planned disasters."

“ Gratitude for the many public health and healthcare workers who saved so many lives through dedicated efforts to protect at-risk populations, evacuate at-risk facilities, and rescue those in harm's way. ”

The environmental health consequences of disasters are not given the weight in planning that they deserve. As we learned in Colorado, poor air quality affects everyone, but especially older residents and those with respiratory diseases. Fire creates hazardous materials situations that require careful remediation and often specialized clean up. Recovery and processing of human remains can complicate clean-up and take weeks. Poor shelter conditions may contribute to illness outbreaks. Loss of power can cause food safety problems and disrupt water supply. These are just a few examples of the immediate and long-term challenges jurisdictions may face that require a major and ongoing public health commitment.

Regardless of whether your jurisdiction is typically threatened by wildfires, numerous lessons from California and Colorado resonate and demand attention. The absence of electrical power is a life threat, and though we are getting better about identifying the at-risk populations, we need to do more in the future to protect them. This may include having back-up power supplies, better communication and transportation options, and shelters that are better equipped for their needs. Hospital and long-term care facility evacuation is another challenge, and facilities need to commit to having operational plans in place; training and exercising with staff at evacuating and receiving facilities; and having adequate equipment to ensure the safe movement of patients. Coalition-level activities such as the coordination of patient transfer and tracking, and shelter support can facilitate a safe and effective regional response.

Many agencies and healthcare facilities are taking on enormous unfunded burdens to address these "planned disasters," create power redundancy, and support at-risk populations. These activities take human and other resources away from other critical public health priorities. We must seek private, local, and state assistance to support planning and responding to these outages to enable us to protect both residents and providers when an incident occurs.

New challenges prompt new solutions and learning. We hope that the stories in this issue will prompt coalitions to look carefully at their evacuation, sheltering, and at-risk population plans and their inherent gaps. Western state fires may be the bellwether, but extreme weather events are occurring more frequently and will challenge all of us to anticipate these issues and address them proactively. Once an event occurs, it may be too late.

Contributed by John L. Hick, MD, Senior Editor for ASPR TRACIE, Hennepin Healthcare (Minneapolis, MN)



RECOMMENDED RESOURCES



TECHNICAL RESOURCES

Since publishing our 57th comprehensively developed Topic Collection over a year ago, we began working with subject matter experts to refresh these resources. Our most recently refreshed Collections are: Volunteer Management, Virtual Medical Care, Healthcare-Related Disaster Legal/Regulatory/Federal Policy, Exercise Program, and Training and Workforce Development. We continue to revise Collections; check back often. You can also learn more about rating, commenting on, and saving resources in this short tutorial.



ASSISTANCE CENTER

We encourage readers to access our [summary of responses to select technical assistance \(TA\) requests](#). We have responded to TA requests for [Behavioral Health Assistance Resources Following an Earthquake](#); [Whole Community Planning Resources](#); [Ambulatory Clinic Exercise Resources](#); [CMS EP Rule Training Date Requirements](#); [Obstetrics/Gynecology \(OB/GYN\) and Pediatric Clinic Resources](#); [Engaging Executive Leadership into Healthcare Coalition Activities](#); [Mobile Medical Units for Hospitals](#); [Hospital Lockdown Resources](#); [Healthcare Coalition Gap Analysis Resources for Pediatric Surge Planning](#); and [Homecare and Hospice Surge Resources](#). Check out this tutorial for assistance navigating the Assistance Center.



INFORMATION EXCHANGE

Register for the [ASPR TRACIE Information Exchange](#), where you can 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](#).

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/register> 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.



ASPR TRACIE STATS



>548,000

VISITORS
TO WEBSITE

TECHNICAL ASSISTANCE
REQUESTS



~5,500

Types of professionals requesting TA:

- Healthcare Professional
- Federal, State, Local, Tribal Government
- Hospital
- Healthcare Coalition
- Healthcare Association
- Academia



NUMBER
OF SUBJECT MATTER
EXPERT CADRE MEMBERS:
>850

TOPIC COLLECTIONS
COMPREHENSIVELY
DEVELOPED:

57

Most frequently accessed topic collections:

- Hazard Vulnerability Assessment
- EOP/EMP
- Long-Term Care Facilities
- Explosives/Mass Shootings
- Healthcare Facility Evac/Shelter
- Natural Disasters



~7,000

INFORMATION

EXCHANGE MEMBERS:



ASPR TRACIE
DISTRIBUTION
LIST REACH: **~150,000**

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