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INFORMATION GATEWAY

THE LAST STAND:

Evacuating a Hospital in the Middle of a Wildfire



Photo courtesy of National Interagency Fire Center

“We’re making a last stand.” A firefighter spoke these words just prior to hospital leaders making the decision to evacuate the Kaiser Permanente hospital in Santa Rosa, California. Many Americans watched helplessly in the fall of 2017 as thousands of acres burned in western states. Some people had very little notice before they had to evacuate, often having to drive through flames with just the proverbial clothes on their backs. ASPR TRACIE interviewed Joshua Weil (MD), Assistant Physician-in-Chief, Hospital Operations of Kaiser Hospital Santa Rosa; Mitch Saruwatari (MPH), Director of Emergency Management, Kaiser Foundation Hospitals and Health Plan, Inc.; and Skip Skivington (MBA), Vice President of Healthcare Continuity Management, Kaiser Permanente, to learn more about their personal and professional experiences evacuating a hospital in the midst of a wildfire.

■ John Hick (JH)

Please describe your current role, and how that played out during the evacuation.

■ Joshua Weil (JW)

I am the Assistant Physician-in-Chief for Hospital Operations and a practicing Emergency Physician and I was working a night shift the night of the fire. As the event escalated, I assumed the role of Incident Commander.

■ Skip Skivington (SS)

As a Vice President of Healthcare Continuity Management, I served as the national incident manager for Kaiser Permanente (enterprise-wide). My office is physically located in our national headquarters building in Oakland, CA.

■ Mitch Saruwatari (MS)

I am the Director of Emergency Management, and I report to Skip. One of my roles is to monitor any threat to our organization, capture information and develop situation reports in support of our command center and headquarters.

■ JH

Josh, please walk us through the event from your perspective.

I was at home, trying to follow my usual pre-night shift routine, but I woke up from my nap early because our power went out. It was hot and stuffy in our house, but I didn't think too much of it. There was smoke around my house. I live a couple of miles from the hospital and when I got to work, I noticed it was smokier there than it had been at home. I recall hearing sirens in the distance. My shift started at 11:00 p.m. Once at work, a paramedic told me that every fire asset in the county had been deployed. This caught my attention, and while the night started off fairly routine, it became a but busier than usual. We started receiving some patients with respiratory issues and general (not burn) injuries from being involved in fires at their home.

At 1:00 a.m., I heard a call on the paramedic radio reporting a structure fire about four miles from my house, so I called my wife to wake her up and encourage her to get some things together in case she had to evacuate. When she walked outside, she noticed more smoke in the air around the house. She went back inside, grabbed the computer and our wedding album, woke up our daughter, and grabbed our dogs. She saw the fire glowing over a nearby hill; it was growing by the distance of a football field every three seconds. She went back inside to try to find the cat, but the house quickly became surrounded by fire.

In the meantime, my neighbor called me, not knowing I was at work, and frantically yelled at me to get out of my house. I left the patient I was working with and called my wife. My daughter answered, and she was just screaming—I could hear my wife trying to reassure her, but I could also hear transformers exploding in the background and I knew they were surrounded by fire. I told my family to come to the hospital. *Our house was consumed by fire.*

Things started picking up in the ER and we began to plan for a surge event, calling in additional staff, and trying to figure out how to move patients out of the emergency department into other areas of the hospital to create more capacity in the ER.

At about 1:30 in the morning, the Administrator on Call called me and asked what conditions were like as she was getting reports of significant smoke. I told her that I thought my house had just burned down. She suggested we open the Command Center, and I agreed. Shortly after the call ended, her house was consumed by fire.

Around the same time, Dr. Kirk Pappas, our Physician-In-Chief, also came in, having just lost his house to fire.

Things were moving very quickly at that point. By 2:00 a.m., we had opened the Command Center. I had another emergency physician come in to take over my patients while I transitioned to my role as Incident Commander. We began our situational assessment to determine who we had in the hospital (both patient- and provider-wise). We learned “through the grapevine” that Sutter Health System Center Hospital, located about a mile away, had been evacuated and that the fire had reached the north end of our campus, burning homes in the trailer park that abuts hospital property. At this point, there were county fire and law enforcement on scene in and around the hospital, and they were staging nearby, so we were able to communicate with their on-scene incident command. It felt like everything was happening so quickly. If you asked me then, I'd say it only took us 30-35 minutes from when we opened up the Command Center to make the decision to evacuate. But it actually took closer to an hour and a half.

New patients were coming in, and we were doing typical triage on existing patients to determine who was mobile, who wasn't, and what their conditions were. Eventually, we lost power and switched to generators. Smoke abatement was becoming an issue; we were controlling the HVAC but it was becoming hot and stuffy in the hospital.

At 3:35 a.m., the fire Incident Commander came in and said something I'll never forget: “We're making a last stand.” He explained that the firefighters were using the last couple rows of the trailers that hadn't yet burned and the dry creek bed to create a barrier and hold the fire off. That's when we made the decision to evacuate the hospital. We were already in communication with the regional command center and they supported that decision. We began strategizing transport to one of our sister facilities (Kaiser San Rafael).

At 3:40 a.m. we started getting patients to the evacuation point. Some were mobile and could walk there, and some were wheeled there, either in wheelchairs or on actual desk chairs equipped with wheels. Some were moved in their hospital beds.

One of our seasoned emergency nurses had just attended an emergency management conference and suggested we use privately-owned vehicles to evacuate patients with staff. Four city buses were provided to help with the evacuation, and patients who required higher-level care were transported by ambulance. Another staff member suggested putting someone by every patient (not necessarily clinical staff) while they waited in halls for evacuation to ensure they were monitored as necessary, so we did that, too. This was a great suggestion and worked very well. Within three hours, before 6:30 a.m., our last patient was out of the hospital and en route to the receiving facilities.

■ JH

Did you have any trouble getting an adequate number of ambulances?

■ JW

In the end, we did not have any problem. We got word that they would be sending us 20 ambulances, and between that and the buses and private vehicles, it was enough. We evacuated a total of 122 patients within three hours, including ED patients. There were a few women in the Labor and Delivery unit in the early stages of labor. They were evacuated by private vehicle with a manager from the maternal/child unit.

■ JH

How much training and practice had you done with regards to evacuation training, and how much of that is facility driven versus system driven?

■ JW

We are required by the Joint Commission to do a disaster preparedness drill a few times a year, but in all honesty, almost all of our drills are surge scenarios. I remember drilling evacuation once in the past five years. I think we probably practiced with some of our tools such as a “Stair Chair” to evacuate one paper patient, but none of us had actual experience evacuating a hospital.

■ JH

How did the evacuation plan work/not work and what were some of the lessons learned?

■ JW

There was some improvisation, with the use of private vehicles and rolling desk chairs. We did start with traditional vertical and horizontal evacuation based on the direction of the fire, and we followed our plans and protocols as much as possible, including incident command and communications protocols, but a lot of improvisation occurred and lessons were learned.

For example, although we have a plan and process for patient tracking, the time compression made that impossible. To facilitate tracking, someone suggested using a smartphone to take pictures of patient arm bands. This is something we will add to our evacuation plan.

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Concurrent to the North Bay fires, we had significant fires in Southern California, so we were monitoring from a higher systems level. Between September 25 and October 17, we had significant fires in Riverside and Orange County. While there was no direct impact to any of our facilities, there was lots of smoke and evacuations. Many members and staff were affected by these fires, too. The North Bay fires began on October 8 and 9, so we did have some overlap. Moving forward, we are updating our wildfire plans and incorporating lessons learned from the 2017 wildfires into our emergency operations plans. We'll also run exercises with peer groups. We will call for emergency preparedness professionals at our medical centers to update and review surge, evacuation, and wildfire response plans.

Mitch Saruwatari, Director, Emergency Management

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■ JH

It is so hard to compare this emergency evacuation to more traditional emergencies. What other lessons did you learn?

■ JW

We actually carried out a “parallel evacuation.” We are typically taught to have our mobile patients walk to the evacuation point first, and then you get the people who are in chairs to the evacuation point, and then you evacuate bed-bound patients, and last, you evacuate the ICU. Instead of following a series of steps, we evacuated them all at once. Our disaster preparedness physician explained later that one reason why this worked is because ICU nurses typically won't leave their patients to help others evacuate. We let them stay with their patients and I think that's one reason why we were able to accomplish this evacuation so quickly.

■ JH

Because the fire was encroaching on the facility, it really wasn't safe to stay there. Did you have a policy or process for facility abandonment?

■ JW

We didn't, but we had some quick discussions about it. We got all the patients out, but we also kept the incident command team and some security staff behind. We also kept an emergency physician and a nurse in the facility long term, so that if a patient walked in (as some did) they could get an initial assessment and be directed to other facilities.

These conversations were occurring and decisions were being made with the local and regional Command Center teams. And when I made the decision to evacuate, the first thought I had was “Man, am I going to get in trouble for this.” But in retrospect, it was the right thing to do and we would have had to leave regardless. Smoke became an issue quickly and we then lost water pressure and medical gases. Once I saw some of the pictures that patients had taken of the fire from their rooms, I didn't regret the decision at all.

■ JH

Was there significant damage to the campus?

■ JW

Just minimal smoke damage. We remained an evacuation zone for several days afterwards as the fire continued and winds shifted. We had enough smoke and heat hit the facility that it was in the best interest of patient safety to remove every piece of supply from the hospital and then totally restock the hospital, which took eight days. This was a huge undertaking—we mitigated smoke damage, cleaned all terminals and cleaned all of the vents to mediate the impact of any smoke or soot on the HVAC system.

■ JH

Something like this is a regional effort—tell me about your area.

■ JW

The region encompasses northern California, from Fresno to Sacramento/Roseville, up North Bay to our area. It includes 21 hospitals and 4 million members. Having a hospital system this large was beneficial; they were key in coordinating patient movement to various other system facilities and maintaining patient records and other data (including the physical location of the data banks). Locally, we had internal assistance with delivery of care, where we could provide care, how we could best interface with/ provide care for the community (how to provide and coordinate providers), and coordination with the resupply of the hospital.

■ JH

Was San Rafael able to handle the influx of patients?

■ JW

Yes, they run at half or less the capacity that we do. They are licensed for up to 110 patients, but typically have a census between 50 and 60. We are licensed for 173 beds, and that night our census was at about 90, plus the emergency department census. The week before the fire, however, we were at about 140. San Rafael was key in coordinating the evacuation, and the fact that we have this large system was another strength of the response.

■ JH

Was there much coordination with others besides emergency medical services (EMS)? Is there a local coalition, for example?

■ SS

We talked to the California Hospital Association extensively as well as each of the impacted counties' emergency operations center. We also exchanged situational awareness information on an ongoing basis with our colleagues at Sutter Health and the Veterans Administration. These working relationships have formed over time as a result of our state's emphasis on healthcare coalitions.

■ JH

From a systems and evacuation standpoint, what were some of the challenges you encountered?

■ JW

We all plan for surge, and we all have these big carts ready to roll out into the parking lot with plenty of equipment, but we don't have "go packs." We're not really ready to get patients on city buses with nurses and the necessary supplies for administering care. I definitely recommend looking into having go packs ready for this type of evacuation. As far as planning, another lesson we learned is that while it was very helpful to have nurses on the buses, and we had medical control via cell phone, it might have been even more helpful to have had physicians on buses, too. Another lesson we learned was related to electronic medical records (EMRs). Most hospitals have EMRs and most have the capacity to print out a 1-2 page disaster sheet. That night, however, we didn't have anyone in the hospital who knew how to print them out! We definitely need to have someone working on all shifts who knows how to operate that aspect of the EMR.

Another point that staff brought up was about communication that night—particularly that we weren't notifying them in a timely manner. Often even during "status quo," you typically don't know exactly who is in the hospital at 3:00 a.m. Do we have a list of staff (e.g., radiology, security, lab techs) who are on each shift? And how do you communicate with all of these members? We did a sweep at the end, which we would have done regardless, but it would be helpful to know who exactly who was in the building prior to having to evacuate. Right now, we use phone systems and overhead paging. We are considering sending situational updates via our communications system, but this is still being examined.

■ JH

What was done to maintain communications with staff and ensure they were cared for, considering many of their homes/ their loved ones were also being threatened by the fire?

■ JW

As far as staff was concerned, it was an unbelievable performance. I lost my home that night, but so did a lot of other people I work with. In fact, more than 200 staff from Kaiser Santa Rosa alone lost their homes to fire. Many of my colleagues didn't know the status of their homes—they just knew their neighborhoods were under threat. It would have been really easy to imagine people leaving to care for their families and their homes, but none of them did. They all stood by their patients and their hospital. It's heroic. And I'm not just talking about doctors and nurses—every single person (radiology techs, environmental services staff, security) could have looked out the window and said "I'm gone," but they didn't.

The organization really stepped up. Human Resources was involved immediately and ran a parallel Command Center to ensure staff had access to the Employee Assistance Program and to coordinate those who had homes to offer with those who needed places to stay. They set up social media pages to facilitate communication. There was financial assistance. Because we knew that San Rafael was handling a larger patient volume than they were used to, Kaiser sent physicians, nurses, and patient care coordinator teams to help manage Santa Rosa patients at the San Rafael hospital.

■ SS

We also reached out to FEMA who were excellent government partners. FEMA established a "mini assistance center" right on our campus since we had so many people devastated by the fires. In addition to FEMA's help we created internal helplines for our people which included providing temporary housing mostly through hotels throughout the entire San Francisco Bay Area. The fires destroyed a large portion of the available housing stock in and around Santa Rosa, and we have learned the going monthly rental for 2,000 square feet of living space, assuming it's even available, is \$10,000.

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■ JH

How do you get notified at the regional/system-wide level?

■ SS

We have an enterprise policy that requires my group to notify me whenever one of our hospital command centers is activated. We then, among other things, ensure those impacted are getting all of the assistance they need to be successful. All disasters are local, but a nice feature of being a part of a larger system is that our local medical centers can count on regional support as well as national support. We lean in, along with our regional and local internal incident management teams, to provide direct support to deal with the situation. Just as importantly we “connect the dots” across the organization, which invariably becomes necessary during large and complicated responses like this one. Our mission is to lighten the load - as much as possible - for those on the front lines of the disaster.

■ JH

What support comes from the headquarters level?

■ SS

Essentially anything that is needed for medical centers and regions to be successful. Fortunately, our local leadership, working closely with their regional leadership, have at their disposal everything they need to be successful; however, certain large disasters may require new or revised national policies shaped to handle the unusual situations created by the disaster. For these wildfires, no specific requests were elevated to the national headquarters.

The main reason why no requests were elevated to the national headquarters was our Northern California Regional Command Center worked around the clock in shifts mimicking exactly what was being managed locally (e.g., logistics, pharmacy, human resources, government relations, public affairs, security, continuum of care, safety, etc.). Given the emergency housing needs, our Human Resources Department activated their command center to address the needs of our people with counseling support, emergency housing, and emergency financial grants to name but a few of the areas they worked on diligently to address as quickly as possible. Watching the various command center functions work in parallel and seamlessly is much like experiencing a professional symphony orchestra perform.

■ JH

How were you able to move such a large amount of supplies out and back?

■ SS

Think “Berlin Airlift;” it was just that pronounced! First, all of the supplies needed to be removed from the hospital and subsequently destroyed or donated to one of our partner medical supply repurposing organizations. Then every inch of the hospital had to be terminally continued from page 6 continued on page cleaned to get ready for reopening. As all of that was

occurring, caravans of 40 foot trailers were arriving on a continuous basis with fresh medical supplies that were offloaded and staged for restocking in the clinical areas that were determined to be clean and ready for reopening.

■ JH

How did you keep track of all the supplies coming out and in? How was this coordinated?

■ JW

In retrospect, we wish we had done a better job tracking supplies. We started with our list of what we should have had (e.g., matching crash cart lists) and reconstituted our hospital.

■ SS

This was handled locally with a lot of help from the regional and national supply chain teams not to mention volunteers from other medical centers within our Northern California Region who pitched in and assisted with this huge task.

■ JH

Any closing thoughts?

■ SS

With everything that Josh described, one of the key points I would like to stress is that there were NO untoward patient events as a result of the total evacuation. That is truly amazing!

Editor's Notes:

A true emergency evacuation of a healthcare facility is a daunting prospect. Making sure basic medications, patient care supplies, and key belongings are easy to organize and transport is important. Evacuation equipment education and training are important, but so is the education of command and unit staff about when and how to evacuate versus a true emergency evacuation shelter in place. Facility-specific templates can often be used to predict EMS needs, saving precious resources that would be dedicated to conducting a realtime assessment. EMRs often contribute to challenges during evacuation events; printing "face sheets" for patients at the first sign of danger (e.g., a tornado warning, communication with first responders) can help the evacuation (and patient tracking and relocation) run more smoothly. Using all transportation options available is key, as EMS resources may be committed to responding to the community. Medical personnel must be prepared to accompany patients in non-traditional vehicles. Finally, patients will often continue to present to "closed" facilities and families will call seeking information when they hear about the evacuation – make sure your plans address continuity of services as well as a process for reopening a closed campus.

