



Rady Children's Hospital Wildfires Emergency Response Plan
San Diego, CA

Team 3

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Preface

Wildfires are a significant hazard to communities in San Diego and surrounding counties and can occur naturally or be caused by humans. Historic wildfires that occurred in San Diego are the October Fires, otherwise known as Cedar, Paradise, Otay, and Roblar Fires, in 2003.¹ This group of fires took over two months for containment, and 392,161 acres burned. Another set of wildfires called the Harris, Witch, Rice, Poomacha, and Horno fires arose in 2007. The damage from the 2007 wildfires was comparatively less, attributed to San Diego County taking steps to ensure not to encounter similar damages after the 2003 wildfires in San Diego.⁴

There is a higher likelihood of wildfires occurring now more than ever. There is also the threat of widespread and lengthy smoke exposure from wildfires as recent as the June 2023 Canadian wildfires have shown. Over 100 million Americans were at risk of exposure to hazardous levels of particulates. Particle exposure has occurred in California and other wildfire-prone areas, posing a particular threat of adverse outcomes; in the elderly, young children, pregnant women, and respiratory patients, including those with asthma, chronic obstructive pulmonary disease (COPD), etc. Due to climate change, there are higher global temperatures, generally a lack of rainfall, and drier conditions in California. When soil and vegetation are dry, they are more flammable, and winds, such as the Santa Ana winds, can rapidly spread wildfires.^{2,6} While Santa Ana winds don't cause wildfires, the winds can eliminate moisture in the air near the ground. Additionally, they pushed dust and smoke out into the surrounding areas.⁶

Finally, wildfires may be caused intentionally or unintentionally by humans. Poorly attended campfires, untrimmed brush, and vegetation near homes in high-risk areas, improperly disposing of cigarettes, leaving campfires unattended, and using fireworks and burning debris and other activities may lead to massive destruction. In addition to wildfires that are unintentionally caused by human neglect, there may be criminal activity with purposeful arson.

Over 122,000 properties in San Diego, representing 44% of all properties in San Diego.⁷ In the event of a Wildfire in San Diego, access to emergency services and evacuation may be blocked if they are in the path of the fire. In the case of wildfires near a healthcare facility such as Rady Children's Hospital, there is the real possibility that the hospital may need full evacuation. Hospitals have large occupancy, and preparedness plans are necessary to ensure staff training is up to date., whether it is to make tough decisions on who should be evacuated or deliver medical care to patients. The San Diego Fire-Rescue Department must also act quickly to contain the fires.

Signature Page

By signing below, you acknowledge that the emergency response plan meets your understanding, and is approved for implementing the Wildfires Emergency Response plan at Rady Children's Hospital-San Diego.

Medical Director

Date

Vice President, Chief Quality and Safety Officer

Date

Physician in Chief

Date

Emergency Services Coordinator

Date

San Diego Fire Chief

Date

Mission

Rady Children's Hospital-San Diego was founded in 1954. Their mission is to restore, sustain and enhance children's health and developmental potential through excellence in care, education, research, and advocacy."Rady values are CARE which stands for – Compassion, Accountability, Respect, Excellence, and Service – with patients, families, visitors, the community, and our team members.¹⁰

Statement of purpose

This plan aims to establish protocols in the case of a wildfire within Rady Children's Hospital and the surrounding area. This protocol will coordinate what agencies or departments are responsible for managing specific tasks during an emergency. It will also reduce the county's loss of life and property due to wildfires.

Authorities

County Ordinance 9970: states that CAO is the Director of Emergency Services in case of an emergency and is responsible for the operational response

Master Mutual Aid Agreement - brings together California political, public health, and disaster agencies and outlines sharing of resources for various disasters regarding fire, police, medical, communication, and transportation.

Emergency Managers Mutual Aid - outlines policies and provides professional emergency management personnel to support disaster operations.

Emergency Management Assistance Compact - allows states to send resources such as personnel and equipment to assist with disaster response and recovery in other states.

Operational Area Emergency Operations Plan (Annex A)- Emergency Management

Operational Area Emergency Operations Plan (Annex B)- Fire and Rescue Mutual Aid Operations

Operational Area Emergency Operations Plan (Annex D)- Mass Casualty Incident Operations

Rady Children's Hospital - HCG, made of specific individuals, convenes at EOC. HCG is made of Administrator on-call, Public Information Officer, Safety and Liaison Officer, etc.¹⁰

The Board of Supervisors, CAO, or Director of Emergency Services initiates the proclamation of a Local Emergency. If CAO is unavailable, successors include ACAO, DCAO of Public Safety Group, and Director of EOS. The Board or City Council can request further activation of the proclamation of a Local Emergency; in this case, the

Governor may proclaim a State of Emergency, which can allow for State resources (National Guard, etc.) to be included and provides the chance for President to step in and declare an Emergency or Major Disaster wherein Federal disaster assistance and resources can be used.

Definitions

Wildfire- A natural disaster that can be caused by natural or man-made causes. Wildfires can be deadly, costly, and spread widely and quickly, especially with dry climates and increased climate change.

Physician-in-Chief- Refers to the physician(s) appointed by the Board of Directors to be responsible for general management of the medical activities of the Hospital.

Emergency Services Coordinator: Performs liaison, coordination, communication, training, and administrative support.

San Diego Office of Emergency Services (OES) is responsible for alerting and notifying respective organizations in case of disaster. Also coordinates and commands the agencies that respond and ensures resources are available and mobilized. They are in charge of developing plans for response, mitigation, and recovery during disasters as well as sharing preparedness information and resources with the public.

ACAO- Assistant Chief Administrative Officer

Unified Disaster Council (UDC)- the governing body of the San Diego County Emergency Services Organization, consisting of the San Diego Board of Supervisors with representatives from 18 incorporated cities. Provides the coordination of plans and programs to ensure safety in case of emergency

EMAP - Emergency Management Accreditation Program

EOC- Emergency Operations Center

CAO- Chief Administrative Officer or Director of Emergency Services– if the disaster occurs in more than one jurisdiction, the CAO will become the Coordinator of Emergency Services to coordinate resources

CRO- Chief Resilience Officer

OA- Operational Area

DCAO- Deputy Chief Administration Officer

HCG- Hospital Command Group

Communication Plans

Wildfires are unplanned and uncontrolled, leaving little time to notify those affected. Alert systems require multiple tactics, including smartphone technology. Alert San Diego sends texts to smartphones advising residents of disaster emergencies. Rady Hospital should have its own app, and primary contacts on patients should be alerted of the wildfire. All departments within the hospital should be alerted of the wildfire, and patients and staff should be guided to an emergency exit.

Furthermore, law enforcement vehicles have Hi-Lo plans to inform civilians of evacuation orders. One alerted first responders can coordinate with police and fire teams implementing practical efforts to evacuate patients and staff from the hospital before the increased risk of death ensues. Twenty-Four Hour Fire and dispatch centers stay highly alert to track and coordinate.

Mutual Aid Agreement

San Diego County Chief Resilience Officer and the OA fire and rescue coordinator would direct emergency management of a San Diego Wildfire per the Office of Emergency Services (OES). Fire and rescue coordination efforts will follow guidelines already implemented by the State of California and California Fire Assistance Agreement (CFAA), ensuring areas with the greatest need have resource availability on demand as disaster events unfold. Annex B efforts connect with the local county Sheriff and Coast Guard when helicopter aid is needed. On-the-ground efforts directing traffic and supporting medical response teams take a whole county approach alerting multiple community emergency management systems and their local hospitals.

CONOPS Outline (Part VI)

Assessing the needs of patients (children and adults) affected by wildfires close to Rady Children's Hospital

When wildfires occur, they release smoke, dirt, and soot into the air. When inhaled, this can cause significant respiratory problems, especially in children. Pulmonary issues have increased emergency visits to Rady Children's Hospital in San Diego. Rady Children's Hospital should make plans to accommodate and provide care for the increased number of child patients due to the wildfires.¹ While it is important to have a plan that enables new patients that come in to have quick and accessible care, it is equally important to have an evacuation plan put in place. Any patients who need to be supported by medical equipment should be evacuated safely to another hospital that isn't as affected by the threat of wildfires.

Rady Children's Hospital can boast over 500 beds as the largest Children's Hospital in the West and is a dedicated pediatric trauma unit. Patients in a wildfire emergency are assigned to beds preparing for medical services and surgeries or in recovery from one of the ten pediatric specialties offered by the Hospital. The risk of evacuating patients could mean life or death for those receiving specialized care or stabilizing on life-saving machines. Preparedness planning aims to keep a certain number of available beds open during wildfire support prepared mindfulness by Healthcare Administrators and their management teams.

Rady Children's Hospital's design of a fully functioning pediatric trauma center in the event of a wildfire ranks Nationally to withstand the onslaught range of emergent needs. Many adults close to the Hospital will also seek medical attention. They may need triage and treatment to help children exposed to fire and smoke. Emergency preparedness in this hospital requires a certain amount of adult supplies to sustain possible staff injuries and the adult population surrounding the hospital. Adult patients stabilized at Rady before transportation to local hospitals with acute open beds. Depending on resources used to fight the wildfire, EMS transportation by air and ground could see delays keeping adults in the pediatric units longer and taking up available space needed for children.

Matching available resources to the needs, including how you will address the needs of vulnerable populations

When a wildfire is underway nearby, Rady Children's should continuously monitor the air quality index(AQI) to act quickly if air quality becomes severe. The hospital can set alerts to be alerted when the air quality in San Diego is unsafe. Mobile apps such as

Breathewell can provide air quality information. They should also plan to have ambulances ready to take patients who need to be connected to medical equipment from Rady Children's Hospital to another hospital. Rady Hospital has a Pediatric Transport team and a Neonatal Transport team equipped with medical equipment and trained staff.² The team offers 24-hour service and will take patients to a safe medical facility during an emergency. Furthermore, multiple escape routes and signs should point to the nearest ones in an emergency. N95 masks should be worn to protect individuals from particles from the wildfire.

Hospitals rely on massive supplies and necessary staff to maintain the community during a wildfire, and Rady Children's Hospital must assume the worst in emergency preparedness scenarios. Supply shipment sources identified early for multiple points of entry to the hospital to prevent a lack of supplies in an emergency. The hospital can only sustain helping those needing medical attention if it receives an influx of supply delivery. Establishing warehouse storage within a short distance of the hospital is vital to maintain a positive supply chain. Coordinating with local medical supply representatives and including providers in emergency preparedness discussions ensures correct item availability during an emergency.

Evaluating the effectiveness of the disaster response.

It is important to evaluate how effective the facility's disaster response is in the event of a wildfire. Assessment of efficacy can be done via drills to understand how well-trained staff react to emergencies. Gaps in preparedness can also be identified via exercises and practice scenarios. Emergency protocols will be provided to staff and made accessible to all employees within the facility so they may become familiar with policies and procedures that will be relevant in the event of a wildfire. Training procedures and programs will also be undertaken to prepare staff well and ensure everyone is on the same page. Communication plans that each staff member can adhere to will also help create effective disaster response.

It is essential, also, to get feedback from patients and their families about their feeling of safety throughout the process. This can be done through patient surveys after the emergency event and regular operations are normal. Statistical analysis can help find gaps in preparedness regarding supply availability, bed availability, patient-to-caretaker ratio, response time, and patient death or codes. Any damage to the hospital or related facilities should be evaluated.

Annex 1: THIRA

<u>Natural</u>	<u>Technological</u>	<u>Human-Caused</u>
<ul style="list-style-type: none"> ● <u>wildfires</u> ● <u>earthquakes</u> SD lies close to Elsinor and San Jacinto faults and the Rose Canyon ● <u>flooding</u> occurs in central and eastern parts due to terrain. ● <u>drought</u> dry climate, infrequent rainfall ● <u>landslides</u> occurs due to geology, soil, increased precipitation, land cover, earthquakes, terrain slope 	<ul style="list-style-type: none"> ● <u>infrastructure</u> dam in 1928 failed and killed hundreds of people, releasing billions of gallons of water that traveled 50 miles ● <u>stormwater drain system</u> current emergency renovation of SD's drain system, causing flooding and pollution of the ocean 	<ul style="list-style-type: none"> ● <u>drug abuse</u> over 400,000 people aged 12+ misused drugs each year in California ● <u>shooting</u> chances of being involved in a murder or kidnapping are 1 in 253 in San Diego ● <u>cyber</u>

Annex 2:

Training Seminar Title: Wildfire emergency preparedness and Evacuation	
Objectives of your Training Seminar (What mitigation strategy are you advocating?)	Provide education and training to Rady Children’s Hospital staff to prepare for a wildfire emergency. Hospital staff will be ready to evacuate patients during a nearby wildfire when necessary. Transportation will be provided by Air Emergency Lift, Mercy Air, and CHET (Children’s Hospital Emergency Transport).
Estimate Length of Training	Training will be an hour for the review session and an hour for the mock fire drill and will occur every six months.
Target Audience and max size of the audience.	The target audience includes administrative staff, medical staff, housekeeping, janitorial, and management. Training should occur within the different departments and runs every six months to be most effective.
Who would be a good candidate (e.g., structural engineer, health dept. official, first responder?) as Facilitator of this session? Why?	The head of the local Fire Department would be a good facilitator because the fire department knows what to do in case of a large-scale fire. They are well-versed in the potential dangers of fire, such as smoke and oxygen deprivation, and where to focus their resources. They also have the resources, protective gear, disaster plans, and drills.
What do you want community members to do as a result of their attending this session?	<p>After attending this session, staff should have the tools and knowledge for safe evacuation and better wildfire response in case of a wildfire. The training session will include a mock drill - sounding the alarm and running through the action protocol. Staff assigned to their standard floors/routes will act and respond as if the emergency is occurring, testing evacuation and communication protocols.</p> <ol style="list-style-type: none"> 1. One goal is for the staff to be aware of all escape routes within the hospital and where to evacuate patients so they can receive transportation to a secondary facility.

	<ol style="list-style-type: none"> 2. They should additionally be aware of emergency procedures, such as when and how to use a fire extinguisher. 3. Training would also be on air quality safety and ensuring mask distribution to protect patients and staff from smoke and debris from the wildfire. 4. Clinicians in the hospital should be aware of medical protocols to treat patients in an emergency. 5. Staff should know triage directives to prioritize patients for medical attention and transport.
<p>Strategies to increase community uptake of your mitigation (We have lots of valuable links for checklists on the Course Home page under the Important Links page.)</p> <p>List the ones you think might be useful (in the appropriate language), or provide a title or two of a list or handout that you think would be good to give out to attendees.</p>	<p>Prize incentives during training and the mock drill will help to keep staff engaged, with rewards offered upon completion. Another way to keep staff engaged is to reiterate the potential danger of needing to prepare. They could open each session with statistics about people who have died or been majorly wounded and include other instances of performance gaps.</p> <p>Strategies to increase community uptake of your mitigation</p> <ol style="list-style-type: none"> 1. Please refer to the Wildfire preparedness checklist available both in English and Spanish https://www.redcross.org/content/dam/redcross/get-help/pdfs/wildfire/EN_Wildfire-Safety-Checklist.pdf 2. Provide staff with a Map of the hospital 3. Provide an emergency contact list 4. A mock fire drill allows employees to practice mitigation strategies and know what emergency alarms and communication systems sound like during a wildfire emergency. 5. Education on where sprinklers activate, along with training on flammable/combustible equipment and where to locate fire extinguishers.

Annex 3: Short-Term Recovery Strategies

- Stabilization is the main priority during the short-term recovery phase of the disaster response
- The short-term recovery strategies to target stabilization at Rady's include:
 - evacuate patients to third-party facilities (i.e., other area hospitals) so that they can receive necessary medical support
 - ensure patients who get evacuated to other facilities (i.e., emergency shelters or convention centers) are taken care of in terms of shelter, food, and water
 - continue to provide medications and first aid to patients evacuated to non-medical facilities
 - make sure that the vulnerable facility is clear and that any rescue efforts can occur without obstacles
 - Ensure proper staffing rotating schedules to ensure staff recovery time to keep recovery efforts moving smoothly.
 - Communicate resource needs to determine quick re-stock of needed supplies.

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