SB 261 Report – Children's Hospital of Orange County

prepared by: ecom-energy

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INTRODUCTION

Children's Hospital of Orange County (CHOC), now part of Rady Children's Health, was founded in 1964 as the first dedicated children's hospital in Orange County, California. It began as a small 62 bed facility and has since grown into a leading pediatric healthcare system that serves children and families across Southern California. CHOC provides a full range of pediatric services, including specialty care, advanced research programs, and a broad network of outpatient clinics.

CHOC recognizes the importance of environmental sustainability as part of its mission to protect the health and well-being of children and families. The hospital has previously been recognized for participation in sector-wide sustainability programs that align with the broader healthcare industry's goals of reducing environmental impact and improving resilience. Over the past decade, CHOC has received multiple Practice Greenhealth Partner for Change Awards, acknowledging its achievements in waste reduction, chemical elimination, sustainable purchasing, and recycling. These recognitions reflect CHOC's participation in initiatives to improve operational efficiency and community health.

Climate-related risks such as heat waves, air pollution, and water scarcity pose direct threats to children's health and to the hospital's operational stability. In response, CHOC is evaluating opportunities to strengthen resilience across its operations, including assessing water-use efficiency, waste-management practices, and procurement processes to identify ways to reduce environmental impact and improve long-term reliability of essential resources. These actions complement CHOC's broader emergency preparedness and patient safety initiatives, ensuring that the hospital remains ready to deliver uninterrupted, high-quality care in the face of environmental challenges.

CHOC's approach to sustainability emphasizes collaboration and shared learning with community and industry partners. The hospital actively partners with local agencies, industry peers, and nonprofit organizations to share best practices and build capacity for long-term resilience. By integrating environmental considerations into facility management, procurement, and community engagement, CHOC is laying the groundwork for a healthcare system that not only heals but also helps sustain the world that future generations will inherit.

In January 2025, the parent companies of CHOC and Rady Children's Hospital San Diego merged to form Rady Children's Health, a nonprofit pediatric health system serving Southern California. Building on a combined legacy of more than a century of clinical excellence, Rady Children's Health is dedicated to advancing children's health through leading-edge research, innovative treatments, and compassionate care. With three hospitals and multiple primary and specialty care clinics, Rady Children's Health is committed to serving their local communities while providing the benefits of an integrated organization.

ABOUT THIS REPORT

This report has been developed in alignment with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), established in 2015 by the Financial Stability Board (FSB). TCFD provides a globally recognized framework for organizations to disclose climate-related risks and opportunities in a structured, transparent, and decision-useful way. Its recommendations are widely supported by regulators, investors, and businesses, and they form the foundation of emerging disclosure mandates such as California's SB 261, as well as the U.S. Securities and Exchange Commission's (SEC) proposed climate disclosure rule.

The following entities are covered in this report:

CHILDREN'S HOSPITAL OF ORANGE COUNTY – CARB Entity # 464893

For Children's Hospital of Orange County, the TCFD framework offers a structured lens to evaluate how climate change and related hazards influence not only our facilities and operations but also our long-term mission to protect children's health. While traditional sustainability reporting focuses on the hospitals impact on the environment, the TCFD framework shifts the perspective to how environmental, and climate related risks affect the organization itself.

Through this disclosure, we identify both acute physical risks (e.g., earthquakes, wildfires, IT outages, utility failures) and transition risks (e.g., regulatory compliance with SB 261, supply chain volatility, cybersecurity, and market expectations). We have also highlighted the financial exposures related to these risks, drawn from Hazard Vulnerability Assessments (HVAs), Emergency Operations Plans (EOPs), and industry benchmarks.

By structuring this disclosure under TCFD's four pillars, we aim to enhance transparency, improve internal awareness, and strengthen decision-making across our system:

- **Governance:** Oversight structures for climate and emergency risks, including board-level accountability and hospital command systems.
- **Strategy:** The actual and potential impacts of material climate-related risks and opportunities on our business and communities.
- **Risk Management:** How CHOC identifies, assesses, and mitigates climate-related risks through HVAs, EOPs, and enterprise risk management.
- **Metrics and Targets:** The metrics and performance goals used to track progress, including HVA risk scores, disaster reserve funding, compliance readiness, and net zero targets.

By adopting this framework, CHOC aims to strengthen its capacity to anticipate and manage climate related challenges, protect vulnerable populations, and ensure that children continue to receive safe, high-quality care.

GOVERNANCE

CHOC's climate and sustainability governance is a top-down approach that flows from the executive leadership level down to the facility level, ensuring compliance with regulatory requirements, patient-safety standards, and community resilience goals. The Board of Directors retains ultimate accountability for oversight of risks and opportunities, integrating them into enterprise risk management and long-term capital planning.

The Executive Leadership Team reviews annual HVA's, EOP's, and sustainability performance updates to ensure that physical, financial, and operational climate risks are managed across CHOC's network of hospitals, clinics, and community programs.

Environmental Sustainability Steering Committee

The Sustainability Steering Committee provides enterprise-level guidance and decision making on environmental and climate initiatives. This group collaborates with the leadership team to recommend goals, endorse major initiatives, and ensure alignment with CHOC's operational priorities. The Steering Committee reviews facility resilience and sustainability performance each year, identifying opportunities to improve efficiency, reduce waste, and strengthen environmental stewardship.

Environmental Sustainability Steering Committee:

- Mary Zimmer, VP Operations
- Paul Van Dolah, Chief Transformation Officer
- Mark Steiman, VP Human Resources Service Delivery
- Mike Weiss, MD VP Population Health
- Lindsey Adjalet, VP Chief of Staff for CEO
- Rachel Rolnicki, Director Governor Affairs
- Bill Rhode, CFO
- Mervyn Simon, Executive Director Facilities Management & Support Services
- Waldo Romero, VP Planning, Design, Construction

Environmental Project Leadership Team

The Environmental Project Leadership Team partners closely with the Environmental Steering Committee to guide operational execution of CHOC sustainability and climate resilience initiatives. The team includes representatives from facilities, supply chain, clinical operations, environmental services, and human resources. Together they coordinate data collection, compliance activities, and performance tracking related to state climate reporting requirements including SB 261.

The Environmental Project Leadership Team facilitates cross functional workgroups that focus on key areas such as Energy and Water, Communications, Recycling, Procurement, Food Waste, Indoor Air Quality, Clinical Practice, Patient Experience, Recruitment and Retention, and Population Health. Each workgroup identifies opportunities, develops measurable goals, and shares progress with the Environmental Project Leadership Team so that efforts stay aligned with our sustainability roadmap and broader organizational mission.

Environmental Project Leadership Team:

- Mary Zimmer, VP Operations
- Michel Domico, MD Environmental Sustainability Medical Director
- Brando Daniel, Operations Project Manager
- Megan Johnson, Manager Facilities & Maintenance
- Kathryn Burton, Director Patient Family Experience
- Calvin Fakkema, Director Support Services
- Hira Ahmad, MD Surgical Services
- David Frey, Director Materials Management Purchasing
- Andrew Lopez, Manager Environmental Services
- Jill Cuffley, Supervisor Clinical Operations
- Kristin Fisher, Director NICU
- Michelle Foster, Manager Patient Family Experience
- Elizabeth Grant, Director Population Health

Emergency Management and Environment of Care Committees

Climate resilience is further embedded through CHOC's regulatory safety and emergency governance structure. The Emergency Management (EM) Committee oversees disaster preparedness and continuity planning across the enterprise. It ensures that HVAs and EOPs incorporate climate-related hazards, such as extreme heat, flooding, wildfire, and air-quality events, and coordinates drills and training through the Hospital Incident Command System (HICS).

The Environment of Care (EOC) Committee ensures a safe, functional, and environmentally responsible physical environment. It monitors utilities, infrastructure, and facility systems, linking safety performance with energy efficiency and environmental-impact reduction.

Together, the EM and EOC Committees provide essential data and operational feedback to the Sustainability Leadership Team, ensuring that climate adaptation, emergency readiness, and environmental performance are aligned.

Reporting and Accountability

The Sustainability Steering Committee brings together insights and progress updates from the Environmental Project Leadership Team, and both the Emergency Management and the Environment of Care Committees. These groups coordinate shared sustainability and resilience priorities such as energy and water performance, waste reduction, climate preparedness, and environmentally preferred purchasing. The Steering Committee helps ensure that each group's work is aligned with CHOC's mission and that accountability is shared across leadership, operations, and community partners. Together, these teams create a unified approach where sustainability is embedded into decision making across planning, facilities, and patient care rather than functioning as an isolated initiative.

STRATEGY

Enterprise-Wide Climate and Emergency Resilience Vision

Children's Hospital of Orange County is a pediatric health system committed to safeguarding patients, families, and staff through an integrated all-hazards strategy that embeds climate and disaster resilience into clinical operations, capital planning, and financial management. The strategy aligns with the TCFD framework and California Senate Bill 261, ensuring that climate-related risks and opportunities are considered in governance, strategy, and risk management across the enterprise.

CHOC's approach is guided by the Emergency Management and Environment of Care Committees, which jointly oversee the Emergency Operations Plan for the hospital campus, the Southwest Tower, and all affiliated outpatient centers. These committees ensure that resilience efforts advance the hospital's mission to provide uninterrupted pediatric care while meeting state and federal regulatory requirements such as CMS § 482.15 and Joint Commission EM standards.

Integrating Climate Resilience into Core Operations

CHOC's enterprise-wide EOP integrates the findings of annual HVAs from each clinical site. These HVAs identify and rank the events most likely to disrupt operations, including earthquakes, severe storms, flooding, wildfires, pandemics, and heat or drought conditions. Each risk scenario informs both facility-level continuity plans and system-level resource allocation. By maintaining an adaptive "all-hazards" posture, CHOC ensures that climate-related threats are managed alongside other critical hazards such as cyberattacks or supply-chain interruptions.

Infrastructure and Facility Resilience

The EOP emphasizes investment in facility resilience and utility reliability:

- Redundant power, HVAC, and water systems are designed to support full clinical operations during extended outages.
- Clinics maintain disaster boxes, backup lighting, and first-aid supplies for autonomous operation if the main campus is affected.
- The Southwest Tower expansion incorporates updated seismic and energy-efficiency standards to reduce both carbon footprint and exposure to physical damage

CHOC also coordinates with the Orange County Health Care Agency, the Southern California Pediatric Disaster Coalition, and local utilities and suppliers to strengthen regional redundancy for fuel, water, and communication infrastructure. In addition, CHOC is enrolled in a Strategic Energy Management (SEM) program funded by the state and administered through the utility.

The SEM program includes energy management training and education for staff; tools, templates and other resources to implement SEM; coaching and mentoring at different organizational levels, ; technical assistance, including site visits to help staff identify energy load and energy-saving opportunities;

quantify and document energy savings; financial incentives for energy savings and milestones associated with SEM activities.

Business Continuity and Operational Readiness

Through the Hospital Incident Command System, CHOC maintains a clear chain of command for disaster response, ensuring that each clinical site can continue providing essential care. Every facility has a Lead Person authorized to activate a Code Triage and transition authority to the Hospital Command Center (HCC) within minutes of an incident.

Continuity objectives include:

- Rapid redeployment of staff through an Emergency Labor Pool.
- Maintaining essential services through alternative methods of operation when normal systems are disrupted.
- Priority restoration of pediatric intensive care and emergency services.

Risk Transfer and Asset Protection

CHOC maintains a comprehensive, multi-layered insurance and risk management program designed to reduce the financial impact of both acute and chronic hazards. The program covers property, business interruption, general and professional liability, and governance-related exposures.

Annual policy reviews to confirm that coverage levels remain aligned with the organization's evolving risk profile and regulatory expectations. These reviews are coordinated between the Finance, Legal and Insurance teams to ensure that financial protection complements facility exposures and resilience planning under EOP.

By combining insurance coverage with proactive disaster preparedness and infrastructure investments, CHOC can protect its patients, staff, and community from the financial and operational impacts of climate-related and other physical hazards.

Resource Optimization and Investment Prioritization

Insurance considerations, HVA findings, and business continuity insights are incorporated into ongoing reviews by the Emergency Management and Environment of Care Committees. These committees evaluate risks, After Action Reports, and program updates to inform recommended improvements to infrastructure, operations, and preparedness. Senior leadership uses these recommendations to guide capital planning discussions through established facilities and finance governance channels. This approach helps ensure that resilience focused projects, including seismic improvements, efficiency and operational upgrades, or potential distributed generation , receive appropriate attention during capital prioritization.

Collaboration and Regional Partnerships

CHOC's strategy recognizes that pediatric resilience is inseparable from community resilience. The organization collaborates with:

- Local and regional emergency networks, including the Health Care Coalition of Orange County and OC Multi-Agency Disaster Network (OCMAD).
- Municipal partners (Santa Ana and Orange fire departments, law enforcement, and public works) for joint drills and infrastructure coordination.

Through these collaborations, CHOC expands its impact beyond hospital walls and actively contributes to coordinated regional efforts supporting climate resilience and emergency preparedness.

Scenario Planning and Forward-Looking Approach

CHOC conducted dual scenario analyses to evaluate organizational resilience under both low-warming (1.5–2 °C) and high-warming (3–4 °C) climate pathways. These scenarios integrate hazard-risk data from HVAs, financial modeling of uninsured losses, and compliance considerations associated with SB 261.

CHOC's loss estimates were derived by combining HVA probability scores with financial data from its audited FY 2024 statements, insurance coverage limits, and FEMA/HHS disaster-cost benchmarks to model potential capital damage, business-interruption (BI), and surge-response costs. Each scenario integrates independent hazard-damage estimates with audited asset values to determine total exposure, then applies insurance coverage data to calculate residual, uninsured financial risk. This approach ensures risk-reduction measures are prioritized based on true exposure rather than policy limits. Quantitative loss estimates are presented for the high-warming pathway, while the low-warming pathway focuses primarily on transition-risk considerations.

- Low Warming (1.5–2 °C, induces high policy response, less physical/ catastrophic): In a coordinated global effort to limit warming to 1.5–2 °C, physical risks such as extreme heat, wildfire smoke, and utility interruptions are reduced through stronger infrastructure standards, public-health investments, and statewide resilience programs. Transition risks, however, increase as new climate-related disclosure requirements and reporting mandates expand under SB 261 and future state and federal rules. CHOC faces moderate compliance and data-management costs associated with disclosure readiness, facility upgrades, and supply-chain transparency. Capital priorities gradually shift toward enhanced building efficiency, equipment modernization, distributed generation, and facility electrification where feasible. These initiatives strengthen CHOC's operational reliability, reduce long-term risk exposure, and align the system with California's broader decarbonization framework while preserving financial stability.
- High Warming (3–4 °C, high physical risk, limited policy response): In a high-warming scenario, CHOC faces escalating exposure to regional heat waves, wildfire smoke, flooding, and seismic events. Modeled catastrophic asset losses range from a total of $175 million to $320 million, encompassing facility repair and restoration costs along with business-interruption losses of

$35–$55 million over a multi-month recovery period. Earthquake impacts account for approximately $110–$170 million in structural and equipment damage and $20–$35 million in revenue loss. Flooding and storm damage contribute an additional $65–$150 million, while utility interruptions and cyber disruptions result in $5–$10 million in short-term operational costs. Such losses would significantly strain CHOC's financial capacity and highlight the importance of maintaining strong reserves and continuity plans that protect critical pediatric and intensive care services. These results reinforce the need for ongoing facility modernization, emergency-power reliability, and regional coordination to safeguard operations and financial resilience under a changing climate.

Short Term (0 to 3 Years)

In the near term, CHOC is likely to experience the direct effects of extreme heat, wildfire smoke, and localized flooding, which can strain HVAC systems, increase emergency visits, impact utility operations, and interrupt deliveries of medical supplies. The immediate financial impact may include higher insurance deductibles and increases in energy costs as utilities work to improve their infrastructure. These challenges also create immediate opportunities to improve resilience, such as securing grant funding for energy-efficient upgrades, strengthening supply chain redundancy, and expanding telehealth capacity to maintain patient care during temporary service disruptions.

Medium Term (3 to 10 Years)

During the next decade, CHOC expects more frequent heat waves and regional droughts that may raise electricity and water expenses while testing cooling and plumbing systems. Infrastructure and regulatory updates will likely require more capital spending, but they also create an opportunity to modernize facilities with electrification, renewable-ready equipment, and efficient water systems. Building these improvements into regular renovation cycles can reduce long-term operating costs and demonstrate leadership in sustainable healthcare. The hospital can also use this period to link sustainability performance with community partnerships and donor engagement.

Long Term (10 Years and Beyond)

With a longer horizon, climate change may alter disease patterns, leading to greater demand for pediatric respiratory and heat-related care. Prolonged stress on regional utilities and transportation networks could threaten access to essential services. These risks highlight the need for CHOC to embed climate resilience into every stage of its facility master plan. Long-term opportunities include adopting low-carbon design standards, campus electrification, investing in renewable power and energy storage including microgrid functionality, and strengthening collaboration with local health agencies on preventive care and education. By integrating climate foresight with health equity goals, CHOC can sustain its mission and serve as a model for pediatric climate resilience in Southern California.

Physical Risk Assessment

Based on CHOC's Hazard Vulnerability Analyses, the most significant physical and operational risks stem from earthquakes, IT outages, infectious-disease events, and supply-chain disruptions.

- Earthquakes: 59 % High
- Supply Shortage: 32 % Medium
- Pandemic/Biological Event: 28% Medium
- Cybersecurity Incident: 22% Low
- Flood and Storm Damage: 21% Low

EARTHQUAKES

Earthquakes represent the largest single exposure, with a 59% risk rating and the potential to cause $110–$170 million in structural and equipment damage, along with $35–$55 million in business interruption over several weeks of reduced service capacity.

SUPPLY CHAIN

Supply-chain disruptions pose a 32% risk rating, translating into $10–40 million in annual procurement volatility and cost escalation.

INFECTIOUS DISEASE

Infectious-disease events, including pandemics or severe influenza seasons, have a 28% risk rating and are modeled to generate $12–25 million in surge-response costs and elective-care revenue losses.

IT & CYBER SECURITY

IT outages and cyber incidents carry a 22% combined risk rating and could result in $15–$30 million in business interruption and $5–$10 million in remediation costs, partially mitigated through redundant IT systems and cybersecurity protocols.

FLOOD & STORM DAMAGE

Flood and storm damage carry a combined 21% risk rating and could result in $20–$45 million modeled exposure for low-elevation and utility-dependent sites.

To mitigate these risks, CHOC's Hazard Vulnerability Analyses indicates a continued need to enhance seismic resilience, improve IT redundancy and cybersecurity defenses, strengthen emergency resource availability, and maintain reliable supply-chain partnerships to ensure continuity of critical pediatric and intensive-care services during future disruptions. Table of mitigation and responses for each risk is available on pg. 17.

Transition Risk Assessment

CHOC faces growing transition risks as California's healthcare sector adapts to emerging climate-disclosure regulations, decarbonization mandates, and market shifts driven by sustainability requirements. These risks primarily arise from regulatory compliance pressures, rising insurance costs, and supplier-driven cost escalation as vendors invest in lower-carbon manufacturing and logistics.

Insurance and financial exposures are expected to increase as property, earthquake, and cyber premiums trend upward, projected at 8–12 % annually, reflecting broader market volatility and increased claims tied to climate-related events. At the same time, regulatory developments such as SB 261 and SB253 will require significant organizational effort to quantify, manage, and disclose greenhouse gas emissions across all scopes, including supply-chain activities.

Medical-surgical, pharmaceutical, and PPE procurement represent the largest components of CHOC's Scope 3 medical spend, exposing the organization to indirect transition risks as suppliers begin to integrate emissions reporting, carbon-pricing adjustments, and sustainable products and practices into their pricing structures. Over time, these factors may increase procurement costs and introduce greater variability in contract pricing and availability.

While CHOC is still in the early stages of understanding its transition risk profile, the organization's future involves implementing a robust emissions tracking program, , supplier engagement, and financial risk modeling to meet compliance expectations. Addressing these gaps will be critical for maintaining cost stability, ensuring transparency, and aligning statewide climate disclosure and decarbonization requirements.

Strategic Objectives through 2027

1.	Integrate new and existing facilities into the CHOC Enterprise Emergency Management Program to ensure a consistent command structure, coordinated communication, and alignment with the Hospital Incident Command System (HICS) for all response and recovery activities.
2.	Maintain a state of readiness through continuous planning, training, and evaluation of emergency response systems, ensuring that each department and clinic can maintain essential services during an incident and rapidly transition to recovery operations.
3.	Identify and provide alternative methods of operation to extend scarce critical resources across CHOC to sustain patient care and critical functions during extended utility outages or regional disasters.
4.	Coordinate with public health agencies, local emergency services, and utility providers to ensure mutual support, communication, and situational awareness before, during, and after an incident.

5.	Conduct annual drills and exercises that test the effectiveness of the Emergency Operations Plan, HICS structure, and staff roles, incorporating after-action reviews and improvement plans into program updates.
6.	Review and update HVAs and emergency-management documentation annually, ensuring consistency across enterprise systems such as VEOCI and linkage to financial and operational risk-management processes.

CHOC Emergency Operations Plan (EOP) 2025 to 2027

Strategic Outcome

By integrating physical resilience, financial safeguards, and climate adaptation into one framework, CHOC's strategy ensures that pediatric healthcare delivery remains continuous, safe, and financially sustainable under both near term disasters and long-term climate transitions.

These efforts began several years ago as CHOC recognized the need for more optimized energy and sustainability management. The organization was among the first commercial facilities in the local region to install electric vehicle charging infrastructure to support the adoption of emission free transportation. CHOC is now in the final stages of substantially expanding this network, with full deployment planned for 2026, further supporting cleaner transportation for staff and visitors and contributing to broader campus sustainability and resilience goals.

CHOC has also evaluated renewable energy opportunities for the campus and, despite being landlocked, continues to explore creative approaches to integrating distributed generation. In parallel, ongoing water efficiency evaluations are underway to ensure optimal domestic water operations while overall system reliability. Combined with participation in the SEM program, which prioritizes energy efficiency, CHOC is advancing a comprehensive and integrated approach to energy and sustainability management.

Through this approach, CHOC strengthens its ability to plan for environmental and operational challenges while upholding its mission to provide safe, continuous care and promote the health of children and families across the region.

RISK MANAGEMENT

Enterprise Risk and Resilience Framework

CHOC integrates climate, operational, and safety risks into a unified Enterprise Risk and Resilience Framework that supports its mission to advance the health and well-being of children. The framework aligns with regulatory requirements including CMS §482.15, Joint Commission standards, and California Title 22 for water system health and safety, and incorporates findings from our EOPs. Materiality within the HVA is determined based on the potential for a risk to disrupt healthcare operations, jeopardize patient safety, or create significant financial exposure.

CHOC's enterprise approach is informed by its HVA and EOP for each hospital and health-center site. Materiality is defined by the potential for a hazard to disrupt pediatric care delivery, threaten staff or patient safety, or create material financial exposure.

Identification and Assessment

Each facility completes an annual HVA that quantifies hazard probability, human impact, property damage, business disruption, and preparedness. The 2024 HVA identified earthquakes, supply shortages, pandemics, and utility failures as the most significant risks by relative risk score. The findings are reviewed by the Emergency Management (EM) Committee and Environment of Care (EOC) Committee, which aggregate facility-level results into a systemwide profile. Risks are classified by likelihood and time horizon such as short (0–3 years), medium (3–10 years), and long (10+ years), to ensure that both acute disruptions and chronic climate impacts are captured.

Oversight and Accountability

Governance of risk management resides within CHOC's existing emergency-preparedness structure. The EM and EOC committees report through the Safety and Compliance Council to senior leadership, which reviews results during annual EOP and HVA updates. This governance process ensures that climate-related and operational risks are integrated into CHOC's broader strategic and financial-planning cycles.

Mitigation and Response

CHOC employs a comprehensive mitigation and response program rooted in its Hospital Incident Command System (HICS) and enterprise EOP. Each clinical site designates an Incident Commander responsible for activating Code Triage, mobilizing the Hospital Command Center, and coordinating with county and regional partners.

- Seismic and Facility Resilience: CHOC conducts annual structural assessments and maintains redundant power, water, and communication systems.
- Continuity of Operations: Each facility maintains staffing contingency plans, an Emergency Labor Pool, and telehealth capabilities to sustain essential pediatric services during disruptions.
- Supply-Chain and Resource Resilience: The Supply-Chain team coordinates vendor diversification and emergency cache management, ensuring continuity of pharmaceuticals, medical-surgical supplies, and PPE.
- Public-Health and Community Coordination: CHOC collaborates with the Orange County Health Care Agency, Southern California Pediatric Disaster Coalition, and local utilities to strengthen redundancy for fuel, water, and communication infrastructure.

Insurance coverage and reserve funds provide additional financial protection. CHOC maintains comprehensive property, liability, and business interruption insurance programs to offset acute losses. The organization also holds dedicated reserves to support recovery, continuity, and uninsured costs, ensuring that financial stability is maintained through both immediate and long-term disruptions. In alignment with its Emergency Operations Plan, CHOC has evaluated the feasibility of renewable energy and microgrid solutions as part of long-range facility planning. These evaluations have been intended to assess how on-site energy generation or backup storage could reduce reliance on the grid, lower exposure to utility outages, and strengthen operational resilience during disaster events.

Integration of Climate and Operational Risk

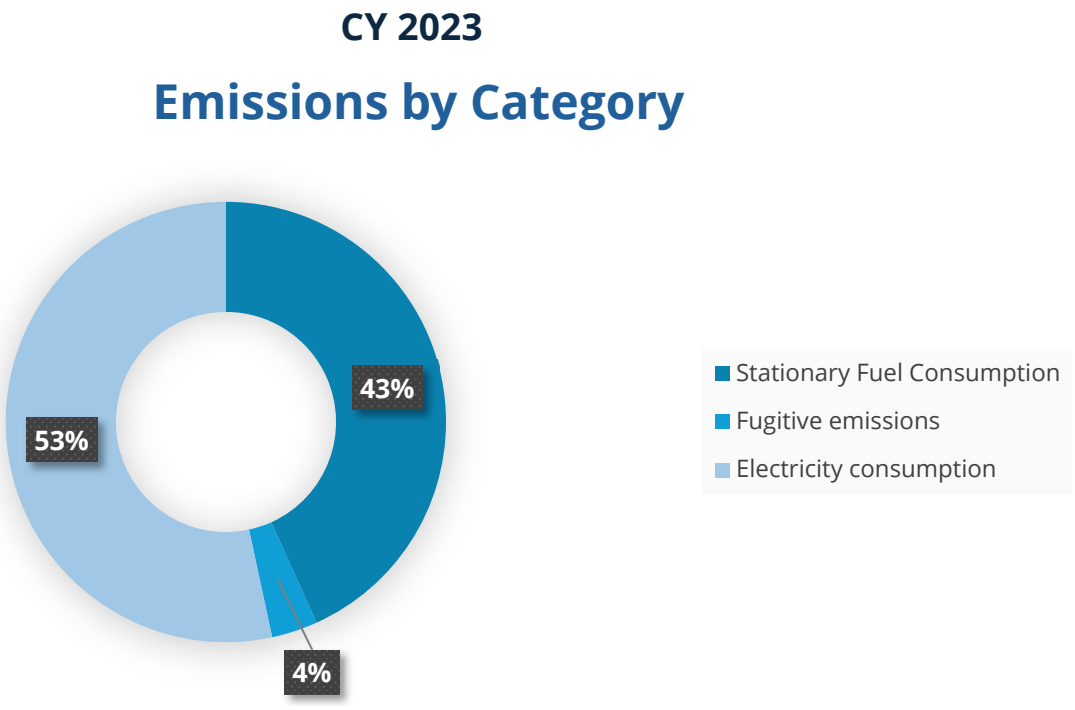
CHOC continues to incorporate resilience considerations into facility planning through projects such as the building of a new tower, the Southwest Tower , which meets current seismic safety standards and includes optimized building systems designed for energy efficiency and operational continuity. To recognize the efficient design and success of the Southwest Tower, we are currently in process of submitting for LEED Certification.

Top Risks, Financial Exposure, and Mitigation

Hazard / Risk	HVA Rating	Potential Financial Exposure	Time Horizon	Mitigation and Response in place	Mitigation recommended
Major Earthquake	59 % (High)	$110–$170 M physical + $25–$50 M Business Interruption (BI) (≈ $135–$220 M total)	Short–Medium	Emergency power with on-site diesel storage (30 k, 10 k, 1.2 k gal tanks); vendor fuel resupply MOUs; HICS activation; evacuation and triage plans	Expand non-structural bracing; update seismic assessment for older facilities; ensure continuity of water and medical gas under seismic conditions
Supply Shortage	32 % (Medium)	$8–$25 M direct + $5–$15 M BI (≈ $13–$40 M total)	Short–Medium	Annual inventory of critical resources (PPE, medications, fuel, water)	Develop supplier MOUs beyond fuel and gas; formalize regional procurement coordination
Pandemic / Biological Event	28 % (Medium)	$10–$18 M direct + $5–$10 M BI (≈ $15–$28 M total)	Short	Infection-control annex; clinic disaster boxes with PPE; staff surge procedures and public-health coordination through OCHCA	Expand telehealth capacity; strengthen cross-facility staff redeployment framework
Wildfire / High Wind	24 % (Low)	$10–$20 M direct + $3–$8 M BI (≈ $13–$28 M total)	Short	Air-filtration and HVAC maintenance protocols; fire-suppression systems; OCHCA smoke advisories	Enhance roof and vent sealing for smoke; evaluate backup cooling for poor-air-quality days
Cybersecurity Incident	22 % (Low)	$10–$20 M recovery + $5–$10 M BI (≈ $15–$30 M total)	Ongoing	Redundant communications (Everbridge, SnapComms, FirstNet, POTS); basic cyber incident protocols under IT continuity plan	Expand cybersecurity training; implement formal incident-response tabletop exercises
Flood / Storm Damage	21 % (Low)	$15–$30 M physical + $5–$10 M BI (≈ $20–$40 M total)	Medium	Drainage maintenance; alternative water delivery agreements; sanitation contingency plans	Conduct flood mapping for low-elevation sites; install water-intrusion barriers where needed
Utility Failure / Power Outage	20 % (Low)	$8–$15 M direct + $4–$8 M BI (≈ $12–$23 M total)	Short	Backup generators tested monthly; fuel contracts; alternative water sources; communication redundancy with FirstNet and radios	Increase on-site fuel duration beyond 72 hours; battery storage systems; distributed generations; microgrids

METRICS AND TARGETS

CHOC has historically invested in improving its energy and sustainability portfolio, including previous efforts to inventory emissions and evaluate resource-efficiency opportunities. Building on this foundation, CHOC is now expanding its benchmarking activities to include comprehensive energy and emissions accounting across the organization, covering Scope 1, Scope 2, and Scope 3 categories. Completing this systemwide baseline will enable CHOC to establish formal quantitative targets and long-term goals that align with state requirements and internal resilience priorities.



Current Metrics in Use

- Hazard Vulnerability Analysis (HVA) Scores: Annual scoring of natural, technological, and human-caused hazards across all CHOC facilities to assess likelihood, severity, and preparedness.
- Emergency Operations Plan Performance Reviews: Tracking completion of annual drills, after-action reports, and corrective-action items to measure operational readiness.
- Facility Resilience Indicators: Documentation of infrastructure reliability, including backup-power testing frequency, HVAC performance during extreme-weather events, and water-system redundancy.

- Regulatory and Accreditation Compliance: Continuous monitoring of CMS § 482.15, Joint Commission Emergency Management, and California Title 22 standards for hospital preparedness.

Future Metrics Under Evaluation

CHOC is assessing additional indicators that will help quantify long-term progress and align with emerging healthcare sustainability frameworks, including:

- Energy and Water Performance: Developing baselines for annual energy use intensity and water-use efficiency to guide capital-planning decisions.
- Waste Management and Diversion: Tracking solid-waste generation, recycling rates, and regulated medical-waste volumes across hospital and clinic sites.
- Supply-Chain Resilience: Measuring vendor participation in sustainability and continuity programs to strengthen procurement risk management.
- Training and Preparedness**:** Monitoring the percentage of staff completing annual emergency response and climate-related training modules.
- Insurance and Risk-Finance Benchmarks: Annual review of insurance coverage limits, deductibles, and business-interruption protection to ensure financial resilience against acute and chronic hazards

Alignment with California's Statewide Sustainability Goals

In developing these metrics, CHOC references the sustainability and climate targets established by the State of California, which serve as key benchmarks for long-term planning:

- **Greenhouse Gas Reduction:** 40 percent below 1990 emission levels by 2030 and net-zero emissions by 2045.
- **Renewable Energy:** 100 percent clean electricity by 2045 under the state Renewable Portfolio Standard.
- **Waste Diversion:** 75 percent reduction of organic waste sent to landfills and 20 percent food-recovery rate by 2025 under SB 1383.
- **Building Performance:** Compliance with Title 24 energy and seismic standards for all new construction and major retrofits.

These policy benchmarks provide direction for future goal setting. As CHOC enhances its data collection systems and reporting processes, it will evaluate how state and sector-wide objectives can be reflected

in hospital-level performance targets while maintaining its mission to deliver safe, high-quality pediatric care.

Path Toward Target Setting

Over the next several years, CHOC intends to formalize key performance indicators that align with both emergency-preparedness standards and statewide sustainability objectives. As data systems mature, the hospital will evaluate setting measurable goals related to:

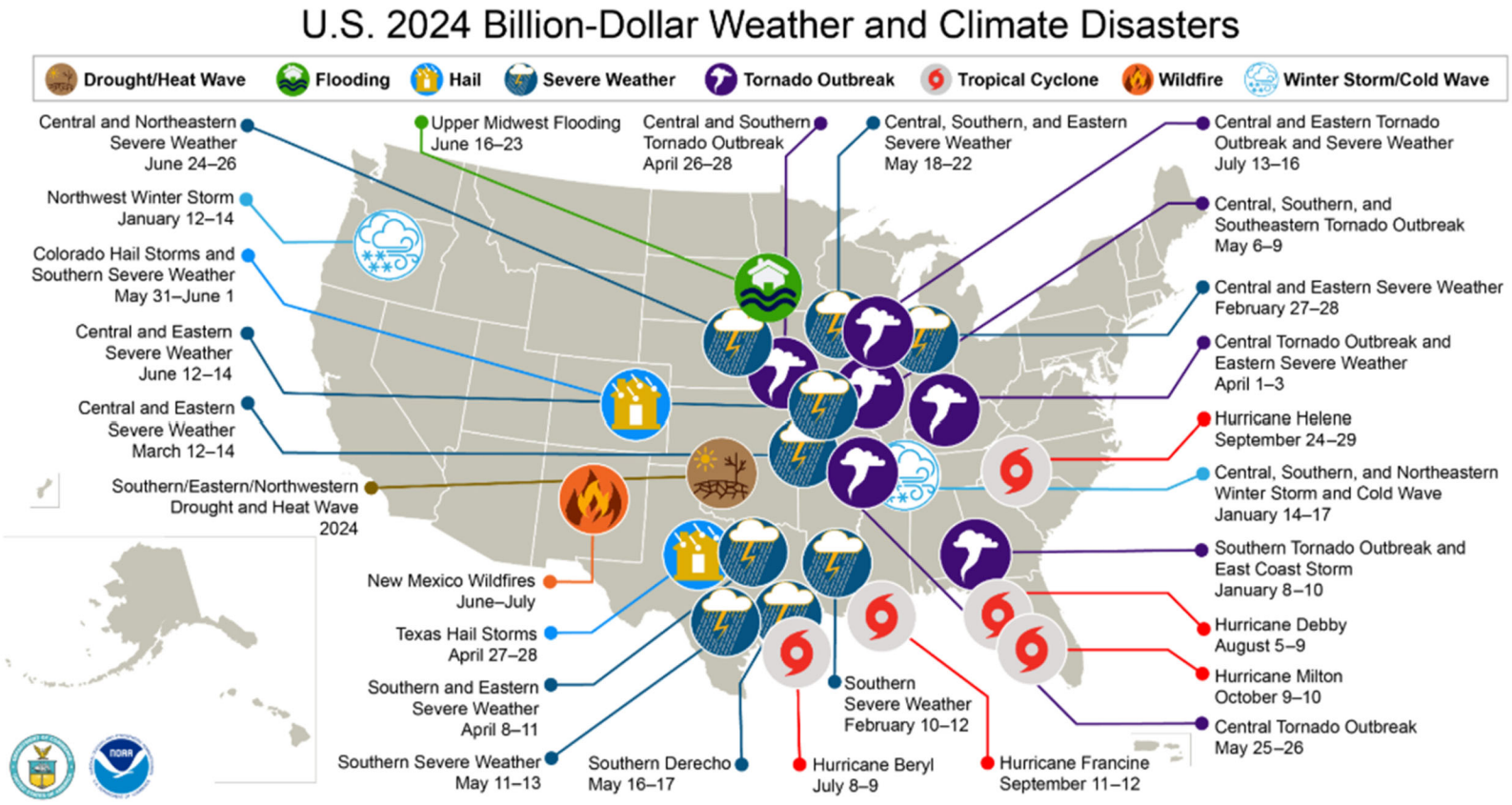
- Facility energy efficiency and reliability
- Waste reduction and material reuse
- Staff training in sustainability

These early metrics provide the foundation for CHOC to build a consistent, transparent measurement framework under SB 261 and TCFD, ensuring that future targets are evidence-based, achievable, and directly linked to operational resilience and patient safety.

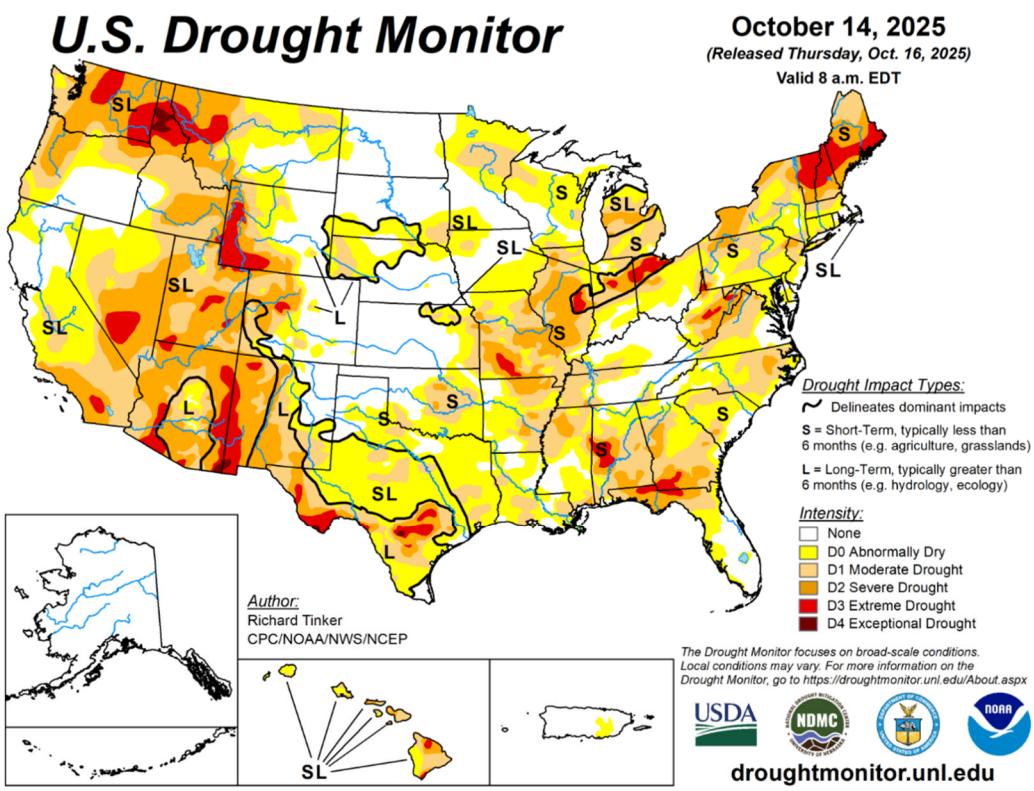
APPENDIX A

- Quantitative ranges (e.g., potential earthquake losses) are modeled estimates based on CHOC's risk priorities, insurance program data, and FEMA/ASHE loss-ratio benchmarks.
- Pandemic and infectious-disease risk estimates (ie. % likelihood, surge-response cost) are modeled using CHOC's HVA probability ratings, COVID-19 expense experience, and FEMA/HHS reimbursement data. Figures represent illustrative scenario ranges rather than internal accounting data.

APPENDIX B



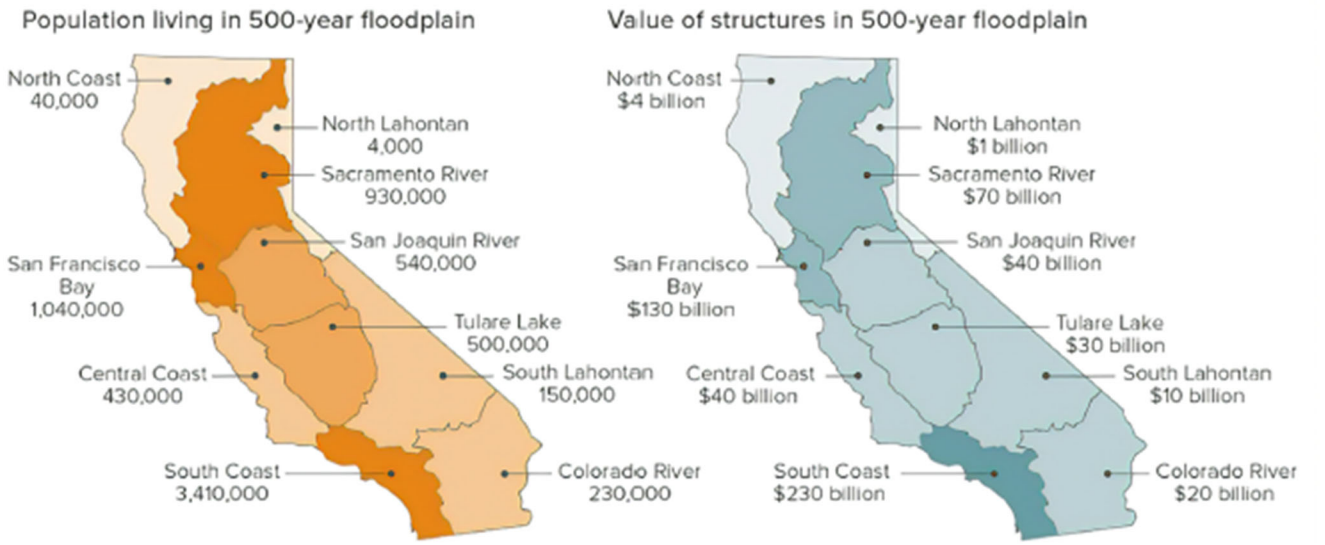
*This map denotes the approximate location for each of the **27 separate billion-dollar weather and climate disasters that impacted the United States in 2024.***



2025 Wildfire Incidents Summary in California

The image below illustrates the number of wildfires which occurred in 2025 and their detrimental impacts.

Floodplain Risks in California



Southern California Fault Line Map