UCI Health

Community Engagement Strategies for Building Equitable Climate Resilience

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INTRODUCTION

Climate change is a serious threat to human health, and health care systems can be a catalyst in creating a climate resilient future. Extreme weather events fueled by climate change are occurring more frequently, and in California, we are particularly prone to severe heat waves, prolonged drought, uncontrollable wildfires, increased flooding, and poor air quality. The impacts of extreme weather events on public infrastructure can have devastating effects and are threat multipliers for the social determinants of health, affecting the availability of safe and affordable housing, compromising food and water security, and harming community health and safety – particularly for the most vulnerable members of our communities. As <u>anchor</u> <u>institutions</u>, hospitals are responsible for ensuring that their communities are healthy, safe, and resilient. This creates a call to action for health care organizations to engage with the public outside the hospital walls and to assess and address climate risks in the communities they serve. Equity-centered community resilience is achieved through intentional engagement of residents and community leaders, sustained collaborative partnerships, and decision-making that prioritizes the social and physical

IMPACTS OF A CHANGING CLIMATE

Climate change is causing a significant increase in global temperatures. The rate of warming has accelerated in recent decades, with the past decade being the warmest on record. Extreme heat kills more Americans every year than any other weather-related disaster. According to NOAA, excessive heat claimed an average of 158 lives per year in the U.S. from 1992 through 2021. During the September 2022 record-breaking 10-day heat wave in California, there was a 5% increase in deaths - 395 more deaths than expected, according to the California Department of Public Health (CDPH). There were approximately 4.2 deaths per million Californians that same year in which heat exhaustion was an underlying or contributing factor. While the statistics are striking, CDPH believes heat-related deaths and illnesses are often underreported and the numbers are likely much higher than what has been documented.

Densely populated cities throughout Orange County, California experience the *heat island effect*. This occurs in infrastructure that best addresses the needs of a given community. This toolkit was created as a resource for health care facilities focused on external engagement in the context of climate resilience. Our hope is that the tactics and resources shared can act as examples for how to engage with community members to co-design innovative and effective climate resilience solutions.

urban areas where heat is trapped within the city caused by uneven, inequitable spread of landcovers in the urban landscape, leading to more heat-absorbing buildings and pavements and fewer cool spaces with trees and greenery. Researchers have found that intra-urban heat islands are often linked to demographic factors such as income and race, with a disproportionate impact on lower income communities and communities of color. Santa Ana, California, where UCI Health Federally Qualified Health Center is located, is an example of a densely populated city in Orange County that experiences the heat island effect and is susceptible to its impacts. In 2022, Hispanics/Latinos made up 77% of the city's population. The medium household income was \$84,210 compared to \$109,361 for Orange County and the estimated poverty rate was 11.5%. This community is the focus of our external stakeholder engagement for our equity-centered climate resilience planning efforts.

COMMUNITY OUTREACH AND ENGAGEMENT STRATEGIES

Identifying at-risk populations

Health care organizations, to date, have worked to improve their infrastructure resilience to extreme weather events by developing strategies that primarily impact internal stakeholders (patients, staff, visitors). Consequently, they have focused less on the broader definition of health which includes the vulnerabilities faced by their local communities as an effect of climate change. Communities are confronted with unique and extreme climate-related weather risks and have varying levels of resilience to those risks. Social factors affect the capacity of communities to prepare for and recover from the impacts of climate change. Ensuring that all community members have a voice and the opportunity to participate in climate resilience planning is critical – particularly the most vulnerable populations that are often overlooked in planning and decision-making. Centering equity in these processes helps to develop inclusive solutions that work for everyone.

Building key partnerships

Each organization's approach to building partnerships with community members and local agency champions will look different depending on available resources, existing connections, and who is leading the engagement. At UCI Health, we built our approach to establishing community partnerships around inclusivity and including local communities in our equity-centered climate resilience planning process. To build meaningful relationships with community members, we knew we needed to first, establish an outreach team that could immerse themselves in community spaces and events. Small grants and fellowship funding allowed us to bring on graduate fellows as outreach coordinators to lead engagement activities. The fellows are active social justice organizers whose community activism and volunteer work helped connect them to various community-based organizations, initiatives, and community events.

Using the University of California's Framework for I.E.D.I.-Centered Climate Resilience Planning (Justice, Equity, Diversity, and Inclusion), we conducted stakeholder mapping to identify vulnerable groups and at-risk populations. This also helped us narrow the scope of our work and to create a more targeted approach for connecting with diverse community-based organizations that serve these populations. Considering the diversity in the external partners we contacted, we also diversified the methods by which we engaged with them. This prompted our team to develop an engagement plan that included tailored communications and a series of outreach activities and events (e.g. surveys, workshops, and focus groups). Our team has taken the learnings from these experiences and the events that have already occurred, to develop a suite of educational materials to use as tools to deepen our connections with community partners and build upon the resilience work, we have already done.

Methods of engagement Outreach

When the UCI Health team decided to host an in-person workshop to bring together the diverse voices of communitybased organizations, the graduate fellows initiated the outreach by sending emailed invitations to community leaders they met at the various network events. They also leveraged those contacts to identify and invite additional organizations that were important to have at the table. The leaders we reached out to represented community-based organizations supporting efforts around immigration and incarceration, arts and education, labor advocacy, environmental justice, health equity, and LGBTQ+ empowerment. TIP: Think outside the box! Be sure to engage and collaborate with diverse external partners. Although our team's primary focus was the impacts of climate change on local communities, we felt it important to look beyond organizations working squarely in the climate space, and to invite those that support vulnerable populations that are most impacted by the effects of climate change.

Workshops

In August 2023, we brought together 26 stakeholders representing ten community-based organizations to facilitate conversation and planning around collective climate action. We hosted a workshop at UCI Health's community teaching kitchen at the Federally Qualified Family Health Center in Santa Ana. Despite having selected this location based on proximity and accessibility, our team was surprised to learn that many community leaders were unfamiliar with the services provided by the clinic. For example, the space we occupied is used for group cooking sessions for patients and nutritional education programs for the surrounding community. Hosting the event at the clinic proved to be a good opportunity for leaders to learn more about the services the UCI Health clinic provides to the community.



Dr. Jose Mayorga, UCI Health giving the welcoming speech to participants at the workshop

In the workshop, we focused on identifying specific vulnerabilities that impact the residents of Santa Ana using an assessment tool that our team created. This discussion reinforced what was revealed in our literature review and prompted further discussion around how we create opportunities to not only educate community members around the impacts of climate change, but work with them to co-design resiliency solutions.

Tip: Consider whose voices need to be represented and what accommodations they might need to attend your event. Provide childcare, translated materials and interpretation services to allow community members and leaders to participate fully. At outreach events, food was provided, and, in many cases, participants were offered a stipend for their attendance. Participants received a certificate of completion at the end of the workshop signed by UCI Health leadership to honor their time and participation.



Workshop participants receiving their certificate of completion

Tabling

Another type of outreach implemented that we labeled "mobile outreach," focused on direct engagement with community residents. The objective was to document how community members experience climate change in their daily lives. The UCI Health Family Health Center in Santa Ana is one of the oldest Federally Qualified Health Centers (FQHC) in Orange County. Having learned that many community leaders were unfamiliar with the services they provide, we determined it would be a good location for hosting tabling events to increase the clinic's visibility. The clinic is also located near two bus stops at a busy intersection and experiences heavy foot traffic.

What we had not anticipated when selecting our location was that our interactions with residents would be brief, as most people we interacted with were either going to or coming from appointments. This prompted our team to also engage with people who were waiting at the nearby bus stops. These interactions increased our impact, as residents waiting for buses were willing to have longer conversations to pass the time. Tabling gave our team not only the opportunity to learn from community members in an informal setting, but to also educate them about the extreme impacts of climate change.



Graduate fellow tabling outside the UCI Health Family Health Center in Santa Ana

Tip: To establish visibility, be sure to solidify a regular and consistent tabling location. Consider heavily trafficked areas like public transit access points, strip malls, and parks for mobile outreach. Research upcoming community events and health fairs for additional tabling opportunities.

Surveys

Gathering data on community input can be partially facilitated by surveys, which provide a more objective look at the opinions of the local residents. Community development practitioners use surveys in conjunction with other, more in-depth forms of information gathering, like interviews or focus groups.

Our team used surveys as an additional form of mobile outreach to learn about how the community responds to extreme heat. When people stopped by our table outside the Family Health Clinic, we asked them to complete our Mobile Outreach Heat Survey that included questions in both English and Spanish about where they go when it's hot; if they have ever experienced symptoms of heat exhaustion or heat stroke; whether they have air conditioning in their home; and what strategies they use for emergency preparedness. The survey helped us learn more about community members' resources, concerns, and needs.

We also used an enlarged map of Santa Ana (see Figure 1) as an interactive tool for community members to locate on the map the places they go to find shelter from the heat or resources during extreme heat. This allowed us to further document how community members respond to extreme heat events and the opportunity to provide information on the locations of existing cooling centers in their community.

Figure 1. Map of Santa Ana used as an interactive tool to engage residents



Data & Asset Mapping

Asset mapping is an approach to planning and community development that involves identifying, describing, and visualizing a community's assets. It is a strength-based practice that helps empower communities by recognizing and mobilizing their strengths. By locating where key resources and programs exist, we can uncover where there are service overlaps, significant gaps in services, and unmet community health needs. Asset mapping can also be used for disaster preparedness by focusing on ways to improve and strengthen resource accessibility and build relationships among community groups and organizations.

Our team used the JEDI-Centered Resilience Planning framework to guide our approach to asset mapping. We gathered input from community-based organizations and community members, based on their experience of place, to elicit spatial and social knowledge of known assets. We also looked at variables that directly impact people's ability to recover from disasters or expose them to climate threats, such as racial and ethnic minority status, household characteristics, income levels, and access to transportation. We integrated these variables with existing environmental justice indices, such as CalEnviroScreen, to identify injustices faced by marginalized populations during climate events.

Using Geographic Information System (GIS) software and data (shapefile), we were then able to create maps that reflect the community's needs and built environments based on what we heard from them. Figure 2 below shows the urban heat health for Orange County, with Santa Ana falling into the highest percentage for impervious surfaces. These are artificial structures such as asphalt, concrete, and parking lots that retain heat from the sun and create the urban heat island effect. Figure 3 shows the average land surface temperature during the summer months in Santa Ana with the city's bus stop and cooling center locations overlaying the map. As seen in Figure 4, most bus stops in Santa Ana do not provide basic sun protection which can be detrimental, particularly on a hot day. These figures demonstrate how people that rely on public transit, most of which are low-income people of color, are disproportionately impacted by the effects of extreme heat. We created a series of customizable maps that could be

Figure 2. Orange County Impervious Surfaces Percentage Map, 2023







LESSONS LEARNED

Community engagement is most effective when it involves a collaborative effort that brings together community members, organizations, and groups working toward a common goal – in our case, co-designing climate resilience solutions. Collaboration fosters a sense of ownership and responsibility among community members and a shared commitment toward achieving positive outcomes. It also leads to empowerment which involves providing community members with the tools, resources, and knowledge to participate in problem-solving and decision-making. The used as a tool for community engagement, information sharing at community meetings or workshops, and to enhance decision-making.

Figure 4. Typical unshaded bus stop in Santa Ana



ultimate goal is inclusivity and ensuring that all community members have a voice and an opportunity to participate in the process.

While we are still working to establish this level of inclusivity in our engagement strategy and recognize that at UCI Health, we still have a long way to go to co-create a collaborative community resilience plan that effectively captures the voices of the community, we've learned a lot in the process and are sharing some important lessons learned.

Relationship-building takes time.

- It takes time to build an engaged community. Beginning with accessible partnerships is a good way to get your foot in the door. We learned a great deal about both the needs and the assets of the residents of Santa Ana by engaging with community-based organizations that work directly with them.
- Although our community-based partners were able to provide insightful information about the most vulnerable populations that they work with, our team was interested in forging our own relationships with community members and learning directly from them. This proved difficult to do through tabling and community outreach because our interactions were brief and did not allow for deep connection.

Engagement comes in many forms.

• Communities are incredibly diverse. This means engagement methods need to be diverse and will likely take many forms. Whether it is through communication, participation, or education – what links all the various engagement activities are intentional interactions with stakeholders that meet them where they are at.

Each organization plays a unique role in co-creating community climate resilience solutions.

 Although most of the community-based organizations we engaged through this process work with vulnerable populations, the way in which they work with these populations differs. Therefore, they each bring different skills and relationship dynamics to resilience planning. Carving out time during the planning phase to understand the various perspectives each organization brings and to establish what role each organization will play moving forward, is an integral step in the process.

Do not assume you know what the community needs.

• As a health care organization, you might think you know what is best for the community, but their priorities might look different based on how they experience the effects of climate change in their day-to-day. Learn how to take a step back and let the community lead when it comes to building solutions that are right for them. Do your research to understand what actions have already been taken and figure out what role your organization can effectively play.

 During the workshops, we discussed the role that each participating organization plays in the communities they serve and how they're seeing community members respond to climate change. This conversation helped uncover adaptation and resilience planning that is already underway in various community spaces. Making the connection between community action and climate mitigation is imperative to this process to build upon the work that is already happening, rather than reinventing the wheel.

You cannot do it all! When planning an event, be sure you have designated people to take on critical tasks to ensure all bases are covered across every stage of the process.

 When hosting a workshop, be sure to assign clear roles and responsibilities to ensure your event runs smoothly. Have you assigned a facilitator? How about a note-taker? Is there someone that can provide interpretation services? Having someone as your designated facilitator to guide the conversation while someone else documents key themes and conversations, for example, will allow for free-flowing discussion and ensure important ideas are captured.

Consider accessibility when planning an event and be prepared to provide appropriate accommodations.

- A vital component of any community engagement is accessibility for all. This could mean holding events at various locations and times and/or offering stipends, childcare, and interpretation services.
- When preparing for the workshop, our team provided translated materials in Spanish and brought in an interpreter. We learned that despite these efforts, not all participants were able to participate fully in the discussions because during breakout sessions, the interpreter could not provide support to every group at all times. If you can provide interpretation services at your event, be sure to also provide headsets for participants so that everyone has access to the information.

Be flexible! Things do not always turn out as planned.

• A willingness to pivot and adapt outreach strategies is critical. Following a summer workshop, the UCI Health team decided to host a series of focus groups with the community leaders that attended our event to dive deeper into the responses they provided when using the assessment tool. However, we encountered several challenges due to scheduling and capacity that prohibited us from moving forward with leading the focus groups. This prompted us to rethink our next steps and to move forward with engaging other vulnerable groups (lowincome residents, those dependent on public transportation, and seniors) through tabling and mobile outreach.

CONCLUSION

Through the outlined strategies and methods of engagement, UCI Health Climate Resilience Planning team was able to engage 20 community-based organizations and over 100 external stakeholders from Santa Ana, CA in our equity-centered climate resilience planning process. Outreach efforts have expanded to designated cooling centers, community and senior centers, and other local communities we serve. Involving community members in climate resilience planning allows hospitals to create more effective, equitable, and sustainable strategies that address the specific needs of the populations they serve while fostering a collaborative approach to climate adaptation.

ACKNOWLEDGEMENTS

Thanks to all the staff, students, volunteers, and community organizations in Orange County and beyond who participated in the community-based resilience outreach and planning efforts upon which this toolkit is based. At UCI Health, we look forward to continued partnership with you and to continuing the work of building a more climate-resilient future.

Brown Berets - OC Chapter

Community Academic Partnerships to Advance Equity Focused Climate Action (CAPECA)

The Coalition for Humane Immigrant Rights (CHIRLA)

Green Madison Park Neighborhood Association (Green-MPNA)

Latino Health Access

Libro Mobile

Media Arts Santa Ana

Medical Students for a Sustainable Future at UC Irvine
OC LGBT Pride
OC Rapid Response
OC Resilience
Orange County Communities Organized for Responsible Development (OCCORD)
Orange County Environmental Justice
Orange County Justice Fund
Southern California Coalition for Occupation Safety & Health (SOCALCOSH)
UCI Campus Planning & Sustainability
UCI Health Emergency Management
UCI Health Family Health Center, Santa Ana
VietRISE

APPENDIX

Educational Materials:

<u>Cal/OSHA Heat Safety Pocket Guide (English and</u> <u>Spanish versions)</u>

Heat Fact Sheet (English)

Heat Fact Sheet (Spanish)

Coloring Page

Surveys/Assessment Tools:

Climate Resilience Workshop Participant Survey

UCI Vulnerability Assessment Presentation

JEDI-Centered Climate Change Vulnerability Assessment

Mobile Outreach Heat Survey

First Iteration of Assessment Findings

Demographic Data for Santa Ana based on United States Census, American Community Survey 5-Year Data (2008–2022):

RACE AND ETHNICITY		
Hispanic or Latino	239,824	77.0%
Asian Alone	36,504	11.7%
White Alone	28,223	9.1%
Black or African-American Alone	2,897	0.9%
American Indian and Alaska Native Alone	295	O.1%
Native Hawaiian and Other Pacific Islander	402	0.1%
Some Other Race Alone	445	O.1%
Two or More Races	2,798	0.9%

AGE		
Under 18 Years	75,074	24.0%
18 to 34 Years	87,562	28.0%
35 to 64 Years	115,701	37.0%
65 and Over	33,042	11%

INDUSTRY BY OCCUPATION FOR EMPLOYED CIVILIAN POPULATION 16 YEARS AND OVER

Total Employed Civilian Population 16 Years and Over:	154,940	
Agriculture, Forestry, Fishing and Hunting, and Mining	2,431	1.6%
Construction	12,540	8.0%
Manufacturing	20,429	13.2%
Wholesale Trade	3,790	2.5%
Retail Trade	16,956	10.9%
Transportation and Warehousing, and Utilities	7,366	4.8%
Information	2,041	1.3%
Finance and Insurance, and Real Estate and Rental and Leasing	8,445	5.5%
Professional, Scientific, and Management, and Administrative and Waste Management Services	21,688	14.0%
Educational Services, and Health Care and Social Assistance	25,823	16.7%
Arts, Entertainment, and Recreation, and Accomodation and Food Services	20,166	13.0%
Other Services, Except Public Administration	9,340	6.0%
Public Administration	4,015	2.6%

HOUSE HEATING FUEL

Occupied Housing Units:	77,553	
Gas (Utility, Bottled, Tank, or Lp Gas)	49,350	63.6%
Electricity	19,917	25.7%
Fuel Oil, Kerosene, Etc.	24	0.0%
Coal, Coke or Wood	192	0.3%
Solar Energy	269	0.4%
Other Fuel	25	0.0%
No Fuel Used	7,776	10.0%

HEALTH INSURANCE

No Health Insurance Coverage	41,376	13.4%
With Health Insurance Coverage:	267,505	86.6%
Public Health Coverage	135,329	43.8%
Private Health Insurance	146,965	47.6%

Asset Planning and Mapping Examples:







Additional Resources:



Certificate of completion given to participants that attended the Climate Resilience Workshop

This toolkit was developed in 2024 through the University of California Climate Action Innovation & Entrepreneurship Grant. Contributors are from UC Irvine Health and include: Tony Dover, Energy Management & Sustainability Officer; Courtney Lusk, Sustainability Program Manager; Carlo Andre Chunga Pizarro, PhD Candidate; Rosie Sanchez, PhD Student; Leanne Funada, MHA, Senior Manager / Asst Operations Director, UCI Health FQHC. For more information, contact Tony Dover, <u>adover@hs.uci.edu</u> or Courtney Lusk, <u>clusk1@hs.uci.edu</u>. <u>https://www.ucihealth.org/sustainability</u>.