

University of California, Los Angeles



2023 Extreme Heat Campaign: Final Report

Client: Los Angeles Regional Collaborative



Advisor: Erin Coutts

Practicum Project Members:

Isabella Lang

Alyssa Maynard

Jasmine Marie Culilap

Kiara Phillips

Isabel Severino

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Introduction:

Now more than ever, we need to come together as a community to mitigate the drastic effects of climate change. Los Angeles County has long been known for its delightful, perennial weather, but recent extreme heat events have made it a dangerous place to live. Water shortages, wildfires, and excessive heat warnings are just a glimpse into the havoc global warming will continue to wreak on Los Angeles County. Furthermore, inequity in these noxious effects is seen in low-income and BIPOC communities, where people do not have reliable access to natural shade or air conditioning. To combat these inequities and raise public awareness about extreme heat, the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC), a network that brings together decision-makers across California to execute climate resiliency efforts, launched a social media heat messaging campaign in the summer of 2022, running from June 9th, through September 22nd. Partnering with the Los Angeles Department of Public Health (DPH), LARC created and published content on several social media channels to provide resources to Los Angeles County residents to mitigate the negative health and safety impacts of extreme heat.

After reflecting on the 2022 campaign and its development process, LARC set out to improve the campaign for the summer of 2023. The overarching goal was to increase community engagement during the 2023 campaign's development to broaden its effectiveness and reach. LARC took a more top-down approach in 2022, creating and distributing content in a way that worked best for LARC and DPH, instead of soliciting advice and feedback from the community on what would work best for them. For the summer of 2023, LARC sought to create a more community-engaged approach to their social media campaign development by obtaining feedback and insight from the communities most vulnerable to extreme heat and the organizations that serve them. Additionally, in advance of the summer of 2023, LARC and the Center for Community Engagement (CCE) jointly applied for the UCLA Transdisciplinary Resource Acceleration Grant (TRAG) in late spring of 2022, receiving the funding in August. This allowed LARC to begin work on the 2023 campaign in the fall of 2022, coordinating with and soliciting feedback from a UCLA environmental justice course and the year-long Environmental Science Senior Practicum.

In the fall of 2022, our team joined LARC's campaign development project. We began by conducting a literature review to better understand the specific threats that extreme heat poses to Los Angeles County, risk perception and behavior during extreme heat events, public communication strategies for extreme heat, and best practices for social media communication. We learned that heat-related illnesses can manifest physically and mentally, and are strongly dependent upon age, career, income levels, and community demographics. Like many urban areas, extreme heat in Los Angeles disproportionately affects the elderly, young children, people who work outside, low-income families, and BIPOC communities. We knew that LARC would need to continue to pay attention to these inequities in the development of their 2023 campaign. We also looked into heat risk perception literature and found that heat risk perception and circumstances both play a role in whether or not an individual takes protective action and the type of protective action taken. Community networks were also found to be a

necessary component in spreading safety information and promoting behavioral change due to barriers that vulnerable communities face.

On the communication front, research has shown that, to successfully communicate with the public, special attention must be given to the frequency and timing with which the messages are released, adequately preparing the public without over-warning. Messaging must also be targeted to those most vulnerable to the effects of extreme heat. This includes taking the cultural and economic characteristics of families into account and explicitly addressing common misconceptions around extreme heat protection strategies (Sampson et al. 2013), which is why “communication strategies that are informed by and co-produced with communities is critical for developing a community strategy that centers equity” (Marx & Morales-Burnett, 2022). Additionally, to effectively communicate with vulnerable populations, researchers must seek the counsel and platform of existing leaders within the community and diverse methods of information dissemination. Finally, a portion of our literature review paid special attention to using social media for public health communication. We had to understand social media algorithms, engagement¹, and post tracking to effectively communicate with our development partners and understand how the campaign would reach the largest audience possible this summer.

We used what we learned from our literature review to shape our research questions, which would inform how we would develop the 2023 campaign. We created the following queries to guide our project:

- I. Where were our posts getting the most engagement within the county? What was the relationship between a location’s engagement and its heat vulnerability?**
- II. Did the number of posts in a month impact hashtag use? Are there other confounding variables that we should consider when selecting posting dates/times?**
- III. Who shared LARC’s content the most (excluding official distribution partners) and could join the 2023 campaign?**
- IV. Can you identify other limitations of our campaign that we could correct in 2023, specifically in the context of better community engagement in this year’s campaign?**

In the leadup to LARC’s 2023 extreme heat social media campaign, our team had several project deliverables. The first was to analyze the Twitter data from the 2022 campaign to more fully understand the campaign’s reach and effectiveness. Concurrently, LARC convened a community advisory group (CAG) to connect with those working in the communities hardest hit by extreme heat and get their advice on the changes that the 2023 campaign should contain. The purpose of the CAG was to provide advice throughout the project, specifically as it relates to CAG members’ areas of expertise in extreme heat and the engagement of community stakeholders. In practice, this purpose was carried out in five major ways: providing feedback on the LARC-CCE

¹ Engagement measures the number of our posts that were shared

extreme heat resilience campaign scope and content, participating and providing guidance in monthly meetings from January through June of 2023, planning and assisting in the implementation of two community workshops, using networks to facilitate advance distribution of campaign content, and advising on concrete next steps to leverage this seed project to support additional long-range goals around extreme heat, particularly as it relates to green infrastructure and nature-based solutions. Additionally, we surveyed last summer's distribution partners and the workshop participants to obtain their feedback and begin building our 2023 partner list. Finally, we put together some future funding opportunities that would allow LARC to continue and expand its efforts in educating the Los Angeles community on heat risk, resources, assistance programs, and ways to improve energy efficiency.

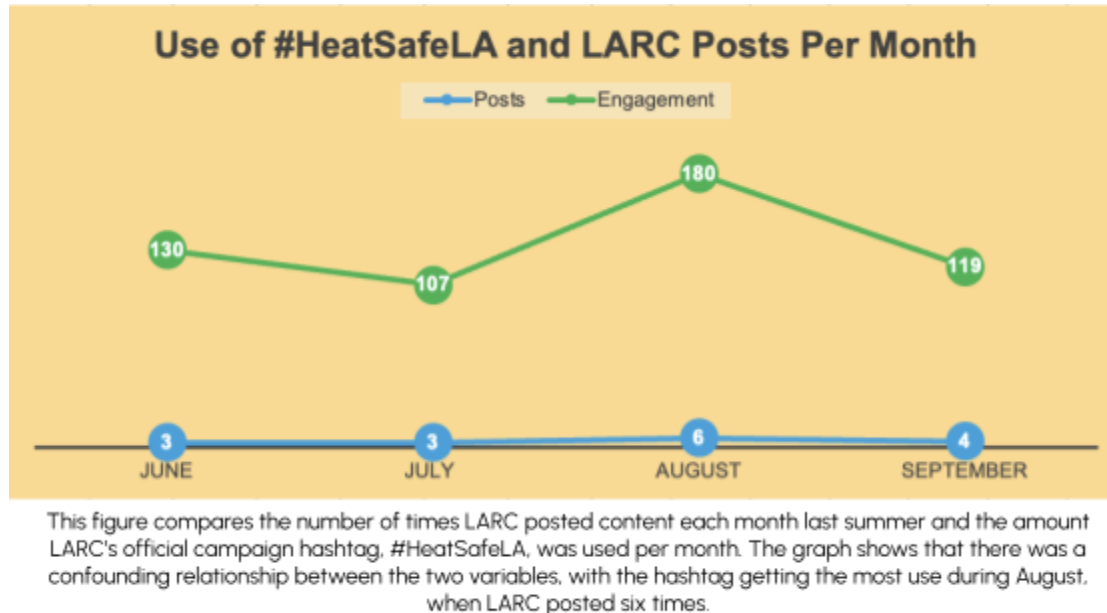
Evaluating 2022 Pilot Campaign:

In the initial phase of our project, we familiarized ourselves with the summer of 2022's campaign content and corresponding social media analytics. Camille Burrus, a graduate student who worked as an impact evaluator for LARC during the summer of 2022, had manually tracked user interaction with LARC's content, which was made up of 16 total posts, on Facebook, Twitter, and Instagram. Her analysis only covered content published up until August 23, 2022, or 11 out of the 16 posts, because she needed time to produce a report on the pilot campaign during the time she was working for LARC, which ended in September. The analysis of that data provided useful information on the relationship between content, temperature, engagement levels, and distribution partner participation, and helped us develop our research questions which filled in any remaining knowledge gaps.

We had originally hoped to use a social media analytics tool to more efficiently analyze the data for the rest of the posts that the impact evaluator was not able to get to during the summer of 2022. However, when researching a social media tool to use, we ran into several issues of cost and privacy concerning our distribution partners' data. All free or low-cost listening platforms did not provide relevant services to our analysis, and representatives told us that finding the correct tool would be difficult due to legal barriers and user privacy rights. The listening platforms with the capability to access other users' statistics exist only for state-level use and were far outside our budget constraints. Eventually, we decided to take another path forward. Luckily, LARC had also reached out to UCLA Strategic Communications, who was able to provide data on the use of #HeatSafeLA, the 2022 campaign's official hashtag, on Twitter from June 1, 2022, through February 9, 2023. Twitter was the only social media channel we examined because that was the only platform from which UCLA Strategic Communications could pull data. There were a total of three hashtags that LARC was following during the summer of 2022, but we only analyzed the #HeatSafeLA hashtag because it was LARC's official campaign hashtag that was most consistently used by DPH, LARC, and their distribution partners. While this form of analysis was not as comprehensive as we would have liked, it did provide us with a broad assessment of the campaign's entire 15 weeks of activity. We conducted our analysis in Excel using Pivot Tables, giving us the ability to compare different fields, such as "author", "location", "months", and "engagement". This

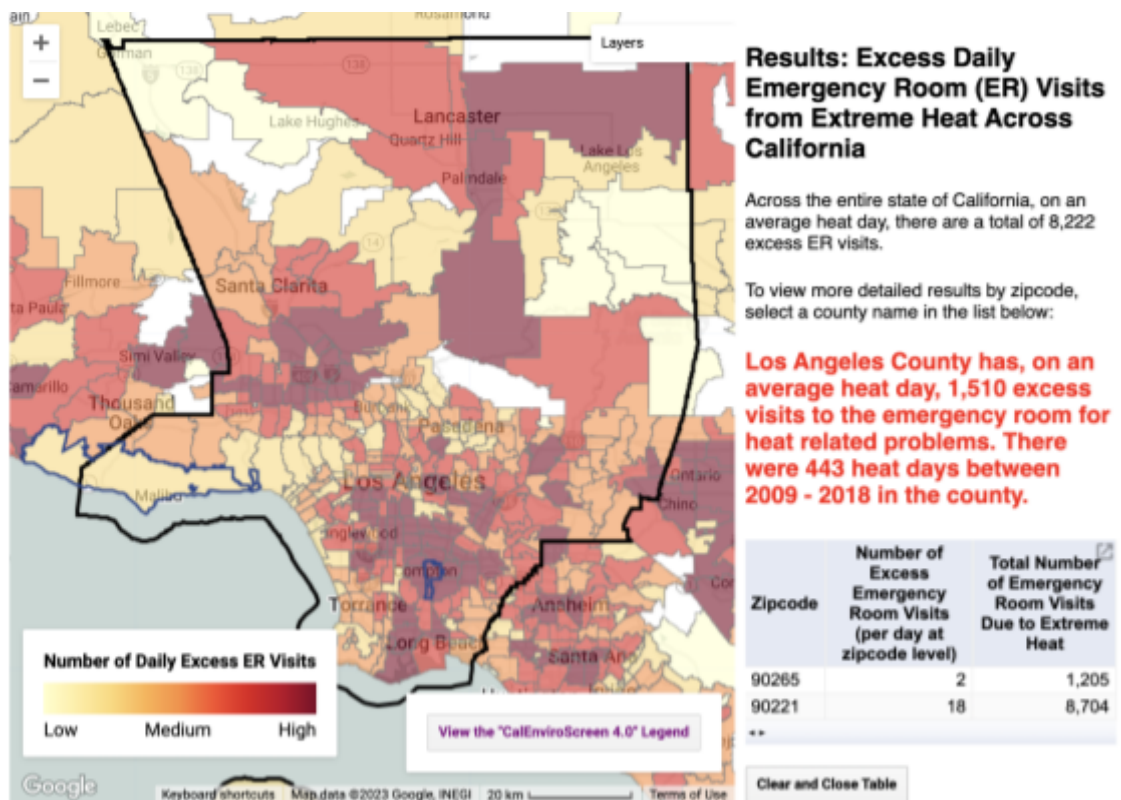
assessment helped us determine the relationship between the number of posts and hashtag use in a given month, who shared our content the most, and how engagement interacted with neighborhood vulnerability across the county.

Did the number of posts in a month impact hashtag use?

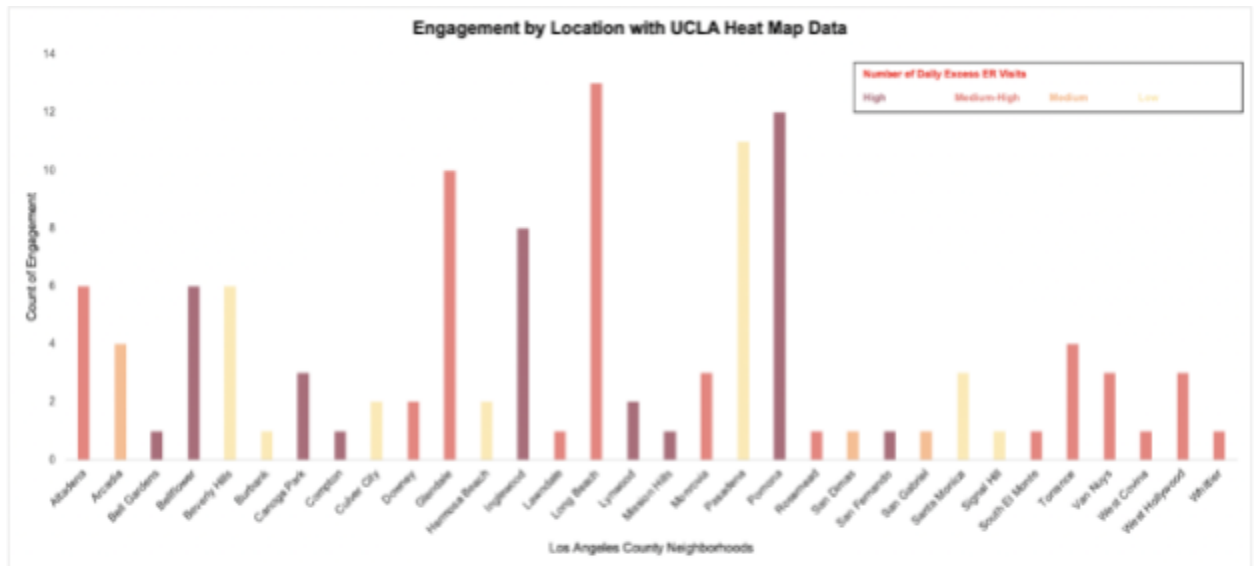


To see if the number of posts in a month influenced how much LARC's official campaign hashtag was used, we went back through the 2022 data and counted how many posts LARC published on Twitter during each month of the campaign (June, July, August, and September). We then compared that to the number of times #HeatSafeLA was used each month. Using PivotTables in Excel, we were able to graph that relationship. The hashtag got the most use during August when LARC posted six times, signaling that there was a confounding relationship between the two variables. However, the hashtag also received significant use in June, when the campaign was just beginning and LARC only posted three times. This graph shows that the amount of content posted in a given month did not always dictate the level of hashtag use, and by extension, the level of attention LARC's campaign received, for a given month. We recommend that LARC keep this confounding relationship in mind when they analyze the 2023 data, and try to publish an equal number of posts each month during the campaign.

*Where were our posts getting the most engagement within the county?
What was the relationship between a location's engagement and its heat vulnerability?*



Here is what the color scheme our team used for our graph looks like on the UCLA Heat Map. This tool allowed us to pinpoint certain areas (down to the zipcode) to see the number of excess emergency room visits per extreme heat day. For example, in Malibu on an average heat day, there are 2 excess ER visits. In a particular zip code in Compton, there are nine times as many ER visits on an average heat day.



This graph includes engagement counts from every neighborhood in Los Angeles County. The color code used is from the UCLA Heat Map data on the number of daily excess ER visits on an extreme heat day. Each neighborhood has a corresponding color (ranging from low in yellow to high in purple) from the UCLA Heat Map that is incorporated into this map to show the relationship between heat vulnerability and content engagement in a given neighborhood. This can help LARC increase their outreach in neighborhoods with high vulnerability but low engagement.

Using the location aspect of our Twitter data, we were able to look at where in the county LARC's content was being shared. We filtered for locations only within Los Angeles County (some data points took place outside of the county). Once we had engagement counts by location, we took the color scheme from the UCLA Heat Map, which shows the number of excess emergency room visits during high heat days by location in California. Purple was the most severe and yellow was the least severe. We matched each location from the Twitter data with its corresponding level of severity on the UCLA Heat Map and color-coded them accordingly. This helped us to see where in the county engagement was the lowest but the vulnerability was the highest, and thus where we could target our outreach efforts to increase extreme heat awareness.

Who shared LARC's content the most (excluding official distribution partners)?



This graph shows twitter users who shared LARC's content more than 25% of the time last summer, but who were not individual users (interacting from personal accounts) OR official campaign distribution partners; our team dubbed them "potential partners". Criteria for a potential partner included being an organization (health center, nonprofit, city/county entity) that was not on our list of official distribution partners. They were deemed "potential" because we could add them to the 2023 distribution list.

With our data in Excel, we were able to see every author who shared our content. These authors were from three main categories: individual users interacting from personal accounts, LARC's official campaign distribution partners, and a third group we dubbed "potential partners". This third group was particularly interesting to us because they shared LARC's content without being an official distribution partner. We decided to take a closer look at this group by filtering out LARC's official 2022 distribution partners and individual Twitter users from the full author list until we just had organizations that had interacted with our content on their own and whose mission could align with LARC's. We verified that each of the account names in the potential partner group were attached to legitimate organizations, and then graphed their engagement. While we had a total of 61 potential partners, the seven shown above had the most significant involvement, sharing more than 25% of LARC's content last summer. These organizations were added to our new partner outreach list to expand and diversify LARC's distribution partners for the 2023 campaign.

Another vital aspect of analyzing the 2022 campaign was understanding what worked and what did not work for our distribution partners last summer. We designed a survey asking about our distribution partners' level of engagement and their overall experience with the campaign last summer, as well as their intent on participating in this summer's campaign. The survey went out on April 6, 2023, and we received 10 responses from a potential 49 respondents. We first asked basic questions about the work each organization was doing to combat extreme heat and the communities they serve within the county. We then moved into questions about community engagement strategies that they have used and found to be effective or ineffective. We asked how active they were as partners last summer and to mention any barriers or obstacles that hindered their participation. The feedback from this survey is summarized below:

Results from 2022 Distribution Partner Survey

- 60% of the respondents said they were "very active" (reposted every or almost every post) last summer
- One organization said that they would have liked to receive all of LARC's content at the beginning of the summer rather than once a week so they could better organize their involvement
- Two partners said they did not share all of LARC's content because the posts did not always relate to their organizations' specific missions
- One partner suggested getting involved with private sector entities and those with larger social media followings who might not be thinking about extreme heat
- Respondents mentioned wanting to be more involved in the development of the campaign and added that the campaign should be developed in conjunction with community summer events
- 70% of our former partners offered to provide social media analytics for this summer's campaign
- 100% of them wanted to be partners again this summer

Prepare New Partner List:

As previously mentioned, we used the pilot campaign's Twitter data to find new social media distribution partners to add to LARC's campaign this summer. We found a significant number of such organizations, with seven sharing more than 25% of LARC's content of their own volition. We decided to add these organizations to our new partner list and invite individuals from those organizations to LARC's community workshops. The challenge we faced with this outreach was finding the appropriate communication methods and contacts to connect with these potential partners. We often had to message these organizations on social media or use a general informational email address listed on an organization's website, which made receiving a response difficult. We had more success utilizing the non-profit contacts of one of our team members, Kiara Phillips, who was able to connect our team and LARC with T.R.U.S.T. South LA and Black Women for Wellness. We invited representatives from these organizations to our community workshops and are planning to share our content with them to post on their social media channels this summer. Another aspect of building the distribution partner list for the 2023 summer was going to include outreach in areas of the vulnerability identified using the UCLA Heat Map, a database that contains information on excess ER visits during extreme heat days by zip code. Upon the identification of these impacted areas, we were going to identify organizations and local businesses that have both a positive reputation in the community and a strong social media presence and partner with them to post LARC's content and put up posters that we had planned to develop. While we ran into time constraints with the poster aspect of this deliverable, it is our hope that LARC can utilize this idea in the future with more funding and time.

CAG and Community Workshops:

As part of LARC's mission to ensure the development of this summer's campaign was more community-engaged, LARC convened a group of professionals involved in climate resiliency work in Los Angeles County. This group met once a month from January to June 2023 to provide LARC with feedback on last year's campaign, and to help LARC reach and involve a wider audience this upcoming summer. Members of the CAG included representatives from the Los Angeles Urban Cooling Collective, Climate Resolve, Los Angeles County Chief Sustainability Office, Los Angeles City, Pacoima Beautiful, Los Angeles County Department of Public Health, Los Angeles Metro, and Physicians for Social Responsibility Los Angeles.

Each meeting had a specific agenda, from developing guidelines for LARC's workshops to giving feedback on our new content. To ensure our team was involved in the process, at least one team member attended each meeting to take notes and reflect on the feedback presented. Our first meeting discussed parameters for CAG involvement in the 2023 campaign and guidelines for working together. The following meetings covered campaign scope and planning for the two community workshops that would be hosted by LARC in April and May, reviewing the invite list and agendas for the workshops, and reviewing the workshop findings. LARC also attended a separate workshop with Esperanza Community Housing in between the two community workshops it hosted in the spring. Feedback from that workshop will be discussed below. In total, five CAG meetings took place, and the feedback and conversations that occurred throughout these meetings helped us determine what would make this year's campaign successful.

Each workshop that the CAG helped LARC convene had its own aim. The first workshop was held to obtain feedback on our new flyer content for healthcare professionals, while the second workshop was held to review distribution strategies with community partners. LARC invited primarily healthcare professionals to the first workshop, referred to as the Community Health Workshop, with options for virtual or in-person participation. The second workshop, the Distribution Strategy Workshop, was completely virtual and included members from LA County, school administrations, labor organizations, and other environmental non-profits around Los Angeles. For both workshops, members first introduced themselves and explained their work in the community. Then members were put into breakout rooms for small group discussions answering pre-determined questions from LARC.

Feedback from Workshops:

The Community Health Workshop provided the first round of feedback for LARC's flyers geared toward physicians and patients. Although some members' feedback was contradictory, we had significant takeaways from this workshop that allowed us to improve the information provided on the flyers.

Feedback from Community Health Workshop

- Include footnotes with references for our information, as healthcare professionals will be critical and want to know where the information came from
- Explicitly identify medical conditions that could be exacerbated by extreme heat, instead of simply listing out the negative health impacts of extreme heat. Healthcare professionals are more likely to know that heat exhaustion and heat stroke are common during extreme heat events, but might not be thinking about the chronic conditions that extreme heat can exacerbate, like heart disease and diabetes
- The flier geared towards physicians received the most feedback, with some members even suggested creating separate flyers for physicians and nurses. We ultimately followed this advice and used the first workshop feedback to help guide us in creating a new flier, with guidelines and recommendations specifically for physicians during times of extreme heat.
- Include a general call-to-action at the top of the flier. Workshop participants pointed out that most of the information on the initial flier lacked a sense of urgency, which is more necessary in the physician flier than the others, especially since the goal of making the physician flier was to highlight how heat illness is undercounted and needs more attention
- Community and patient-geared fliers received more general feedback, including minor changes about font and color, and rearranging images
- Suggested using less intimidating verbiage, and to avoid using jargon (such as using "emergency room" instead of "ER")

The Distribution Strategy workshop provided helpful feedback on how LARC can best reach vulnerable Los Angeles communities beyond social media. Much of the discussion was centered around where LARC could distribute flyers and how to coordinate its efforts with other organizations doing similar work in the county.

Feedback from Distribution Strategy Workshop

- Focus flyer distribution in high traffic public areas like bus stations, metro stations, and shopping centers. This method is safer than door to door distribution since behavior is unpredictable and allows easier community access to resources
- Use bulletin boards in popular businesses and promote heat resources at events such as farmer's markets to have individual conversations with community members
- Allow people to contact us directly with questions and to look into partnering with other organizations to create portable cooling centers at populated summer events
- Share flyers via Word to allow rebranding by different organizations
- Emphasized importance of outreach to homeless communities and leverage community partners who already do this outreach
- Texting via alerts, FEMA, or the Everbridge system was another popular idea
- Leveraging free rides to cooling centers.

The Esperanza Community Housing Workshop provided feedback from members representing the South Central Los Angeles community on the flyer materials and distribution strategies for the campaign. The insight from this workshop was vital in catering to low-income housing residents and neighborhoods with fewer resources during extreme heat days.

Feedback from Esperanza Community Housing Workshop

- Cooling centers are currently not well-advertised and inaccessible to the community
- More libraries are wanted in the community and existing libraries were a strong contender for possible cooling centers
- Would like more trees and parks as a permanent solution as opposed to pop-up cooling centers
- Relationships with churches could prove beneficial with their large community reach and influence
- Handing out flyers at cooling centers, text flashes before extreme heat days, and canvassing on the streets as distribution strategies
- Flyers should be customized to each community, too wordy
- Coordinate with the police to have more patrols on extreme heat days
- Add a phone number to the flyer for low income housing and the elderly

Overall, these three workshops were successful in connecting LARC with partners and resources throughout Los Angeles County and provided invaluable feedback to expand on last year's social media campaign to lower heat-related illnesses and deaths.

Creating Surveys for Workshop Invitees:

We also decided to survey the workshop participants to gain feedback on our campaign development methodology, specifically the format and execution of the community workshops, and solicit additional advice and ideas for how to make this summer's campaign more community-engaged. Together, these responses would be used to identify common themes, points of improvement, and suggestions for LARC's upcoming summer campaign.

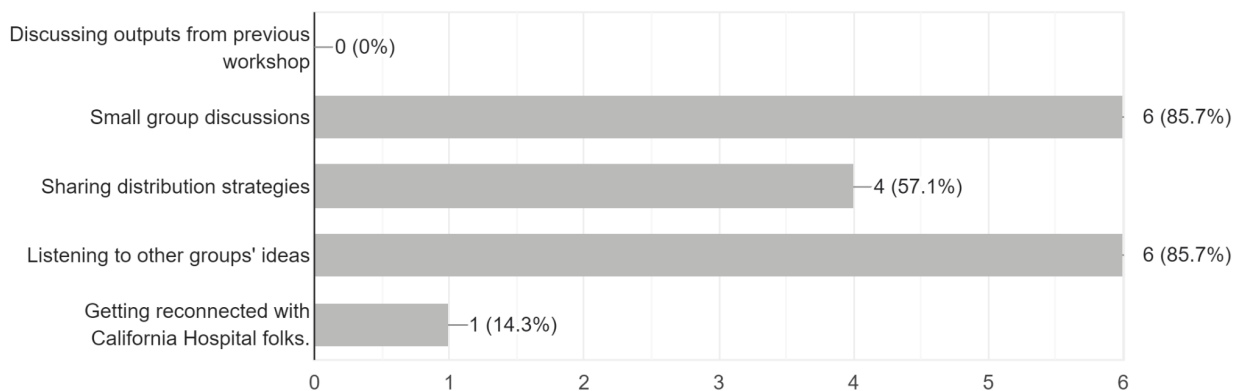
For the first workshop, we sent out a pre-workshop and post-workshop survey to all participants. The pre-workshop survey focused on them and their organization's line of work and community engagement strategies. It also asked for feedback on the 2022 Extreme Heat Campaign (if they were a partner). The post-workshop survey focused on feedback about the workshop design and the upcoming 2023 campaign, asking for resources, contacts, and participation. We switched to only having a post-workshop survey for the second workshop. This survey also asked for feedback on the workshop but changed to pre-existing drop-down answers to make the process quicker for the participants to fill out. It also added a question asking participants to provide social media analytics.

For the second workshop, we only sent out a post-workshop survey because we had some attendee overlap and did not want a pre-workshop survey to feel redundant. The survey for the distribution strategy workshop was shared at the end of the workshop on May 2, 2023, and received seven responses. We changed the format of one question about workshop aspects from open-ended short answers to "checking all that apply" with an open-ended option. Otherwise, the rest of the survey remained the same with questions about potential workshop changes, campaign partners, toolkit resources, and 2023 campaign involvement.

Our qualitative data, including the surveys, were originally going to be analyzed using data analysis software tools that allowed for group work such as Dedoose or Quirkos. However, an assessment of our group's capacities combined with a lack of funding over the summer led us to conclude that this would not be possible for us to do. Instead, we prepared a simple analysis of the surveys and focus groups.

What aspects of this workshop did you like most? (check all that apply)

7 responses



The majority of respondents liked the group discussion and sharing aspects of the workshop the most, with 85.7% or six members checking off "Small group discussions" and "Listening to other groups' ideas." Possible workshop changes submitted were having more participants and briefer introductions. For potential partners, there was a split with three of the respondents contributing different ideas and strategies while the other three mentioned specific organizations or people. The more general ideas focused on LARC presenting at coalition or alliance meetings rather than the current open invite system, inviting organizations with festivals or outdoor events for their distribution and extreme heat experience, or clinic associations and federally qualified health centers. Most respondents agreed to join the 2023 Extreme Heat Campaign with six out of seven choosing "yes".

We faced challenges in creating and distributing the surveys. Not everyone who was a distribution partner or a workshop participant filled out the surveys. A similarly-related challenge to the number of respondents would be the sample size. Even though most respondents agreed to join here and had common themes of appreciating the group discussions, the survey had a small sample size of seven people. With a small sample size, the findings of this survey cannot be extrapolated to other groups and could be biased.

Producing Content for Distribution:

Following feedback from our CAG, we were also tasked with diversifying LARC's distribution channels for this summer. By using the graphics from last year's social media campaign, our team created three unique flyers geared toward different audiences with useful guidelines and resources on how to mitigate the effects of extreme heat. They provide information for community members, patients in hospitals or who require extra healthcare, and physicians or other healthcare workers. To align the flyers with LARC's previous campaign, we used the same color palette, fonts, and graphics. These flyers will be used as a supplemental distribution method to ensure we reach specific neighborhoods or people who may not have access to social media.

The flyers received feedback from the workshops and went through several rounds of editing. The initial flyers we created were a helpful base for the transformative process, and the feedback we received was essential in creating content that would be useful and impactful after distribution. Yua Watanabe, LARC's graphic designer, assisted in finalizing the aesthetics and overall designs of the flyers.

Creating the finalized versions of the flyers was a relatively time-intensive process, since some of the feedback we received from the workshops was contradictory. For example, some members wanted larger-sized fonts and less intimidating verbiage, while others wanted smaller fonts and thought the verbiage should convey the severity of the issue. Additionally, we had to find ways to make the flyers compatible with numerous platforms so that our partners could brand and distribute them as needed. The original flyers were created in Canva, but we switched to Adobe Illustrator and PowerPoint for the final distribution, since these platforms do not require users to have accounts for viewing. Creating PowerPoint versions of the flyers allows users to customize parts of the text or add logos to make the flyers personalized.

The community-geared flyer (figure A) contains general information about the dangers associated with extreme heat, susceptible populations, tips to stay cool, and a link to additional resources (cooling center finder, tips to save on energy bills, etc). The patient-geared flyer (figure B) contains similar information, with additional risks and tips for those with preexisting physical or mental health conditions. The physician-geared flyer (figure C) provides information on which conditions or medications are associated with higher susceptibility to heat illness, common early symptoms of heat illness, and mitigation strategies to prevent added stress in the workplace during times of extreme heat.



Figure A



Figure B



Figure C

All three flyers contain QR codes that LARC will be able to track throughout the summer. After they are distributed, we will be able to see how many people scanned the flyers, where they scanned them, and at what times of the day they scanned them. This will provide useful data on which populations we are or are not reaching, and if supplemental distribution methods like flyering are useful.

Funding Opportunities:

Finally, we were tasked with finding future funding opportunities for LARC to pursue in the green infrastructure, climate resilience, and nature-based solutions space to push this project beyond its seed phase. We first applied to The Green Initiative Fund (TGIF) to support our poster development, transportation to neighborhoods around Los Angeles for groundwork, and stipends for any members of our team to stay on as interns for LARC this summer. We asked for \$9,338.50 and we were granted \$538.50. While this

amount meant that our team could not continue working with LARC over the summer, we did leave LARC with a budget plan and a proposal to use for other grant opportunities.

Additionally, we found four other funding opportunities to provide LARC with additional resources in the future. The Rose Foundation has many funding opportunities for communities and the environment across California, including the California Environmental Grassroots Fund. This fund supports small and emerging local groups dedicated to climate resilience and advancing environmental justice. The maximum grant size is \$7,500 and the application criteria fit all of LARC's goals.

CalEPA's Environmental Justice Small Grants provide funding for non-profit community organizations that address environmental justice issues in areas that are disproportionately affected by climate change. LARC could use this fund of up to \$50,000 to work in vulnerable neighborhoods to educate residents on extreme heat and encourage potential partnerships to provide resources in affected neighborhoods.

The California Wellness Foundation has a branch of community well-being funds to provide resources that support community health, safety, and resilience. This aligns with LARC's mission as it works towards creating a safer Los Angeles through heat messaging to lower heat-related deaths and keeps communities thriving during heat waves.

Finally, the Southern California Environmental Health Sciences Center (SCEHSC) Community Action Funds help groups across Southern California address environmental health issues in their communities. This grant funds up to \$5,000 and aligns with LARC's values.

Our hope is that LARC can take advantage of these funding opportunities to continue and expand their work in Los Angeles and beyond, creating new partnerships and working with communities to mitigate the effects of extreme heat.

Conclusion:

While it is generally known that climate change is exacerbating extreme heat events, many people in Los Angeles and beyond do not have the necessary tools and information to protect themselves and their families. LARC set out to address that issue and bring awareness to extreme heat via social media in 2022. However, upon reflection of their 2022 campaign, LARC decided to take a more community-engaged approach to their 2023 campaign development, involving community voices in the process and making sure its content resonated with those most vulnerable to extreme heat. Through the analysis of the 2022 social media data, community workshops and surveys, and supplemental content production, our team helped LARC develop new partnerships and find different ways of bringing awareness to the severity of extreme heat in our city.. Although there are many current efforts to combat extreme heat in Los Angeles County, considerable work remains to truly tackle the issue. Heat-related illnesses will continue to rise if progress in interdisciplinary cooperation and academic transparency does not continue, which will threaten our economy and public health.

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Appendix

I. Sample Community Advisory Group Meeting Agenda

Agenda

2:00 Welcome

2:05 Update on what we learned from the workshops

- Share an update on where we are in revising content post-workshops
- Discussion questions:
 - For the workshops you attended, what were your takeaways?

2:20 Coordination on planning next steps

- Plan distribution strategy logistics
- To sustain this work, invitation to participate in a OPR Regional Resilience Grant collaborative proposal writing team
- Discussion Questions:
 - What are your thoughts on distribution strategies in terms of your current capacities and how we can work together?
 - Are you interested in being part of a grant writing team (~3-5 organizational representatives) as a follow-up to our time together as a CAG?

2:45 Reflective feedback on this CAG experience

- Discussion Questions:
 - How did this CAG experience feel for you?
 - What worked well and what could have been improved?

2:55 Confirming Next Steps

3:00 Adjourn

II. Survey Questions

A. Former Distribution Partner Survey

1. What neighborhoods in Los Angeles County do you serve?
2. What is your organization currently doing, if anything, to combat extreme heat in Los Angeles?
3. Based on your knowledge of the communities you work with, what are some of the best strategies to engage the community you serve? Can you describe what made these strategies effective?
4. Based on your knowledge of the communities you work with, what engagement strategies have not worked well?
5. How active were you as a distribution partner?

6. Were there any barriers or obstacles that hindered your participation in LARC's 2022 Extreme Heat Campaign? If so, how can LARC help remove the barrier(s)?
 7. What can LARC do to increase partner engagement for the upcoming summer 2023 campaign?
 8. Are you willing to provide social media analytics for this upcoming summer's campaign? If so, we will follow up.
 9. Are you interested in being a distribution partner again for summer 2023?
- B. Workshop #1 Pre-Workshop Survey
1. What neighborhoods in Los Angeles County do you serve?
 2. What is your organization currently doing, if anything, to combat extreme heat in Los Angeles?
 3. Based on your knowledge of the communities you work with, what are some of the best strategies you have used to engage the community you serve? What strategies do not work to engage the communities you serve?
 4. Were you a 2022 LARC Extreme Heat Campaign Distribution Partner?
 5. Were there any barriers or obstacles that hindered your participation in LARC's 2022 Extreme Heat Campaign? If so, how can LARC help remove the barrier(s)?
- C. Workshop #1 Post-Workshop Survey
1. What aspects of the workshop did you like?
 2. Is there anything you would have changed about the workshop?
 3. Are there any individuals or organizations that you think LARC should contact to become a 2023 campaign partner? If so, what is their name or contact information?
 4. Are there any individuals or organizations that you think LARC should invite to our next workshop on 5/2 on campaign distribution strategy? If so, what is their contact information?
 5. Do you have any additional resources that LARC should add to the extreme heat community resources toolkit?
 6. Would you like to join the extreme heat social media campaign for summer 2023?
 7. Any final thoughts, comments, or questions?
- D. Workshop #2 Post-Workshop Survey
1. What aspects of this workshop did you like most? (check all that apply)
 2. Is there anything you would have changed about this workshop?
 3. Are there any individuals or organizations that you think LARC should contact to become a 2023 campaign partner? If so, what is their name or contact information?

4. Do you have any additional resources that LARC should add to the extreme heat community resources toolkit?
5. Would you like to join the extreme heat social media campaign for summer 2023?
6. Any final thoughts, comments, or questions?

III. Workshop Discussion Questions

A. Community Health Workshop

1. Have there been any effective strategies or efforts to communicate about extreme heat in healthcare settings in Los Angeles?
[communication to the public]
 - a) Can you describe what made any strategies effective?
 - b) Can you describe what made any strategies ineffective?
2. How is heat health risk being communicated to health care practitioners?
 - a) In addition to communicating with patients about heat, we know that heat-related illnesses and deaths are underreported. As we work together to think about how to get information into the hands of healthcare workers, what additional information do we need to take into account?
3. What do you like about the current content?
4. What do you recommend changing or improving about the current content?
5. What additional information would you like to prioritize or highlight more?
6. Aside from these draft flyers, what is the best medium to communicate this information while in a healthcare setting (e.g., flyer, magnet, poster, other)?
7. In what ways could community health workers, nurses, or clinic staff distribute these informational resources in healthcare settings?
8. How do you recommend evaluating how useful the flyers are (e.g., tracking the QR code)?

B. Distribution Strategy Workshop

1. How can we best connect your engagement plans to the 2023 Extreme Heat Awareness Campaign? How can we collaborate on distributing content this summer?
2. We know that we have the capacity to do social media, bus advertising, and the creation of flyers to be shared by community partners. If we had or could leverage the resources required, where else should we focus distribution?
3. Based on what we've discussed, what are the top 2-3 opportunities to work together to coordinate efforts? Let's identify 2-3 specific distribution coordination strategies to share with the full group