

Heat Illness Prevention Campaign

Final Performance and Evaluation Report

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About this report:

This report on the Heat Illness Prevention Campaign carried out in the summer of 2010 is divided into two parts. The first provides a description of all the activities and deliverables that were created and includes information collected from project staff and from process evaluation activities.

The second part describes the evaluation of the effectiveness of the campaign, measured through follow-up surveys with workers, employers and community organizations.

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EXECUTIVE SUMMARY

In the summer of 2010, an ambitious heat illness prevention campaign was conducted in California to reduce heat-related fatalities and illness among low-wage, non-English speaking outdoor workers. The campaign strategy involved working at multiple levels to: 1) educate workers, employers and the community as a whole about needed prevention measures both during work and outside of work; 2) develop a "community norm" that views heat illness as a serious issue which requires action in the workplace and community; and, 3) increase the visibility of the Division of Occupational Safety and Health (DOSH) as an agency responsive to workers' needs.

The target audiences for this campaign included Spanish-speaking agricultural workers and their employers, Spanish-speaking construction workers and their employers, and three other immigrant non-English speaking farm worker communities: Hmong-, Punjabi- and Mixteco-speakers.

This campaign was the result of funding provided to the Department of Industrial Relations (DIR) from the California State Legislature to conduct a targeted public education and outreach effort. To complete this effort DIR hired the Regents of the University of California, through a contract, to assist in the development and implementation of this outreach effort. The project was coordinated by the Labor Occupational Health Program (LOHP) at UC Berkeley at the direction of the Department of Industrial Relations and DOSH. Collaborators on this project include: Underground Advertising, MOB Media, UCLA Labor Occupational Safety and Health Program, and the Western Center for Agricultural Safety and Health at UC Davis.

Highlights:

- Effective messaging was developed and tested with input from representative workers, employers and community organizations.
- There was significant media coverage in the targeted, hottest regions of the state, and the media mix included billboards, large format posters, ads on lunch trucks and vans and radio ads.
- Media was developed in five languages:
Print ads: Spanish, English, Hmong and Punjabi
Radio ads: Spanish, Hmong and Mixteco
- There was a very positive response to all the supporting educational materials which included highly graphic training materials and promotional items.
- A broad outreach component reached 178 community organizations, a large portion of which extended the campaign's efforts by distributing materials and providing trainings in their communities.
- The impact evaluation findings indicate that the heat illness prevention campaign was effective in reaching non-English speaking workers, community organizations and employers. A large majority of workers reported awareness of campaign materials and positive attitudes towards the media messages.

- Workers showed a significant increase in their self-reported heat illness prevention behaviors after exposure to the campaign. More workers are drinking water, resting in the shade, and talking to their employers and supervisors about heat prevention.

Approach and Program Deliverables

The campaign involved a multi-level approach that included media, social marketing, and outreach and training targeting workers, employers and community organizations.

Media campaign: The media and social marketing campaign was developed to increase broad community awareness of the threat of heat illness, prevention measures needed to avoid it and the roles various players could take (workers, employers and community groups) to address it.

- Media placement focused on strategic coverage of inland areas from Imperial north to Yuba Counties.
- The outdoor media ads were in the form of billboards, large format posters installed in neighborhood businesses, and ads on vans and lunch trucks that reach agricultural and construction work sites. A large majority of the outdoor ads were in Spanish, and smaller targeted quantities were produced in English, Hmong and Punjabi.
- Radio spots were produced in Spanish, Hmong and Mixteco. Media was purchased predominantly in Spanish-language stations and additional radio coverage included Mixteco programming through Radio Bilingue and Hmong stations.
- The selected media strategy emphasized positioning health and safety as simply part of the job ("Water. Rest. Shade. The work can't get done without them.") and promoting an environment supportive of prevention. The top line message of the campaign relates to strong, confident individuals doing what's right for their health, and creates a link between heat illness prevention steps and workers feeling healthier, stronger and more productive.
- A significant "added value" component was negotiated, with a 41% bonus on funds allocated for outdoor ads and a 29% bonus on radio spots, resulting in an additional \$169,281 worth of media received at no charge.
- Alternative media in the form of promotional items included bandanas, key chains, stickers, caps, clipboards, playing cards and lip balm.

Development of educational materials: The campaign involved the development of resources and materials that complemented the media campaign (in look and message). These materials became part of a "tool box" promoted to employers and community organizations, and were distributed in large quantities throughout the state:

- illustrated heat illness fact sheet in Spanish, English, Punjabi and Hmong
- community posters in Spanish, English, Punjabi and Hmong
- DVD with audio options in these four languages and Mixteco, featuring workers in agriculture, construction and landscape work. A facilitators' guide was developed to lead a short discussion following viewing of the DVD.
- fact sheet on how to effectively report a problem to Cal/OSHA, in English and Spanish
- "flip chart" training guide for heat illness training, English and Spanish
- employer training kit that includes posters to use as visual aids (in two versions, agriculture and construction), a training guide to lead an interactive training with employees, fact sheets for workers, a supervisor's daily checklist, (English, Spanish and Hmong)

- postcards that included imagery from media campaign and listed heat standard requirements in English and Spanish.

There was a very positive response to all materials, particularly regarding their simplicity, vivid imagery, effectiveness with workers and usefulness to those carrying out outreach and training.

A campaign website was created to facilitate access to materials and information about heat illness prevention. The site had 9,497 visits by 6,540 unique visitors within the period of June – November 2010.

Employer outreach and training: Activities to reach employers centered on a webinar, promotion of the campaign website and outreach through existing listservs. The overall effort benefited from a complementary campaign implemented by DIR and DOSH to reach employers about the heat standard's requirements and resources available. An employer webinar sponsored by this project was held in June 2010, and 60 people participated.

Community outreach and training: An extensive community outreach list, with names and contact information for 178 organizations around the state, was developed in order to establish contacts between DIR and relevant community groups representing hard-to-reach populations (Latino, Punjabi, Hmong, and indigenous). This list included community organizations, worker centers, clinics, churches, consulates' *Ventanillas de Salud* educational outreach programs, promotora networks, migrant education programs, among others. In addition, a community training program was implemented to build the capacity of organizations to address heat illness and conduct awareness sessions with workers.

- All the organizations on the outreach list received copies of the campaign educational materials. Some requested large quantities (in the thousands) to use in their work, and others received several hundred.
- A webinar for community organizations was held in June 2010 and 27 people participated.
- Eight "Train-the-Trainer" (TOT) programs were carried out throughout the state during July and August 2010, in English or Spanish and in the following locations: Fresno (2), Mendota, Davis, Modesto, Visalia, Los Angeles, and San Diego.
- A total of 125 people from 66 organizations participated in the TOTs. In follow up surveys after the summer, all but two of the 47 organizations reached reported engaging in outreach and education activities to reach an estimated 6,000 – 8,000 workers.

Activities to promote DOSH's presence in the community and increase worker access to the agency: Three activities focused on increasing DOSH's visibility as an agency responsive to workers' needs, in order to address barriers that prevent workers from contacting DOSH, principally fear and distrust of government agencies.

- As a result of an analysis of the Labor and Workforce Development Agency's (LWDA) Worker Information Hotline and the findings that showed limitations of a recorded hotline, the campaign included a pilot project with an existing hotline that has live attendants and is a partnership of US Department of Labor, a Catholic Diocese and the Mexican consulates.
- 119 DOSH staff participated in a webinar that had the focus of ensuring there was a more consistent approach to enforcing the Heat Illness Prevention standard when DOSH staff went out on inspections.

- A community outreach booth with interactive games and materials were developed for DOSH to promote and increase its presence, visibility and positive image among workers through health fairs and other community events. These were utilized by DOSH during Labor Week and in other targeted community outreach.

Outcomes and Impact

A number of evaluation strategies were used to assess the effectiveness of the heat campaign. These included 247 intercept interviews with outdoor workers conducted in Fresno, Bakersfield, Visalia, and Stockton; online surveys with 36 employers and employer associations and 66 community representatives; and key informant interviews conducted with 10 employers and employer associations and 11 community representatives.

The evaluation findings indicate that the heat illness prevention campaign was effective in reaching non-English speaking workers, community organizations and employers. Since this summer's campaign took place over just a few months and evaluation was conducted immediately afterwards, the outcome evaluation focused on the intermediate targets that need to be achieved on the path towards long-term change. This outcome evaluation looked at measures commonly used to evaluate health communication programs, including awareness of the communication, recall of the main messages, comprehension of the messages, and positive attitude toward the messages and the behaviors being promoted.

As a direct result of the heat prevention campaign, worker awareness of heat illness prevention has significantly increased.

- The large majority of workers (87%) who were interviewed about their exposure to the media campaign reported that they had seen or heard advertisements. When asked to recall main messages, nearly two-thirds mentioned drinking water on the job. About half also mentioned messages about taking breaks or stopping to rest, and nearly a third mentioned resting or taking a break in the shade.
- The vast majority of respondents responded positively toward the heat illness prevention messages developed for the media campaign. Workers also thought the media campaign was relevant to them. Almost all (99%) thought the media campaign advertisements were useful. They also thought the ads were believable (93%) and important to their work (80%). Many workers who were interviewed expressed thanks and gratitude for the advertisements, as these reflected a concern for their welfare.
- Workers also reported changes in behavior. More workers are drinking water, resting in the shade and talking with employers and supervisors about heat prevention. There was a statistically significant change between behaviors reported for this summer as compared to before. Even with the recognized limitations of the data based on self-reporting, the increase in the percentage of these behaviors indicates the summer's activities have had a positive effect on actions taken by workers.
- Other positive preventative behaviors workers reported taking after seeing or hearing the media ads included: Over half said they talked to their boss about heat safety, and a little over a third said they looked for more information.

- While workers reported taking appropriate actions when they or their coworkers experienced heat illness symptoms, most did not notify the supervisor. When they personally experienced heat symptoms, 69% of respondents drank water and 60% went to cool in the shade. However, only 27% told their supervisors and 33% just kept on working. However, when a coworker had symptoms, more than two-thirds told the supervisor. Respondents also said they sought water for their coworkers (55%) or sent their coworker to get medical care (27%). About one-third of respondents kept working when their coworkers experienced heat symptoms (31%).

Employers and community organizations also reported awareness of the media campaign.

- About half of the employers interviewed and 83% of community representatives reported exposure to campaign. Response to effectiveness of media varied between these groups. Over 70% of community representative thought the ads were effective. Almost all (98%) thought the radio and billboard ads were useful and caught people’s attention. The majority also thought they were believable (95%) and relevant to workers (93%).
- Employers reported mixed opinions with almost half stating the campaign was effective. There are a variety of reasons for which employers may have felt it was ineffective. Those who provided feedback stated that they should have been more radio and billboard ads, as well as ads on television. Employers could also have been influenced by the fact that ads were worker-focused and included a direct number to Cal/OSHA.

The campaign was **very effective in reaching the objectives of involving community organizations and others who serve as good access points to workers, as well as employers, in providing training and promotion of heat illness prevention.** The majority of employers and community organizations found all of the materials developed for the campaign either extremely or mostly useful.

- After exposure to the campaign, between 75 and 91% of employers groups who responded to the online survey reported considerable understanding of the standard, their responsibilities, signs/symptoms of heat illness, what to do if someone suffers from heat illness and how to prevent heat illness.
- Some employer groups were proud of their participation and role in preventing heat illness. 91% of employers in the follow-up survey reported using campaign materials to train and provide information to their employees. There was also evidence that some employers and those responsible for work conditions had changed their work practices as a result of the campaign.

The outreach conducted to engage organizations in the campaign resulted in the involvement of many different types of organizations in extending the effort to reach workers.

- Almost all the organizations who participated in the Train-the-Trainer programs were involved in distributing materials, conducting workshops, showing the DVD and leading discussions, among others. Some were able to assist workers to resolve heat problems by

contacting Cal/OSHA, informing them of the law and referring them to other organizations for help.

The evaluation also identified challenges that constrain workers' ability to adopt heat illness measures. Some workers reported that conditions had not changed this summer because their supervisors did not take the advertisements seriously or refused to provide the required water, shade and/or rest. Others said they were afraid to speak up or that they did not know how to report a problem. One worker reported that he/she was fired for helping a coworker who was experiencing heat illness symptoms. Community representatives commented that workers are still at risk of losing their jobs if they complain that their employers are not following the heat standard and that the trainings and campaign materials did not address this fear. These comments indicate the need to continue efforts directed at employers, as they have direct control of conditions and promotion of a safety culture at their work site. In open-ended comments and in key informant interviews, both employer groups and community-based organizations recognized the important role that a consistent Cal/OSHA enforcement presence plays in compliance with the heat standard.

Finally, the heat illness prevention campaign appears to have raised the profile of Cal/OSHA so that employees and community representatives are more aware of who to contact if laws are violated. While the evaluation was not able to review actual number of calls made to the 877-99CALOR line, 9% of workers involved in intercept interviews stated they had called this number, and 6% of community representatives called the heat hotline themselves or knew a worker that called the number. About 20% of these same community representatives knew someone other than a worker that had called the heat hotline. Data is not available to assess worker satisfaction with the hotline, but 36% of the community representatives who called said the heat hotline was extremely or very helpful, while 46% said the hotline was only somewhat useful.

Conclusions and recommendations

The 2010 heat illness prevention campaign represents a significant step towards ensuring that non-English-speaking outdoor workers do not die or suffer serious cases of heat illness on the job. The use of a media and social marketing campaign as a principal strategy resulted in the exposure of large numbers of workers, employers and community organizations throughout the state to the main messages, and influenced the development of a community norm that views heat illness as a serious issue which requires action in the workplace and community. The outreach and training components facilitated these workplace and community actions by providing effective materials and building the capacity to conduct training on this issue.

The parallel campaign carried out by DIR and DOSH during the spring and summer of 2010, primarily to reach employers, as well as the agency's enforcement sweeps, were an essential complementary piece to the campaign. These serve to remind employers of Cal/OSHA's focus on the issue, with a resulting greater incentive to comply with the standard.

The following recommendations have been developed for consideration in future efforts to address heat illness among non-English-speaking workers.

- 1) There is general agreement that it is important to have a sustained effort in order to achieve long-term behavior change. In order to have an enduring impact and change longstanding attitudes and cultural norms, employer groups and community representatives recommended that the campaign be continued. The existing media can be used again next year to enhance message recognition and build on the foundation developed this year. Future campaigns should continue to focus on enforcement as well as education.
- 2) Many recommended that this type of campaign should be expanded: geographically to include other regions of the state; by occupation to include other outdoor workers; and linguistically to include other languages (Zapoteco, Mixteco Alto, other Asian languages).

The primary audiences for this year's effort were agricultural workers and their employers, since these workers are at increased risk for serious cases of heat illness. While the agricultural sector is particularly vulnerable, future efforts could expand to have a more comprehensive reach to other occupations, including more work with construction and landscape workers beyond what was accomplished this year.

- 3) Immigrant workers' fear of contacting government agencies and speaking up about hazards on the job represent a significant barrier for workers to call Cal/OSHA to file a complaint. This year's effort involved a pilot program with an existing hotline that had live attendants from trusted community sources. More work is needed to develop a hotline system that works for Cal/OSHA. However, the increased outreach and positive association with the agency from the efforts of the campaign will lead to a greater trust of the agency's responsiveness over time.

PROGRAM GOALS AND OBJECTIVES

The goal of this campaign was to reduce heat-related fatalities and illness among low-wage, non-English speaking outdoor workers in California. The strategy involved working at multiple levels to: 1) educate workers, employers and the community as a whole about needed prevention measures both during work and outside of work; 2) develop a "community norm" that views heat illness as a serious issue which requires action in the workplace and community; and, 3) increase the visibility of the Division of Occupational Safety and Health (DOSH) as an agency responsive to workers' needs.

The project was coordinated by the Labor Occupational Health Program (LOHP) at UC Berkeley, in close collaboration with the Department of Industrial Relations and DOSH, and with the following collaborators: Underground Advertising, MOB Media, UCLA Labor Occupational Safety and Health Program, and the Western Center for Agricultural Health and Safety at UC Davis.

The principal target audiences for this campaign included Spanish-speaking agricultural workers and their employers, Spanish-speaking construction workers and their employers, and three other immigrant non-English speaking farm worker communities: Hmong-, Punjabi- and Mixteco-speakers.

Goals and Objectives:

Specific goals and objectives were developed to guide the strategic thinking for this campaign. These included:

Goal 1: Promote adoption of heat illness prevention measures by non-English-speaking outdoor workers (especially in agriculture, construction and landscaping).

- 1A) A media campaign and educational resources will be developed and outreach conducted to reach non-English speaking workers in the targeted industries, promoting heat illness prevention behaviors and addressing perceived barriers.

As a result of this program, workers in the targeted industries and regions of the state will:

- 1B) Indicate a greater awareness of heat illness and knowledge of prevention measures.
- 1C) Report engaging in heat illness protection measures.
- 1D) Indicate intent to act on these measures if needed.

Goal 2: Improve access to water, shade, breaks and training at the worksite, as required by the heat illness prevention standard.

- 2A) A media campaign and educational resources will be developed and outreach conducted to reach employers of outdoor workers in the targeted industries,

instructing employers about the requirements of the standard, providing tools to train workers and promoting practical solutions for compliance.

As a result of this program, employers in the targeted industries and regions of the state will:

- 2B) Demonstrate willingness to use materials developed for effective training and promotion of heat illness prevention.
- 2C) Indicate a greater awareness of heat illness and knowledge of prevention measures.

Goal 3: Involve community-based organizations, government agencies, and others who serve as good access points for the target worker populations in heat prevention activities.

- 3A) A media campaign and educational resources will be developed and outreach conducted to reach community organizations and others in communities within select regions of the state, who can in turn reach targeted workers.

As a result of this program, community organizations and other resource groups will:

- 3B) Demonstrate willingness to use materials developed for effective training and promotion of heat illness prevention.
- 3B) Begin offering awareness sessions and serve as a resource on heat illness prevention to their constituents.
- 3C) Indicate a greater awareness of heat illness and knowledge of prevention measures.

Goal 4: Increase visibility of the Division of Occupational Safety and Health (DOSH) as an agency responsive to workers' needs.

- 4A) Project staff will analyze the worker hotline, provide recommendations to improve messages, record new messages in five languages and integrate activities promoting the hotline into the campaign.
- 4B) Project staff will provide at least one webinar training to DOSH inspectors focused on improving their access to and increasing their effectiveness in handling complaints and concerns of non-English speaking workers.
- 4C) Messages, materials and activities (including those for use at health fairs) that promote DOSH's presence, visibility and positive image among workers will have been developed to help increase the number of workers who call the worker hotline for more information.

Goal 5: Improve the Department of Industrial Relation's (DIR) access to hard-to-reach populations, and provide recommendations and lessons learned about working with these groups that can be implemented in the future by DIR.

- 5A) Links and contacts between DIR and relevant community groups representing these hard-to-reach populations (Latino, Punjabi, Hmong, and indigenous) will be established and documented.

- 5B) DIR will be provided with heat illness prevention materials including training guides, posters, DVDs, radio spots and radio plays, as well as outdoor advertising and giveaways, in multiple languages which can help facilitate the agency's ongoing educational efforts on this topic.

I. REPORT ON ACTIVITIES AND DELIVERABLES

The campaign involved a multi-level approach that included media, social marketing, and outreach and training, while targeting workers, employers and community organizations. As described under Program Goals and Objectives, the strategies and activities of this effort were four-fold:

1. Develop a media campaign to reach non-English speaking outdoor workers as the primary audience, and their employers and community organizations as secondary audiences;
2. Create educational materials and resources that would be useful to employers and community organizations in training and outreach;
3. Identify and conduct outreach to a broad network of community groups that reach the identified target audiences; and,
4. Develop materials that promote Cal/OSHA's presence in the community and promote hazard reporting to the agency.

Since the sector with the greatest number of workers potentially impacted by serious symptoms of heat illness is agriculture, the greatest number of whom are Spanish-speakers, a large focus of the campaign was designed to reach these workers and their employers. Additionally, Spanish-speaking construction and landscape workers and their employers were part of the target audience, as were three other immigrant non-English-speaking farm worker communities: Hmong, Punjabi and Mixteco.

A. Needs Assessment

A needs assessment carried out at the start of the project provided information that helped frame the media campaign and the development of the educational materials.

This needs assessment included key informant interviews with 24 stakeholders throughout the state. We aimed to gain an understanding of the present knowledge, behaviors and attitudes around heat illness as well as recommendations for key messages and the formats to communicate them. In addition, we sought input on the types of educational materials to develop and the organizations that we should involve.

The needs assessment also included a site visit in the Fresno area for media staff to see first-hand a farm worker setting and have the opportunity to meet with workers and interview supervisors. A needs assessment report was provided to DIR during the course of the project.

The stakeholders interviewed included representatives from:

Employer groups:	Community and other resource organizations:
<ul style="list-style-type: none"> • Agricultural health and safety coordinator, Fresno County • California Farm Labor Contractors Association • Farm Employers' Labor Service • Farm labor contractor (Latino workers) • Hmong farmer • Punjabi foremen • Shea Homes • Ventura County Agricultural Association • Yuba County Farm Bureau 	<ul style="list-style-type: none"> • Association of Latin American Gardeners of Los Angeles (ALAGLA) • Butte County Office of Education Migrant Education Program • California Rural Legal Assistance • Centro Binacional para el Desarrollo Indigena Oaxaqueño • Consulate of Mexico, Imperial Valley • Fresno Catholic Diocese • Institute of Popular Education of Southern California (IDEPSCA) • IDEPSCA Green Gardening Cooperative • Laborers International Union of North America • National Day Laborer Organizing Network • Coachella Poder Popular Promotora Program • Proteus Inc. • UC Davis Extension Program, Fresno

B. Media and Social Marketing Campaign

Highlights

- Media mix included outdoor advertising (billboards, large posters, lunch trucks and van ads), radio spots in Spanish-, Hmong-, and Mixteco-language stations, and alternative media through promotional items (bandanas, key chains, supervisor clipboards, among others).
- The selected media strategy emphasized positioning health and safety as simply part of the job ("Water. Rest. Shade. The work can't get done without them.") and promoting an environment supportive of prevention.
- A significant "added value" (bonus ads at no charge) component included a 41% bonus on funds allocated for outdoor ads and a 29% bonus on radio spots, totaling \$169, 281 worth of media received at no charge as a result of the negotiated media buy.
- Media placement focused on coverage of inland areas from Imperial north to Yuba Counties.

The media and social marketing campaign was the principal focus of this summer's effort and was developed to increase broad community awareness of the threat of heat illness, prevention measures needed to avoid it and the roles various players could take (workers, employers and

community groups) to address it. It was intended to create an environment supportive of prevention and to reach workers and employers at times and places where they are most likely to be in a position to do something about heat illness.

Testing for the media campaign

Based on the needs assessment findings, four possible directions for the media campaign were developed. These were tested through seven focus groups to see which resonated best with the target audiences. One focus group was organized with each target audience to reach:

- Farm labor contractors
- Hmong farmers
- Spanish-speaking farm workers
- Mixteco-speaking farm workers
- Punjabi farm workers
- Spanish-speaking construction workers
- Spanish-speaking landscape workers

The findings from these focus groups showed that one of the creative directions resonated and was well-received by all groups, and this direction was selected for moving forward.

Media strategy

The selected media strategy emphasized positioning health and safety as simply part of the job ("Water. Rest. Shade. The work can't get done without them.") and promoting an environment supportive of prevention. In order to achieve this, the media messages created a positive association between the intended behavior (drinking water, stopping to rest, resting in the shade) and the outcome. Based on needs assessment findings, workers favored messages that gave a "why" – why does this behavior help them? The needs assessment also showed that a key value for both workers and employers was productivity and being able to do the job well. Therefore, the headlines for the campaign drew the link between the recommended prevention steps and the way that these make workers healthier, stronger and more productive.

"Stopping for water keeps you going."	"Con agua uno rinde más."
"A little bit of shade goes a long way."	"El hombre sabio busca la sombra."
"You'll last longer after a little rest."	"Si quiere durar, no olvide descansar."

The top line message of the campaign relates to strong, confident individuals doing what's right for their health. During testing, workers and supervisors commented that they wanted to see the images of workers – people like themselves represented in the billboards. The campaign images show confident workers taking proper safety precautions.

The key message emphasized in all campaign materials ("Water. Rest. Shade. The work can't get done without them") reinforces how essential these are to doing the work and is a message that is relevant to workers as well as their supervisors and employers. The phone number (877-99-CALOR) is a direct resource for workers and Cal/OSHA's logo is a reminder to all that Cal/OSHA is paying attention to this issue.

The radio strategy complemented the messaging used in outdoor advertisements by featuring spots that were conversational, friendly, humorous and drew on similar language as is in the outdoor ad headlines. These ads all integrated the message of "Water. Rest. Shade. The work can't get done without them" and concluded referencing Cal/OSHA and the hotline number. Six 30-second radio spots were created in Spanish and were rotated during the summer to have variety. Three 30-second spots were produced in Hmong, and three in Mixteco. In addition, all stations were provided with ten- and 15-second spots to use as public service announcements (PSAs). A set of these was written for "high heat" alert days. These alerts were issued several times during the summer. If weather reports indicated a heat wave, the campaign triggered communication with the radio stations so they could air the "high heat" alert messages. All the Spanish-language radio stations on which media were purchased responded favorably to this request for extra PSAs.

Media format and placement

Media format and placement decisions were made with the goal of having a plan that would saturate the target areas with the campaign's message, taking into consideration the target audience, the best media formats to reach them, the geographic areas to cover and the funding available. Decisions on placement also involved a review of data from the census, the needs assessment and media market analysis. Media included outdoor advertising, radio and alternative media in the form of promotional items and give-aways. The outdoor advertising involved three formats: billboards, Wallgraphics (large posters) and ads on vans that take farm workers to the fields and on lunch trucks that go to the fields or construction sites. This media mix maximized effectiveness. Radio is a popular format with all target groups, while outdoor is constantly visible. This combination helps enhance message retention and visibility, since outdoor ads will always be visible long after the radio spot is over. Alternative media works effectively to reinforce the messaging directly at the job site.

The placement focused on coverage of inland areas from Imperial to Yuba Counties. Appendix A provides a summary of the outdoor media placement showing a total of 462 outdoor units active between the end of May and September 2010 (funds paid through August but September was negotiated as a bonus month).

Billboards

The campaign included billboards selected based on location and availability. Seventy-nine billboards were placed both in high traffic- locations to be seen by workers and the community at large and on rural roads near the fields. By targeting the rural roads, we were able to reach some of the smaller towns and also reach workers and employers at a time when they are more likely to think about heat and work (e.g. on the way to work or right by the field where they are working). There were seven versions of the billboards: three in Spanish with agricultural worker images, three in English with those same images and one in Spanish with a construction worker image. The ads featured workers representing the target audiences: Latino, Mixteco, Punjabi, Hmong, male and female.

Sample billboards



Wallgraphics

From a media standpoint, Wallgraphics (durable 30" X 46" ads installed in stores, check cashing locations and other places frequented by our target groups) are very creative and flexible. These were produced in Spanish for agricultural and construction workers, and in Hmong and Punjabi.

By focusing placement in areas with the highest density of our target markets, we are able to deliver messages in the appropriate language at the neighborhood level. This is a media that takes the message and makes it available in areas that traditional media cannot come close to reaching. This media also allowed us to reach ancillary targets, such as families, local organizations and the community at large.

Two-hundred stores in the target regions agreed to post the ads during the summer. Since these ads have a longer potential viewing time than a billboard, they included some tips to prevent heat illness as well as a reference to the campaign website. Hmong ads were placed in specific neighborhoods in Fresno and Punjabi ones in Yuba City. While we had originally anticipated also producing these types of ads in Mixteco, the needs assessment findings showed that organizations recommended against producing written ads or materials in Mixteco but instead using images to convey messages while having written information in Spanish.

Sample wallgraphics



 ਇਹਨਾਂ ਦੇ ਬਿਨਾਂ ਕੰਮ ਨਹੀਂ ਹੋ ਸਕਦਾ।

ਗਰਮੀ ਤੋਂ ਸੁਰੱਖਿਆ ਭਾਰੇ ਸੁਝਾਅ ਵਾਰ-ਵਾਰ ਪਾਣੀ ਪੀਓ
ਕੀ ਵਿੱਚ ਆਰਾਮ ਕਰੋ
ਗਰਮੀ ਦੇ ਲੱਛਣਾਂ ਦੀ ਜਲਦੀ ਰਿਪੋਰਟ ਕਰੋ
ਜਾਰੇ ਕਿ ਸੰਕਟਕਾਲ ਵਿੱਚ ਕੀ ਕਰਨਾ ਹੈ

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Wallgraphics, as seen at stores:



Vans and Lunch Trucks

Finally, outdoor ads were placed on 100 vans that take farm workers to work as well as 83 lunch trucks that go to the fields or construction sites. This media allowed for timely message reinforcement when workers were on their way to work or at the job itself, and also were visible to supervisors. Ads were produced in Spanish with agricultural and construction worker images. While the cities of Los Angeles and San Diego were not part of the overall media buy, the campaign included lunch trucks targeting construction workers in these cities.

Sample vans and lunch truck ads



The outdoor advertising was very well-received. Comments from community organizations included:

“I’ve seen lots of them on the freeway and also inside the city limits of Fresno but this one made me smile from ear to ear! Great placement and it is in a heavy agriculture area where many workers stop to get lunch. Good work!” (Upon seeing a lunch truck ad.)

“It’s been great to see the billboards everywhere. When I drive out to Parlier I see them on the rural roads, near where workers are.”

“I like that the messages are in both English and Spanish. They are really prominent and visible.”

Radio

Radio placement also focused on coverage of inland areas from El Centro north to Yuba City. Most of the radio buy was centered on Spanish-language stations such as Radio Lobo, Radio Lazer, La Maquina Musical, La Favorita, La Preciosa, El Gallito, Radio Tricolor. Piolin's radio program was highlighted repeatedly in the needs assessment interviews, and the radio buy included his show in the Fresno, Bakersfield, El Centro, Palm Springs, Sacramento, Stockton and Modesto markets. Radio Bilingue Public Radio Network carried the ads in six markets (including coastal markets of Laytonville, Salinas and Santa Maria). 8,506 spots aired over the summer, timed to air mainly in the early morning hours or afternoon hours (3 - 5 AM, 5 - 8 AM, 3 - 7 PM) when workers were in transit to and from work. Appendix B provides the estimated cumulative audience and reach/frequency information.

In addition, targeted radio markets for other language groups included La Hora Mixteca on Radio Bilingue, and two Hmong stations in Fresno County. We had originally anticipated having radio placement in English- and Punjabi-language stations. However, the ability to saturate the Spanish-language market would have been diminished by allocating funds to English stations, and there is not a radio station that reaches Punjabi communities in the targeted areas. Instead, Punjabi workers listen to stations from India or Pakistan through short-wave radio.

Added Value

Added value refers to bonus media placement negotiated at no charge. An additional \$169,281 worth of media was received at no charge as a result of the negotiated media buy. Much of the outdoor advertising continued to be active into October 2010, so there was an extended overrun placement beyond the contracted period. The total added value as of the end of October 2010 for outdoor media was \$114,229. This represents a 41% bonus on the media funds allocated for outdoor ads. Some ads, like ones on vans, will feature the ads for up to a year (each month of bonus placement is valued at \$12,500).

In addition, 2,478 radio spots were provided as bonus units free of charge, resulting in 29% of all spots being delivered for free. This added value represented a combination of bonus airings as well as PSAs, particularly during heat wave alert times, and represents added value totaling \$55,052.

Alternative Media

Alternative media was developed in the form of promotional items were key to reinforce messaging through items frequently used on the job site.

Seven different give-away items were



developed, which is more than was originally anticipated (both in quantities and variety). The items, language and quantities produced are listed in the following chart:

Item	Language	Quantity
Bandana	Spanish	30,000
	Hmong	7,440
	Punjabi	5,000
Key Chains with thermostat	Spanish	8,000
	Hmong	1,500
	Punjabi	1,500
Stickers	Spanish	14,000
	English	2,000
	Hmong	2,000
	Punjabi	2,000
Caps	Spanish	1,700
	English	100
	Hmong	100
	Punjabi	100
Clipboards with checklist	Spanish	3,000
	English	250
Playing cards	Spanish	1,068
Lip balm	Spanish	5,000

C. Development of Education Materials

Highlights

- A wide range of educational materials were developed, some for workers and others for employers and community organizations to use for training. All materials were developed in Spanish and English, and some in Hmong and Punjabi. Materials included: a low literacy illustrated fact sheet, community posters, DVD with facilitator’s guide, fact sheet on reporting problems to Cal/OSHA, flipchart training guide, employer training posters, employer training guide, supervisor’s daily checklist.
- The materials were produced in large quantities and distributed throughout the state at DOSH outreach events, through community organizations, through trainings and outreach carried out by campaign staff.
- A campaign website was created to facilitate access to materials and information about heat illness prevention. The site had 9,497 visits by 6,540 unique visitors within the period of June – November 2010.
- There was an enthusiastic response to all materials, particularly regarding their simplicity, vivid imagery and effectiveness.

The campaign involved the development of resources and materials that complemented the media campaign (in look and message) and could be used by employers and community organizations to provide the required heat illness training. We aimed to create print materials that were memorable, caught people’s attention and facilitated message retention.

We sought to build on the work that had been done by Cal/OSHA and others in previous years and to focus on filling gaps in materials especially with consideration for the needs of non-English speaking workers. To this end, we focused on developing low literacy materials in which the messages about heat could be interpreted mostly through illustrations and a few key guiding words, in Spanish and English, as well as materials in Mixteco, Hmong and Punjabi. We also developed resources that employers and community groups could use to train workers about heat (a DVD in 5 languages, training guides, posters). The chart below summarizes the materials that were developed, the languages and quantities of each. With these materials, we created a "tool box" to enable employers and community organizations to provide effective training.

Material	Languages and quantities	Description and purpose
Heat illness fact sheet	English (50,000) Spanish (350,000) Hmong (45,000) Punjabi (25,000)	Fact sheet that provides key information (health effects, prevention steps, what is required at work) through illustrations.
Community poster - Agriculture version (3) - Construction version - Hmong version - Punjabi version	English (5,000) Spanish (30,000) Hmong (2,500) Punjabi (2,500)	Features same imagery from the outdoor ads in the campaign, for use to display in different community venues as well as worksites.
DVD with facilitator’s guide	20,000 copies of DVD with 5 language options Discussion guide: English (15,000) Spanish (16,000) Punjabi (1,000)	DVD that features workers from agriculture, construction and landscape industries and includes Spanish-, Mixteco Bajo-, Punjabi- and Hmong-speaking workers. Audio options in these languages as well as English. Comes with a discussion guide so the facilitator can lead a short discussion after viewing.
How to report a problem to Cal/OSHA (fact sheet)	English (10,000) Spanish (45,000)	Describes how to file a complaint and what to include for it to be effective. The main audience is community organizations so they can assist workers in filing complaints. It is useful for workers as well since they do not otherwise learn of this process.
Desktop flipchart training guide (for all industries)	English (600) Spanish (1,900)	Developed primarily for community organizations to use in training. It is helpful for new trainers as they can view their notes and instructions while the audience views an image.

Employer training posters - Agriculture version - Construction version	Ag. English (2,000) Ag. Spanish (11,000) Construction Eng. (1,000) Construction Spanish (3,500) Ag. Hmong (1,000)	These are visual aids that can be used in training, include illustrations and key points.
Employer training guide – agriculture and construction versions. Includes: - posters that can serve as visual aid while training - detailed training guide for crew leader or supervisor - fact sheets for workers - Supervisor’s daily checklist	English (2,500) Spanish (17,500)	This provides employers with a complete packet to provide the training required by law. Although Hmong was not produced in time for this summer, it was requested by Hmong farmers and developed to have on hand for next spring.
Employer promotional postcards (agriculture and construction versions, 5” X 7”)	Bilingual English and Spanish (40,500)	Featuring images that match the outdoor ads, these postcards list the requirements of the heat standard.
Supervisor’s daily check list	Bilingual English and Spanish (18,500) Bilingual English and Hmong (1,000)	Intended to provide an easy reference for crew leaders and supervisors to check daily, to make sure they have on hand what’s needed to prevent heat illness.

Materials were produced in larger quantities and with more variety than had originally been proposed. They were distributed through various outreach and promotional efforts, by all three UC programs, DIR and DOSH district offices. They received an enthusiastic response from community organizations and employers alike. The illustrated heat illness fact sheet was seen as very valuable since key information could be interpreted through the illustrations alone, and it was produced in five languages. Although the flipchart training guide was developed for use by community organizations, employers also requested it as they thought the format of having the trainer’s talking points on one side while the crew saw images on the other would be helpful for their supervisors. Likewise, the employer training kits were popular with community organizations and many requested copies of the posters developed as visual aids for this training kit. Written materials were not developed in Mixteco as needs assessment findings showed that most workers and community members do not read Mixteco. Instead, there was an emphasis on resources that do not depend on literacy, such as the illustrated fact sheet and DVD. Sample comments on the materials overall included:

“I received a box of bandanas, some DVD's and the illustrated fact sheets. They are great! I have already been distributing them. I will be attending a health fair at the Mexican Consulate

next week and providing a workshop on heat stress and these materials will be very useful.”
(Community representative)

“I really think you guys have done an awesome job, we love the materials.” (Community representative)

“I’m really excited to see the new materials here, they look beautiful and WAY more effective than anything I’ve seen before! I’m wondering how I might request a LOT of these – like everything you have....and figure out what is the best way to get it all out to our growers.”
(Employer representative)

Campaign website: www.99calor.org

A campaign website in English and Spanish was designed to provide easy access to information about heat illness prevention and to the materials developed for the campaign. While the principal target for the website was community organizations, it was also promoted with employer audiences.

The website features the campaign ads and provides key information about the prevention measures needed to prevent heat illness. It provides links to download all campaign materials, as well as ordering information. It also includes a page of commonly-asked questions (FAQ’s) that were drawn from the needs assessment.

Since the launch in June, the website has had 6,540 unique visitors who have visited the site a total of 9,497 times. While the peak number of visits occurred during the summer, visitors continue to go to the site as of this writing. The most commonly viewed pages have been the page for employers and the page with educational resources.

Summary of activity for 99calor.org

Month	Unique visitors	Number of visits	Pages	Hits
Jan 2010	0	0	0	0
Feb 2010	0	0	0	0
Mar 2010	0	0	0	0
Apr 2010	0	0	0	0
May 2010	0	0	0	0
Jun 2010	548	901	4071	33794
Jul 2010	1891	2937	11083	87201
Aug 2010	1731	2530	9233	74428
Sep 2010	1197	1577	4840	37679
Oct 2010	851	1113	3037	23586
Nov 2010	322	439	1173	9012
Dec 2010	0	0	0	0
Total	6540	9497	33437	265700

D. Outreach and Training

Highlights

- An extensive outreach list was developed and outreach conducted with 178 organizations around the state that serve as key access points for the non-English speaking workers that were targeted by the campaign.
- Webinars were held with community organizations and with employers to describe heat illness prevention, the requirements of the standard and the summer's campaign.
- Eight "Train-the-Trainer" (TOT) programs were carried out in various regions of the state, and a total of 125 people from 66 organizations participated. TOTs were able to engage a number of organizations that don't typically address work-related issues.
- TOT participants in turn carried out educational and outreach activities with workers, reaching an estimated 5,900 – 7,600 workers.

Employer outreach and training

Activities to reach employers centered on a webinar, promotion of the campaign website and outreach through existing listservs. Outreach to employers during 2010 was principally achieved through a complementary outreach campaign that DIR and DOSH began in the spring. This involved numerous workshops throughout the state for employers and supervisors as well as other efforts to educate employers about the standard and to promote the resources developed for training and education. The agencies also conducted outreach with Hmong farmers.

The employer webinar sponsored by this project was held in June 2010, and 60 people participated. This webinar provided an update on the regulations and described the summer campaign. An online evaluation survey conducted a few days after the webinar had 18 responses and found that: 82% respondents thought the webinar was useful or very useful; 10% had a neutral opinion; and 6% thought it was only somewhat useful. Thirteen respondents provided comments on what was most useful about the webinar. Two general themes emerged with comments on the content and format of the webinar training. In terms of content, respondents thought the question and answer section was very useful. In addition, they appreciated the updates on future as well as potential regulation and policy changes. With regard to format, several people thought the webinar was a convenient means to obtain necessary information without having to travel, which made it economical as well. Similarly, respondents found the visual information useful, especially compared to just having conference calls.

Several people stated it would be beneficial if examples could be provided, especially for good compared to bad field actions. Similarly, it was mentioned that providing examples of novel solutions and ideas for heat illness prevention would be useful. Lastly, issues regarding the penalty system and the sustainability of citable issues were suggested as a future topic to be covered. (A more detailed evaluation summary of the webinar was provided to DIR during the course of the campaign.)

Other outreach efforts for employers involved promoting the 99calor.org website and sending announcements about the campaign and resources to existing list serves (Heat Illness Prevention Network, UC Davis AgHealth, etc.).

Community outreach and training

The three UC programs drew on their previously existing relationships with many community organizations, worker centers, clinics, churches, consulates' *Ventanillas de Salud* educational outreach program, promotora networks and others, but also worked to identify additional groups, especially for Hmong and Punjabi workers. We developed a broad community outreach plan that promoted participation in the campaign and use of resources.

Development of community outreach list

We created an extensive community outreach list, with names and contact information for 178 organizations around the state that provided training, services or support to at least one of the target audiences. This met the objective of establishing contacts between DIR and relevant community groups representing hard-to-reach populations (Latino, Punjabi, Hmong, and indigenous). Appendix C includes the list of organizations included in this outreach. Contact information has been provided to DIR for future use.

Most of the organizations on this list received a phone call during the campaign development process to describe the campaign and encourage their participation. During this call, they were also asked in which ways they thought they could participate, such as by: posting materials; distributing materials; carrying out workshops; showing the DVD; and, assisting workers with filing complaints.

By the time the campaign launched in late May, many organizations had already expressed intentions to participate in summer outreach.

All the organizations on the outreach list received copies of the educational materials. Some requested large quantities (in the thousands) to use in their work, and others received several hundred. During the course of the summer, we continued to receive requests for additional materials. This outreach list was also used to invite organizations to participate in the webinar that was sponsored for the campaign, and in the summer's Train-the-Trainer programs.

Community Organizations Webinar

A webinar for community organizations was held in June 2010. The main goals of the webinar were to provide some background on heat illness and this summer's effort, as well as to describe the media campaign and the materials that were being developed. As a result, we hoped that participants would participate in carrying out activities this summer to reach workers in their communities.

Though 56 people registered for the webinar, 27 participated. An evaluation survey implemented the week after the webinar was conducted had 22 respondents, and found that 96% thought the webinar provided useful information and 82% thought the webinar met or exceeded

their expectations. This survey also showed that there were considerable gains in the percentage of people who had learned about heat illness symptoms, actions needed to prevent heat illness, the California heat laws, employer responsibilities and the campaign. All of the respondents indicated intent to participate in the campaign: 82% would distribute materials; 50% would show the DVD and 41% would carry out heat awareness workshops.

While the majority of respondents said they were very satisfied with instructions to participate in the webinar, some also reported technical difficulties. For instance, one organization only realized that morning that these types of webinars are blocked by their IT department. We do not know to what extent technical difficulties prevented others who had registered from attending, or whether other factors affected this. Those who participated did express that this was a useful format for conveying information across the state.

Reaching Youth

In California, the month of May has been designated as Safe Jobs for Youth Month, and UC Berkeley LOHP organizes a variety of activities, in collaboration with DIR, to promote awareness of teens’ health and safety on the job. This year, as a complement to the heat campaign, the kit that is promoted to all high schools in the state included a teaching activity focused on heat illness prevention. One hundred hard copies of the resource kit were distributed to high school teachers, and several hundred more were downloaded through the website youngworkers.org.

Community Outreach and Training

In an effort to build the capacity of community-based organizations to address heat illness and carry out awareness sessions with workers, eight “Train-the-Trainer” (TOT) programs were carried out throughout the state during July and August 2010, in English or Spanish and in the following locations:

English	Fresno, Mendota, Davis, Modesto
Spanish	Visalia, Fresno
Bilingual	Los Angeles, San Diego

A total of 125 people from 66 organizations participated in the TOTs. Appendix D provides a list of participating organizations. Five of these were employers who were targeted because they employed large numbers of Punjabi workers.

The TOTs were four hours long and focused on using the desktop flipchart guide as a model for training. Participants had the opportunity to practice training with the flipchart and received feedback. All participants received a packet of materials including fact sheets, community posters, DVD and discussion guides, postcards, as well as give-away items (bandanas, key chains, lip balm). They were asked to fill out an organizational action plan in which they detailed the type of heat-related activities they would conduct. Evaluations conducted right after the TOTs showed that these were well-received. Comments including liking the participatory nature of all the activities and that the opportunity to practice teaching with the guide was especially useful. Participants liked receiving a variety of resources that they could use according to their needs, for instance while training small groups they could use the flipchart

guide while others said they would use the DVD in their waiting rooms or to lead discussions. The images on the flipchart guide were requested as Power Point slides for use in larger trainings, and these were provided in both English and Spanish. One suggestion for improvement mentioned by many participants related to the length of the TOT, as they thought it would be good if it were a day-long training (as opposed to four hours).

The TOTs were also successful in that we were able to engage a number of organizations that don't typically address work-related issues. These included clinics and school personnel, for instance. Several organizations that would reach Hmong and Punjabi workers attended, as well as many promotoras who do community education on other health issues.

Follow-up with participants

At the end of the summer, attempts were made to reach at least one representative from each organization that participated in the TOTs to learn from their experience and see what they were able to accomplish based on their action plans. Representatives from 47 of the participating organizations were reached and reported on their activities in the months following the TOTs.

All but two of the respondents had either completed or were working towards completing their action plans. Some had modified the plans based on circumstances and opportunities that came up to do other types of outreach and education. The two who had not worked on their action plan noted that they still planned to carry out activities but in the spring of next year. The others reported a range of activities including:

Activities organizations carried out:	
Posting campaign materials – 10 organizations	Distributing information – 16 organization
Assisting workers in resolving a heat problem or filing a complaint – 14 organizations	Carrying out workshops – 33 organizations
Conducting outreach through health fairs and other activities – 27 organizations	Showing the heat DVD and leading a discussion – 24 organizations

Respondents were also asked to estimate how many workers they had reached through their efforts this summer. The table below shows their responses:

Number of workers reached:	
1-25	9 organizations
26 – 50	2 organizations
51 – 100	11 organizations
101-200	11 organizations
201- 500	8 organizations
More than 500	2 organizations (550 +743)

Using these figures we can estimate that the organizations that participated in the TOT reached between 5,900 and 7,600 non-English speaking workers in their communities. As these follow-up interviews were conducted after TOT participants had the opportunity to use materials with workers, we asked for feedback on the TOT and on workers' response to the materials and training. Everyone responded that the TOT was very helpful and did a good or great job in

preparing them to do outreach and training on heat illness. They commented that the flipchart training guide was very useful to them and made them feel prepared and confident. In terms of worker response to materials, most respondents commented that the materials were very effective and that worker response was positive. Materials in languages such as Punjabi were mentioned as being especially helpful since there was no information in this language before. Several commented that workers liked the bandanas the most and were “delighted to receive them,” and that the materials were great because of simple language and illustrations. They liked the simplicity and that they were easy to understand.

In terms of changes or considerations for the future, some participants suggested:

- have a hotline number that is easy to remember – such as 222-2222. This respondent thought it could be hard for workers to figure out what numbers correspond to CALOR.
- hold these trainings again but before summer, in the spring, so that workers can be trained before they start working in hot months.
- have the TOT be longer in length, so there is more opportunity to practice and have discussion (increase to a full day from the half-day format offered this year).

Other outreach activities

The three UC programs continued outreach activities over the summer, reaching workers through a variety of ways, including:

- 1) Webinar with the California State Rural Health Association, for community health clinics and their outreach workers.
- 2) Presentation and distribution of materials at three farmers’ markets in Northern California and in the Fresno area.
- 3) Variety of workshops including at day labor centers, roofer’s apprenticeship program, and migrant outreach events.
- 4) Attendance at Spring into Health Event organized by Centro La Familia and West Fresno Health Coalition.
- 5) Ongoing participation in *Ventanilla de Salud* events at the Mexican consulates in Sacramento and Los Angeles – offered workshops as well as one-on-one education, reaching over 300 workers.
- 6) Outreach at Guatemalan and Salvadoran consulates in Los Angeles.
- 7) Training of trainers with 5 Punjabi leaders in Yuba City. These leaders then distributed bandanas and information to 250 Punjabi farm workers.
- 8) Dissemination of materials through key contacts, such as physicians that serve Punjabi community in the Yuba City area.

E. Promoting visibility of DOSH

Highlights

- As a result of an analysis of the Labor and Workforce Development Agency's (LWDA) Worker Information Hotline, the campaign partnered with an existing hotline that had live attendants from trusted community organizations, to increase likelihood of worker calls.
- 119 DOSH staff participated in a webinar to help ensure there was a more consistent approach to enforcing the Heat Illness Prevention standard when DOSH staff went out on inspections.
- A community outreach booth and materials were developed for DOSH to promote and increase its presence, visibility and positive image among workers through health fairs and other community events.

Since DIR and DOSH were interested in increasing calls from workers to the agency hotline and worker complaints when heat hazards were present on their job, this campaign sought ways to promote DOSH visibility as an agency responsive to workers' needs.

Analysis of agency's worker hotline

In the campaign development phase, we conducted an analysis of the Labor and Workforce Development Agency's (LWDA) Worker Information Hotline. The purpose of the analysis was to provide specific feedback to DIR regarding the current use and effectiveness of the hotline, and make recommendations for improvements. The analysis included the following five activities:

1. A literature review on effective informational hotlines.
2. A quantitative analysis of the LWDA Hotline use from May-August 2009.
3. Interviews with eight members of the target audience who accessed the hotline information.
4. Interviews with 19 key community representatives soliciting their comments and suggestions for the hotline.
5. A comparison with three other state-wide and national information hotlines.

A report summarizing the findings was provided to DIR during the course of the project. Some highlights include:

- 1) **Multiple barriers exist for non-English speaking workers to effectively use a recorded hotline.** Workers and key community representatives who were asked to use the hotline pointed to several significant barriers for non-English speaking immigrant workers. This included the finding that workers do not like to call a recorded line, either because they get confused by the prompts or they do not want to access a recording. They also may be fearful

of making any calls to a government-sponsored hotline. Given these barriers, callers would have to be motivated and persistent to want to seek out the information.

- 2) **The existing hotline had limited use.** The quantitative analysis shows that the number of callers (1,731) accessing information in Spanish in the summer of 2009 is relatively insignificant when compared to the estimated 700,000 workers in the agricultural labor force alone, not to mention other outdoor workers in California. Of these, only 5% sought information about heat, while the majority sought information about wage and hour. Another 15% made no selection of topic once they had called the hotline, which raises the possibility that these callers simply hung up once they realized they were accessing a recording.
- 3) To make the hotline more relevant and useful, **there is a need for a resource that provides the opportunity to problem-solve with a live person.** Workers or community advocates are more likely to have an issue for which they are seeking help, and they are hoping to problem solve the situation by having a conversation with a knowledgeable person. A live hotline attendant would offer the caller the opportunity to have a dynamic conversation and obtain specific information or referrals.

Based on these findings, we recommended to DIR and DOSH that the existing hotline not be used on the media campaign materials, and that instead they explore a pilot program with an existing hotline that has live attendants who work at trusted community resources. This pilot was set up with the EMPLEO hotline in Southern California, a partnership of the U.S. Department of Labor, the Catholic Diocese of San Bernardino and the Mexican Consulate. Over the summer, callers who called the number on all campaign materials – 877-99CALOR – were patched through to attendants from the Diocese or Consulate who would triage their calls, provide information and refer on to DOSH offices if needed. DOSH staff trained attendants to be able to respond to heat-related questions.

By collaborating with the EMPLEO hotline, we were able to address some of the barriers that were revealed in the LWDA hotline analysis in a feasible manner given the time constraints. The challenge is that we were not able to set up an adequate tracking system to monitor the number of calls that came directly through the CALOR line and to document the nature of each call. In the short-term, some issues did arise. For instance, people reported some confusion as to why calls to 99CALOR would be answered by the Mexican Consulate. There was also not always a live attendant at the consulates, and some people reported that their calls were not returned in a timely manner. This is an area that needs to be further developed and evaluated.

Webinar for DOSH Inspectors

The original work plan specified that one webinar training would be held for DOSH inspectors, focused on improving their access to and increasing their effectiveness in handling complaints and concerns of non-English speaking workers. As the campaign developed, however, the focus of the webinar shifted to one of ensuring that there was a more consistent approach to enforcing

the Heat Illness Prevention standard when DOSH staff conducted inspections. This webinar was held in June 2010 and had 119 participants, the majority of whom were compliance officers.

DOSH staff that completed a pre-webinar survey highlighted challenges they faced in conducting heat-related inspections in three key areas:

- 1) Questions about how to enforce the heat standard,
- 2) Challenges communicating with on-site supervisors, and
- 3) Challenges communicating with workers, because inspectors do not speak workers' language and/or because supervisors attempted to prevent DOSH inspectors from speaking with workers.

The webinar was designed to clarify how to enforce the heat standard and related challenges so that compliance officers are able to enforce the standard in a consistent way.

Sixty percent of DOSH staff who participated in the webinar found the webinar information helpful or very helpful. Sixteen percent thought it was somewhat helpful. Twenty percent were neutral and only four percent thought that it was not helpful. When asked what was most useful, respondents said it was a good refresher on the basic policies and it was helpful to obtain information on policy changes. Several specifically cited a presentation which offered very practical tips on carrying out a heat sweep inspection as being particularly helpful. Many said the webinar was convenient with the added bonus of saving time and money. Also, the question and answer session was useful for clarification of certain points about how to implement the standard.

Community Outreach Booth

In order to promote and increase DOSH's presence, visibility and positive image among workers, a community outreach booth was designed with the idea that DOSH could use it for health fairs and other outreach events. Twelve booths were created and sent to DOSH district offices, headquarters and DIR. Each office received a booth, banner stands with campaign images, materials for the booth and an interactive prize wheel game. Project staff created a set of questions for the game in English and Spanish. These were used at various outreach events, including those held during Labor Rights week in August.

Health fair booth at outreach event:



Summary

This process evaluation summary documents completion of all the intended activities in the proposal. There were some modifications made during the development phase based on needs assessment findings, particularly related to not developing any written materials or ads in Mixteco and not airing radio spots in English- or Punjabi-language stations. On the other hand, the types of ads and formats used in the campaign were more varied than had initially been envisioned, as were all the educational materials, both in terms of type of material and quantities produced. There was an enthusiastic response to campaign materials from community organizations and employers alike. All the deliverables were met by the end of the project period.

Part II: Report on Outcomes and Impact

Overview

We contracted with an evaluation team from the UCLA Center for Public Health and Disasters to collect data on the impact and outcomes of the Heat Campaign. The following section is based on the results provided by this team.

This outcome evaluation evaluated the effectiveness of the heat illness prevention campaign by assessing the extent to which the goals of the program were achieved. These goals are described under Program Goals and Objectives, and were to:

1. Promote adoption of heat illness prevention measures by non-English-speaking outdoor workers (especially in agriculture, construction and landscaping).
2. Improve access to water, shade, breaks and training at the worksite, as required by the heat illness prevention standard.
3. Involve community-based organizations, government agencies, and others who serve as good access points for the target worker populations in heat prevention activities.
4. Increase visibility of the Division of Occupational Safety and Health (DOSH) as an agency responsive to workers' needs.

Health communication campaigns such as this one generally strive to generate specific outcomes or effects in a relatively large number of individuals within a specified period of time and through an organized set of communication activities. In order for health communication campaigns to be effective, the target audience needs to be exposed to the campaign; pay attention to the material; understand the material; accept that the material is relevant to them; change the attitudes towards the message; and change their behaviors.¹ A comprehensive evaluation, therefore, must assess each of these factors. This outcome evaluation takes these factors into account by assessing awareness of the communication, recall of the main messages, comprehension of the messages, and positive attitude toward the messages and the behaviors being promoted.

The logic model in Appendix E illustrates the underlying framework for this heat illness prevention communication program, and how specific short- and mid-term objectives lead to long-term behavior change goals. Since this summer's campaign took place over just a few months and evaluation was conducted immediately afterwards, this outcome evaluation focused on intermediate targets rather than long-term change.

A number of different evaluation strategies were used to assess the effectiveness of the campaign:

- Intercept interviews with workers (randomly stopped at commonly frequented locations)

¹ Freimuth, V, Cole, G, and Kirby, S. Issues in Evaluating Mass Media-Based Health Communication Campaigns. http://www.cdc.gov/DHDSP/cdcynergy_training/Content/activeinformation/resources/Eval_Media_Campaign_WH_O.pdf

- Online surveys with employers and employer associations, and community representatives, and
- Key informant interviews with employers and employer associations, as well as with community representatives.

GOAL 1: Promote adoption of heat illness prevention measures by non-English-speaking outdoor workers (especially in agriculture, construction and landscaping).

Objectives: As a result of this program, workers in the targeted industries and regions of the state will:

- 1A) Indicate a greater awareness of heat illness and knowledge of prevention measures.
- 1B) Report engaging in heat illness protection measures.
- 1C) Indicate intent to act on these measures if needed.

All of the efforts of the campaign ultimately aimed to protect non-English-speaking outdoor workers from heat illness. The media campaign directly targeted non-English speaking outdoor workers to raise their awareness about heat illness and how to prevent it. Additionally, the trainings and activities conducted with employer groups and community representatives sought to result in actions that would be beneficial to outdoor workers (discussed in Goals 2 & 3 below) as were the efforts to increase DOSH’s visibility and workers’ access to the agency (discussed in Goal 4 below).

Intercept interviews

Between August 31 and September 10, 2010, interviews were conducted with outdoor workers to assess the impact of the media campaign and other efforts to influence their knowledge about and behavior towards heat illness prevention. In-person interviews were conducted with 247 individuals (all outdoor workers aged 18 or older) who worked in industries such as agriculture, construction and landscaping. Interviews were conducted in public locations in Stockton, Fresno, Visalia and Bakersfield. Trained interviewers recruited participants at locations where outdoor workers (primarily agriculture workers) are known to congregate, such as swap meets, gas stations, convenience stores, and sites where workers are picked up and brought to their job sites. Data were collected via oral interviews in English or Spanish that lasted approximately 10 minutes each. A structured questionnaire was used to conduct the interviews. It included questions about demographic characteristics, whether or not the participant had been exposed to the media campaign, their perceptions of the campaign, and their behavior related to reducing heat illness.

The data from these interviews were supplemented by 11 key informant interviews with a select number of community representatives. Key informants were from groups working with audiences in agriculture and construction, and represent a range of linguistic groups. Quotes from these interviews are included to illustrate common responses.

Sample characteristics

Table 1 presents the demographic characteristics for participants in the heat illness campaign intercept interviews. The majority of respondents worked in agriculture (86%), landscaping (4%) or construction (3%).² The length of time people had worked in each industry varied from two weeks to 50 years. Almost all respondents spoke Spanish (98%) followed by English (12%), some other language (3%), Mixteco (2%), Hmong (0.4%) and Punjabi (0.4%). The other languages respondents spoke were Tarasco, Zapoteco and French (respondents could report more than one language). In terms of education, about a quarter (23%) of respondents had completed high school with the median number of years of schooling completed being six. More males (58%) were interviewed than females (42%).

Table 1. Select characteristics of participants in survey (N=247).

	Percentage
Type of industry	
Agriculture	86.3
Construction	2.8
Landscaping	4.0
Other	8.5
Languages spoken	
Spanish	98.0
Hmong	0.4
Mixteco	2.0
Punjabi	0.4
English	12.1
Other	3.2
Median years of education	6
Completed high school: Yes	23.0
Gender: Female	41.8

Exposure to and awareness of media campaign advertisements

When asked if they had seen or heard any advertisements about heat at work, protecting oneself from heat on the job, or heat illness, the majority (87%) said they had seen or heard information relating to these issues. Workers were asked to recall a main message and nearly two-thirds of those who responded to the question mentioned hearing or seeing something about drinking water on the job. About half also mentioned messages about taking breaks or stopping to rest, and nearly a third mentioned resting or taking a break in the shade. Respondents also mentioned seeing or hearing information about signs and symptoms of heat illness as well as what to do if they fell ill from the heat.

When asked where they had seen or heard campaign advertisements about heat illness prevention, 52% of respondents mentioned hearing advertisements on the radio. Others

² A small percentage of respondents in the Stockton area were childcare workers and others who were not part of the target audience. Their inclusion in the analysis may introduce a potential bias into the results.

mentioned seeing outdoor ads in the form of billboards (38%) and posters (36%). To a lesser extent, advertisements on lunch trucks/vans (19%) and promotional items (7%) were also mentioned. About half of the respondents (46%) mentioned other locations where they saw advertisements such as in bathrooms, on pamphlets, at work trainings and on the news.

Overall, the respondents reported feeling that the media campaign was relevant to them. Almost all (99%) thought the media campaign advertisements were useful. They also thought the campaign ads were believable (93%) and important to their work (80%). When describing what they liked about the ads, about 25% of the respondents mentioned that they liked seeing worker-oriented ads that reflect a concern for workers. Another 40% made general comments about their favorable impressions of the advertisements and information provided. A few respondents commented that the ads are not respected or taken seriously by employers.

Attitudes and actions related to heat and health at work

The vast majority of respondents responded positively toward the heat illness prevention messages developed for the media campaign. Almost all respondents said water, rest and shade are essential parts of the job (99%) as well as a right on the job (98%). Similarly, almost all respondents said preventing heat illness will make them stronger and more productive (97%) and that heat illness can be prevented (95%).

Respondents were asked if they had been protecting themselves from heat illness this summer. Almost all (95%) said they were drinking water regularly during their shift and asking for water on the job, if needed (92%). A majority of respondents also said they were resting in the shade to cool down (91%), asking for shade to rest, if needed (85%), and talking to coworkers about heat protection (85%). In order to assess if these actions resulted from the campaign, respondents were asked whether they had engaged in this behavior before. Many said that in the past they had drunk water regularly during their shift (72%) and asked for water on the job, if needed (70%). Respondents also said they had rested in the shade to cool down (63%), asked for shade to rest if needed (55%) and talked to coworkers about heat protection (54%). These findings show a statistically significant increase $p < 0.01$ in actions taken this summer to prevent heat illness as opposed to before the summer—an increase presumably resulting from the media campaign (see Fig. 1 below).

Q: After seeing or hearing these ads, please tell us about your actions. A. Have you been <...> this summer? B. Have you ever done this before?

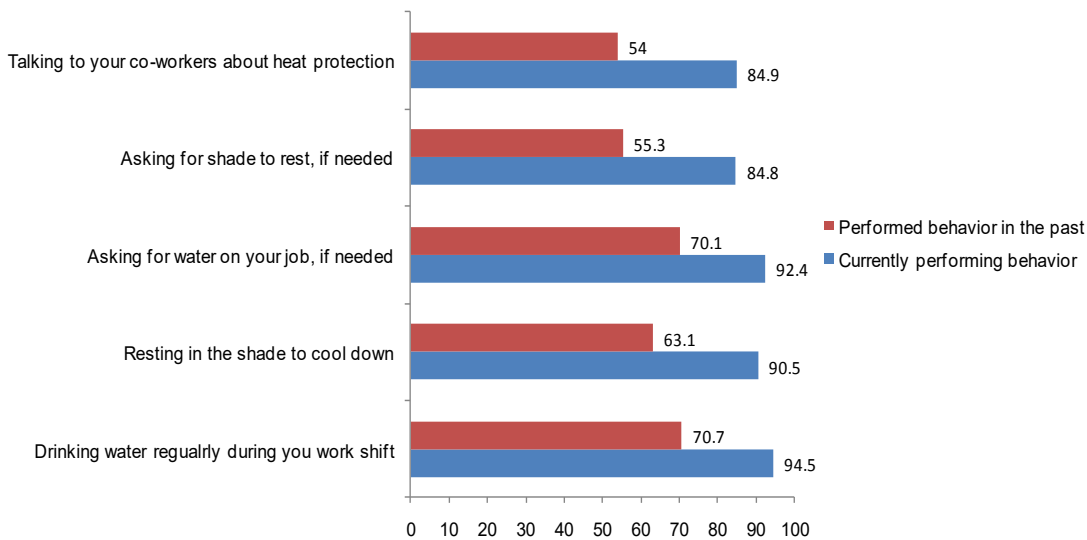


Figure 1: Heat and health-related actions

Respondents were also asked about other actions they had taken since hearing or seeing the media campaign advertisements. Over half (58%) said they talked to their boss about heat safety, and a little over a third (38%) said they looked for more information. To a lesser extent, respondents reported problems at their worksites (13%) or called the 877-99CALOR hotline (9%). Some of the other actions mentioned were receiving training, being more proactive in asking for water, being more aware of one’s own health and talking with coworkers.

Q: After seeing or hearing these ads, did you...

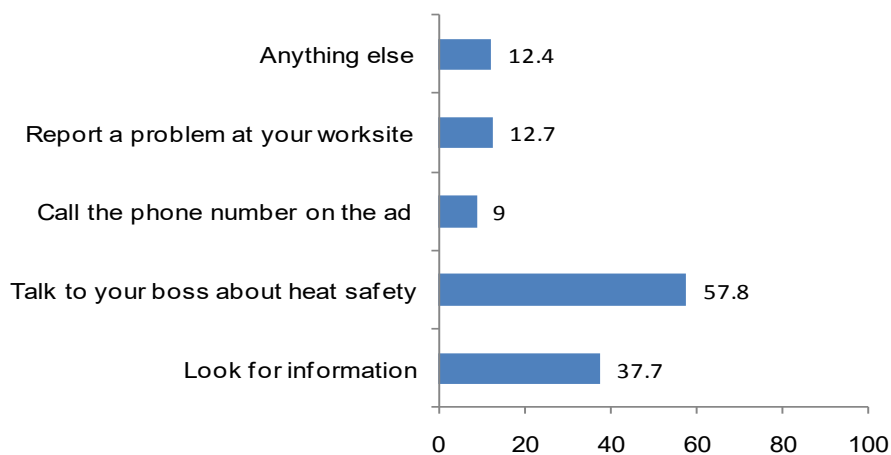


Figure 2: Actions after seeing or hearing media campaign ads (N=199)

About 19% of respondents said they had not taken any action after seeing or hearing media campaign advertisements. The most common reason (from approximately 30% of the relevant respondents) was that there were no problems at their work place. This was followed by respondents saying they were afraid or concerned to speak up (15%) and that they did not know

how to report a problem (15%). Respondents also said they did not want to stop to take breaks or get water (8%), they did not know how to protect themselves (7%) and they did not feel that they would suffer from heat illness (3%).

Personal experience with heat illness at work

In order to assess both knowledge of symptoms of heat illness and treatment for heat illness, survey participants were asked if they had experienced heat illness while working this summer. Although the summer of 2010 was a relatively cool summer, almost 30% of respondents reported experiencing one or more symptoms of heat illness. Those respondents who said they had suffered heat illness were asked which symptoms they had experienced. Most respondents reported having fewer than four symptoms, but a few reported as many as ten. About one in five said they had experienced headaches, sweatiness (14%), feeling very weak (12%), having nausea or vomiting (11%), and having dizziness (10%). Other symptoms were experienced to a less extent including rapid heart beat (9%), cramps (7%), red, hot skin with no sweat (7%), and feeling confused (4%).

Q: Which symptoms or health problems did you experience? Please choose all that apply:

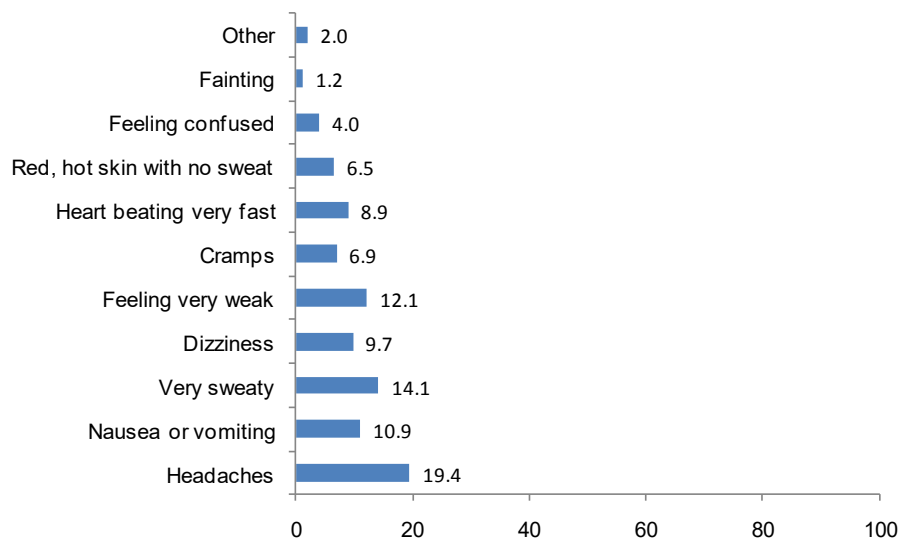


Figure 3: Experience with heat illness (N=64)

Those that reported experiencing heat illness this summer were asked what actions they took. Some respondents said they drank water (69%) or went to cool down in the shade (60%). To a lesser extent, respondents told their supervisors (27%) while one third just kept working (33%). Some of the other actions people reported were stopping work, taking medication, working slower, and sitting in a vehicle with the air conditioner on.

Q. What did you do about this when you were having symptoms? Please choose all that apply:

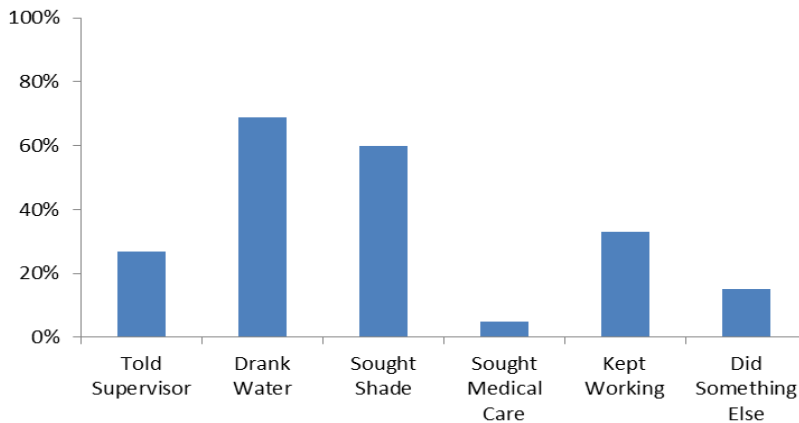


Figure 4: Actions taken by workers after experiencing symptoms of heat illness (N=49)

Coworkers' experience with heat and health

Respondents were asked about their coworkers this summer and about 27% of the sample said one of their coworkers had experienced heat illness this summer. Those respondents were asked what action(s) they took. More than two-thirds said they told their supervisor (69%) or helped their coworkers cool down in the shade (66%). Respondents also said they sought water for their coworkers (55%) or sent their coworker to get medical care (27%). About one-third of respondents kept working when their coworkers experienced heat symptoms (31%). Some of the other actions respondents mentioned included stopping everyone from working and calling an ambulance.³

Q: What did you or others do when your coworker had heat symptoms? Please choose all that apply:

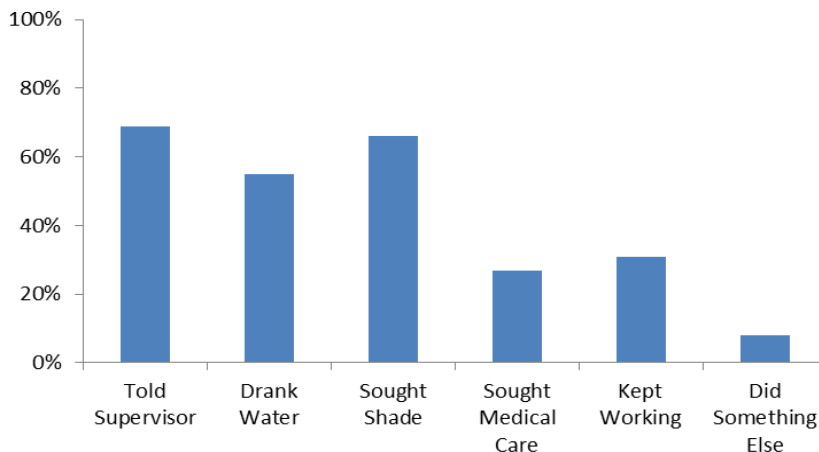


Figure 5: Actions taken on behalf of coworker with symptoms of heat illness (N=67)

³ In addition, one respondent reported being fired after helping a coworker who was experiencing heat-related symptoms.

Comments about the Heat Illness Campaign

In concluding the survey, we asked respondents if they had any comments or suggestions for the campaign in the future. Comments included that workplace conditions had changed or that workers were taking better care of themselves after the advertisements had gone into effect. Many expressed thanks and gratitude for the advertisements and requested more information in places where workers congregate and work. Some also requested more advocacy “in the field” rather than just in advertisements, or noted that conditions had not changed this summer because supervisors did not take the advertisements seriously or refused to provide requirements of water, shade and/or rest.

Summary of Goal 1

Overall, the results from the interviews with workers suggest that the campaign was successful in meeting the goal to promote adoption of heat illness prevention measures among workers. A large majority of respondents (nearly 90%) reported seeing or hearing the campaign and many were able to detail how to prevent heat illness. Key informant interviews with community representatives further support these findings:

The campaign satisfied a need we've been seeing for a long time, which was reaching workers... this campaign really reached them this year. Billboards were good at conveying the information for the audience they were intended for. They communicated the message that you can't get the work done if you're sick. (Community Representative)

During the last year, I've asked employees if they've seen the media advertisements and over 50% said yes, they had heard them. People are more aware of the laws and the importance of heat prevention. (Employer Representative)

Respondents nearly universally endorsed attitudes consistent with those of the campaign—that water, rest and shade are essential parts of the job and a right on the job; that preventing heat illness will make them stronger and more productive; and that heat illness can be prevented. Furthermore, behaviors consistent with the campaign were also reported by the respondents. Workers were more likely to report engaging in heat illness prevention behaviors after seeing the campaign such as drinking water, seeking shade and resting.

Workers are more aware about heat stress. More specifically, they are more aware about drinking water and how much water they should drink. (Community Representative)

As workers become more aware of the laws, some are more confident to report problems and/or speak up.

At a training session, a group of workers complained about not having water or shade and this is something that you would not see in the past. The campaign empowers people to say I know this is the law. (Community Representative)

We've received more anonymous calls to complain that they're not being provided with shade or water. (Community Representative)

We received a lot of phone calls from workers after the distribution of the water bottles complaining about their working conditions. The thermometer, bandanas, and lip balms got the attention of the workers during trainings. They were also something that they could take home with them after the trainings and get more information. (Community Representative)

However, in instances when workers reported experiences of their own or their coworkers' with heat illness symptoms, all did not report taking steps to address this right away. Part of this reluctance to stop work for heat illness may be related to job pressures and financial reasons.

Workers are often unwilling to drink water because they don't want to take restroom breaks. (Community Representative)

Workers want to [continue to] work because they get paid per piece (Community Representative)

Some respondents pointed out that even when workers know their rights and want to comply with them, employer attitudes may prevent a change in behavior.

Workers comment that they know that they should have water and shade but there are a lot of foremen who take advantage of their authority and don't provide them and people are afraid to speak up for fear of getting fired (Community Representative),

A lot of workers liked the idea that they should take more breaks but in reality it's not their decision to do so. It's the employers who have to see the needs of their workers and take care of them. (Community Representative)

Goal 2: Improve access to water, shade, breaks and training at the worksite, as required by the heat illness prevention standard.

Objectives: *As a result of this program, employers in the targeted industries and regions of the state will:*

- 2A) Demonstrate willingness to use materials developed for effective training and promotion of heat illness prevention.
- 2B) Indicate a greater awareness of heat illness and knowledge of prevention measures.

Activities directed at employers and employer groups

As part of the campaign, employers and employer groups were targeted through a webinar about the heat standard and what employers are required to do to protect their workers from heat stress, as well as outreach activities to promote use of campaign materials.

Employer survey

In June 2010, employer groups were invited to participate in a webinar to raise their awareness about heat illness prevention regulations. Those who joined the webinar and/or had received materials as well as other employer groups were subsequently invited to participate in an online survey which took place between September 10 and 15, 2010. Of the 109 individuals invited to participate, 36 responded, resulting in a 33% response rate. Respondents were asked about their perceptions of the heat illness prevention media campaign, the campaign website (www.99calor.org), the campaign educational materials and the webinar itself. The questionnaire also solicited information about actions the respondents engaged in after exposure to the campaign. The data from the survey was supplemented by semi-structured interviews with 10 key informants who were representatives of employer groups.

Sample characteristics

Table 2 presents the demographic characteristics of employer and employer group participants who responded to the online survey. The majority of respondents were involved in the agricultural industry (60%) followed by construction (28%) and landscaping (11%). Other industries included healthcare, insurance, academics, utilities and transportation. When asked about their specific work role, some categorized themselves as employers (29%), safety officers or managers (24%), labor contractors (6%) or supervisor/crew leaders (3%). Other roles included safety trainer, risk manager/loss control and trade association member.⁴

Table 2. Select characteristics of participants in survey (N=36).

	Percentage
Type of industry	
Agriculture	60.0
Construction	28.6
Landscaping	11.4
Other	20.0
Role	
Employer	29.4
Supervisor or crew leader	2.9
Labor contractor	5.9
Safety officer/manager	24.0
Risk Manager	8.0
Other	29.8

Participants of the employer survey were from a variety of locations across California, including those who worked in Southern California (San Diego, Riverside and Los Angeles Counties) as well as in the Central Valley and the Bay Area (Table 3).

⁴ We did not have ready access to supervisors, farm labor contractors or crew leaders through this survey, which accounts for their small proportion in the sample. Our sample did include employer brokers who often set policy and make recommendations. This characteristic of our sample influences our ability to measure employer awareness of the media campaign, since association members or risk managers are not exposed to the same media (e.g. are not listening to Spanish-language radio).

Table 3. Locations Reported by Employer Groups

Work Locations	
Westchester	San Jose
La Puente	Lathrop
Vista	Turlock (2)
San Diego	
Riverside	Redwood Valley
Camarillo	Woodland
Oxnard	Sacramento (2)
Buttonwillow	
Delano	Southern CA
	Visalia to Vista/Coast to NV/AZ
Santa Maria	Border
Madera	All of San Diego
Selma	El Centro to Geyserville
Fresno	The whole state
Berkeley	Bay Area, Napa to Stockton

Familiarity with Cal/OSHA’s heat law requirements

Almost all survey respondents (94%) said they were familiar with the Cal/OSHA heat law. Only a small percent (6%) said they had heard about the heat law but did not know much about it. Not one respondent was unfamiliar with the heat law requirements.

Participation in the campaign webinar

Survey participants were asked whether they had participated in a Cal/OSHA heat illness prevention webinar over the summer. About 41% of respondents said they had participated in one of the webinars.

Half (50%) of the survey respondents who participated in the webinar felt that the training format was either mostly useful or extremely useful. The other half of respondents said the webinar was only a somewhat useful way of obtaining information. All but one of the participants in the webinar said that they had either used, or planned to use the campaign materials for outreach and education.

Q: Was the webinar a useful way of getting this information?

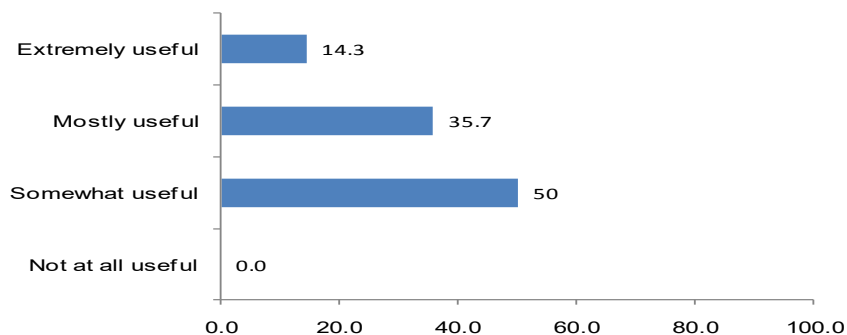


Figure 6. Usefulness of webinar as a means of obtaining information on heat illness prevention (N=14).

www.99calor.org Website

Respondents were also asked if they had visited the heat illness prevention campaign website at www.99calor.org. Four out of five respondents (79%) said they had visited the website. The majority (74%) said the website was mostly or extremely useful while about a quarter of respondents (26%) said it was only somewhat useful.

Q: How useful was the information on the website?

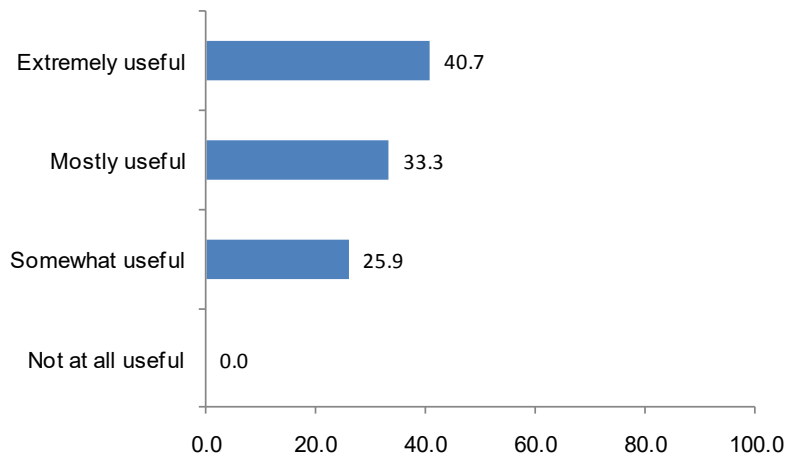


Figure 7. Usefulness of the www.99calor.org website (N=27).

Receipt of educational materials

Survey participants were asked if they had received educational materials developed for this summer's heat illness prevention campaign. About 74% of respondents said they had received educational materials.

Over 50% of survey respondents found the illustrated fact sheets on heat illness (56%), DVD with discussion guide (54%) and employer training kit (52%) to be extremely useful.

Twelve respondents provided specific feedback on the aspects of the educational materials they liked the most. In terms of content, respondents liked that the materials were straightforward and easy to understand but not over simplified. They also liked the versatility and quality of the content. In regards to formatting, respondents liked the professional look, the use of bright colors and good illustrations. It was noted by one respondent that the materials were well-targeted to the populations for which they were intended.

Q: Of the educational materials you received, please tell us how useful you think each one was:

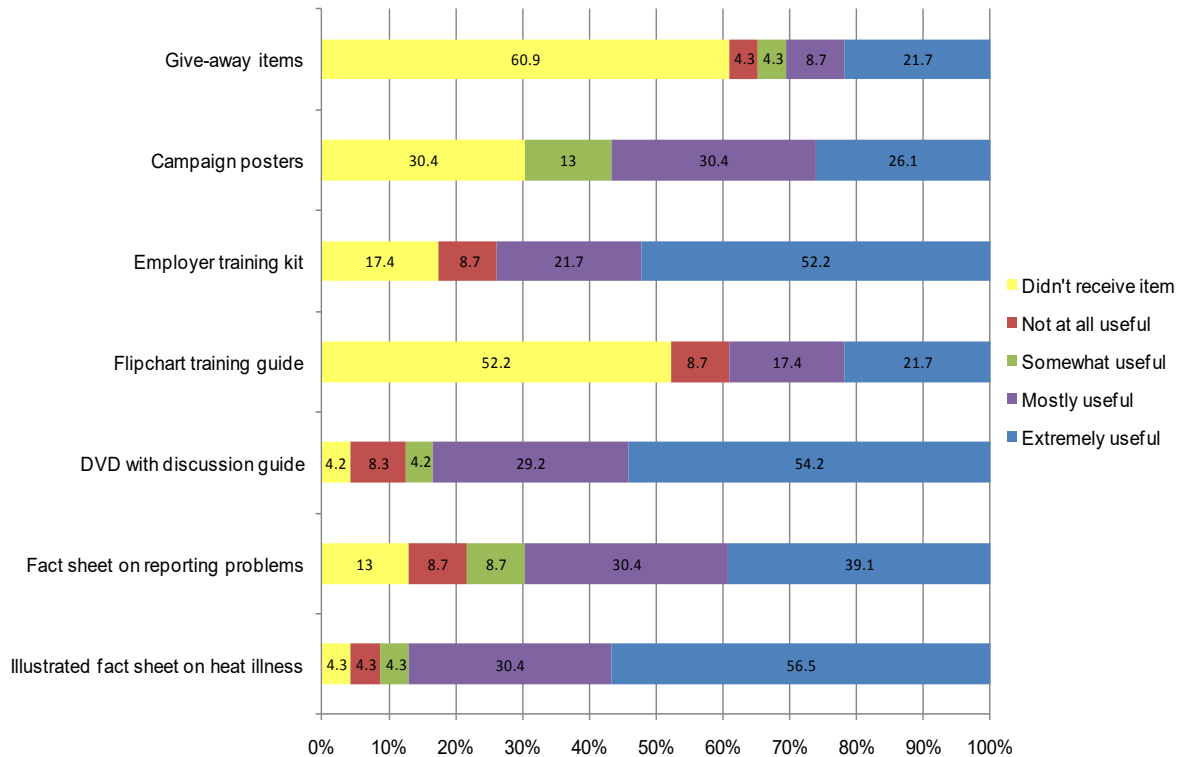


Figure 8. Usefulness of educational materials received (N=23 for all items).

A large percentage did not receive give-away items or flipchart guides as these were not targeted to employers. Four respondents provided feedback on what they liked least or what changes could be made to improve the educational materials. The opinions, each expressed by one individual, included: need more information on how to provide shade for workers, especially when workers move around their workplace (i.e., do not work in a fixed location); and feeling threatened by the telephone hotline number listed on the campaign materials, and this made him/her reluctant to share the campaign materials with employees in case it encouraged them to file a complaint with Cal/OSHA. Two respondents said that they would have liked information on when to contact emergency medical services or 911 as opposed to being able to treat workers directly at the work site (the fields).

Activities performed since receiving the educational materials

Respondents were asked about the activities they had performed since receiving the education materials. The majority had distributed materials to workers (65%) and trained employees using the materials (61%). Respondents had also shown the heat illness DVD (44%), posted campaign materials at worksites (40%), sought more information about heat illness (35%), obtained more training about heat illness (26%), and requested more campaign materials (17%). Twenty-two percent reported engaging in other activities, which included incorporating the information into the organization's own informational materials/newsletters and/or producing their own training materials for employees. Only 9% of the sample said they had not taken any action since receiving educational materials. Reasons for their inaction included the summer being relatively

cool, being too busy, disagreement within the organization about the information, having already created materials on heat illness and not receiving the campaign materials that were ordered.

Q: What activities have you done since receiving the educational materials? Please select all that apply:

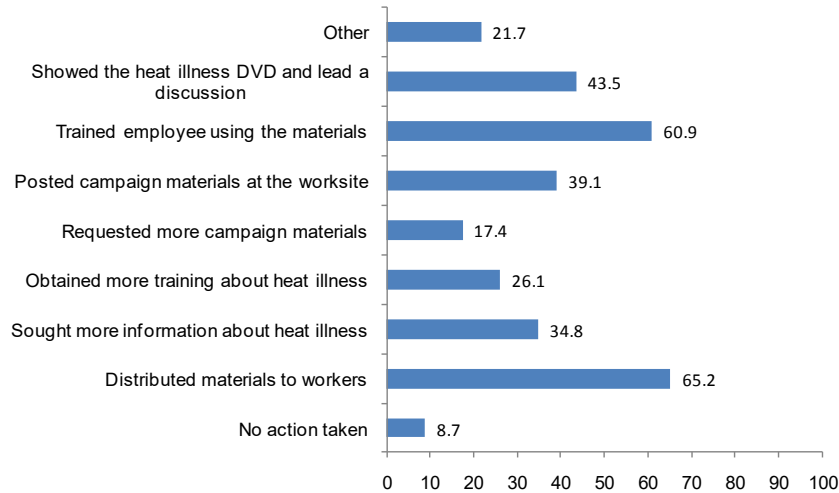


Figure 9. Activities performed since receiving the educational materials (N=23).

Exposure to heat illness campaign media advertisements

Survey participants were asked if they had seen or heard any advertisements in their community about heat illness prevention. About 52% of respondents said they had some type of exposure to the campaign advertisements. Respondents were asked where they had seen or heard campaign advertisements in their community. Almost all of those who had been exposed to the campaign materials said they had seen the advertisements on a billboard (94%), followed by the radio (47%), poster (18%), lunch truck or van (18%), promotional item and some other places, including on portable toilets and online.

Q: Where did you hear or see these ads? Please choose all that apply:

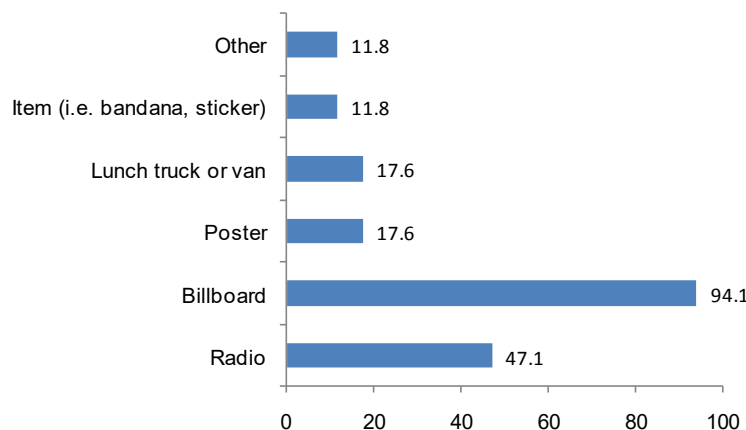


Figure 10. Location of campaign ads in respondents' communities (N=17).

Respondents’ opinions about the effectiveness of the media campaign were mixed. About half (46.1%) of the employer groups felt that the media campaign was either somewhat or extremely effective. Eighteen percent had a neutral opinion, another 18% believed the campaign was somewhat ineffective and yet another 18% thought it was extremely ineffective. Respondents were asked to provide specific comments on why they thought the campaign was effective or ineffective. Of those who provided comments, most thought the radio and billboards did reach the target audience, but some felt there were not enough radio and billboard advertisements. One person mentioned the need for television advertisements.

Q: In your opinion, how effective was this media campaign?

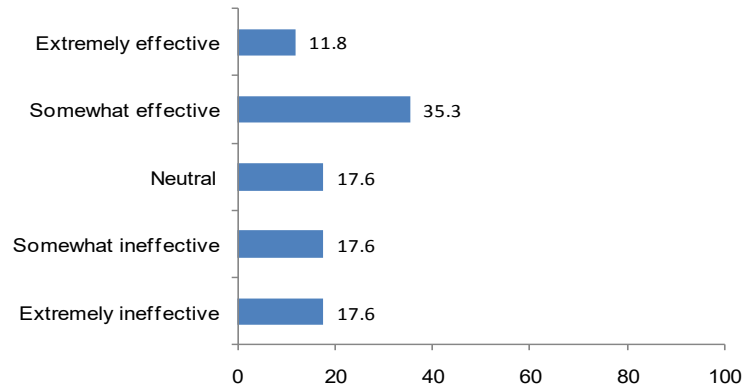


Figure 11. Effectiveness of media campaign ads (N=17).

Summary of Goal 2

The results of the online survey suggest that employers and others with responsibility for workplace conditions were exposed to the campaign and participated in it. They found the materials useful and reported distributing them to workers and conducting training. They reported being extremely familiar with the heat laws and their requirements. Key informant interviews with both employer groups and community representatives further indicated that employers were familiar with and followed Cal/OSHA heat illness requirements.

People have become more aware of heat illness and are taking precautions and the supervisors have had the shades up. On my drive to work, I saw people picking grapes and there was compliance with putting up shade for the workers because I saw them up as I was driving. I noticed it more so this year than last year. Even when the prognosis was that the temperatures were not going to be very high, the shade was up already when I was driving in the morning. (Employer Representative)

We had workers calling and telling us that employers began to give them breaks after the distribution of water bottles.⁵ (Community Representative)

⁵ One of the community organizations had used the campaign logo and imagery on water bottles distributed in Southern California.

Employers are providing water and shade now. I have visited sites where water and shade are provided to workers and before workers had to bring their own water. (Community Representative)

I have been out into the field and seen that now workers are provided with water and have shade put up. Before I didn't use to see this. We also met with other coordinators and they mentioned that they had seen the campaign materials also, so that means that the campaign is being seen. (Community Representative)

Employers who participated in the key informant interviews also discussed how they were using the materials and changing their behavior.

- *We put out bulletins during high heat warnings and encouraged growers to follow all the rules.*
- *We trained farmers and farm labor contractors and provided them with materials so they could train supervisors and workers.... We revised a heat illness model program that Cal/OSHA reviewed. We're posting it on our website and we sent it for distribution throughout the state.*
- *We distributed and provided refresher materials to close to 300 workers in the construction industry... [It was good to have] materials to overcome language barriers; Spanish materials, the DVD has 5 different languages.*
- *We discuss it [heat illness prevention] every Monday [with foremen and employees]. We have purchased an ice machine and we make sure the crews leave with a big thing of water with ice in it.*
- *There's been increased compliance (over 80% compliance among agricultural organizations this summer).*

The respondents to the employer survey suggested some areas where the materials (including the webinar, materials, and media campaign) did not provide them with enough information. They felt that they need more information on how to provide sufficient shade for the workers. One informant stated:

The singular glaring missing thing, would be what is an appropriate shade structure? Photos from the field, real examples of innovations, how to build and transport a shade structure, these pop-up structures like at farmers markets don't work because you have significant winds, they can be a hazard, and how do you move them because people are moving every 15 minutes, more innovation on vehicles like trailers with awnings, innovate with process improvements of shade designs, put some agricultural designers in on this project, those pop-ups do not work, they break, they're expensive...

Respondents to the survey also reported wanting more information about when to call 911 and when they should be able handle heat illness at the worksite (agricultural setting).

Goal 3: Involve community-based organizations, government agencies, and others who serve as good access points for the target worker populations in heat prevention activities.

Objectives: *As a result of this program, community organizations and other resource groups will:*

- 3A) Demonstrate willingness to use materials developed for effective training and promotion of heat illness prevention.
- 3B) Begin offering awareness sessions and serve as a resource on heat illness prevention to their constituents.
- 3C) Indicate a greater awareness of heat illness and knowledge of prevention measures.

Activities directed at community representatives

Community representatives – people and organizations who can serve as good access points for the target worker populations in heat prevention activities – were invited to participate in a webinar and/or Train-the-Trainer workshops during the early summer of 2010. 178 community organizations formed part of an outreach list that was developed, and were contacted to promote participation in the campaign and use of the materials.

Community representative survey

Community representatives who participated in campaign activities were invited to complete an online follow-up survey between September 7 and 15, 2010. The survey was designed to find out information about the respondents' perceptions of and participation in a variety of activities, including the media campaign, the campaign website (www.99calor.org) and campaign educational materials. The questionnaire also solicited information about actions the respondents engaged in after exposure to the campaign. Of the 295 people invited to participate, 66 community representatives completed the survey, resulting in a response rate of 22%. The data from the survey were supplemented by 11 key informant interviews with a select number of community representatives.

Sample characteristics

Table 4 presents the demographic characteristics of the participants of the community-based organization who completed the follow-up survey. The majority of respondents were from community-based organizations (23%) followed by a government agency (17%), educational institution (15%) other industries (14%), legal services (11%), clinic/healthcare (9%), worker center (9%) and union (3%). Child development, insurance, religious institutions, construction and employer association were other industries also represented. When asked about the specific populations they served, over 90% said they served the Latino population followed by Mixteco/indigenous communities (39%), Hmong (17%), Punjabi (16%), and other (14%). Other populations mentioned were White, African American/Black, Native American, Cambodian and Laotian. When asked about the industries the populations they serve work in, the majority of respondents reported agriculture (82%) followed by construction (41%) and landscaping (38%).

The other industries mentioned were carwash, transportation, manufacturing/warehouse and the service industry. Participants were from a variety of locations across California.⁶

Table 4: Select characteristics of participants in survey (N=66).

	Percentage
Type of industry	
Organization type	
Clinic/health care	9.1
Community organization	22.7
Legal services	10.6
Government agency	16.7
Union	3.0
Educational institution	15.2
Worker center	9.1
Other	13.6
Populations served	
Latino	90.6
Hmong	17.2
Mixteco or other indigenous communities	39.1
Punjabi	15.6
Other	14.1
Industry type	
Agriculture	81.8
Construction	40.9
Landscaping	37.9
Other	22.7

Respondent familiarity with Cal/OSHA

Like the employer groups, the majority of community respondents (73%) said they knew a lot about Cal/OSHA. About a quarter (27%) of respondents said they had heard about Cal/OSHA, but they did not know much about it. Not one respondent was unfamiliar with Cal/OSHA. The majority of survey respondents (80%) said they knew a lot about the Cal/OSHA heat standard. A small portion of respondents (17%) said they had heard about the heat standard, but they did not know much about it. Only 3% said they did not know anything about the heat standard requirements.

Participation in the campaign webinar

Survey participants were asked whether they had participated in one of the heat illness prevention webinars over the summer. About 47% of respondents said they had participated in one of the webinars. Respondents were asked how useful the webinar was for obtaining information. The majority (83%) of participants felt this format was mostly useful or extremely useful. The other respondents said the webinar was only a somewhat useful way of obtaining information. Respondents were then asked if the webinar motivated them to use the campaign

⁶ About 30% of the survey respondents were from areas in Southern California that were not targeted for the media campaign but were included in outreach efforts. Their inclusion in this analysis introduces a potential bias in the findings related to media.

materials for outreach and education on heat illness prevention. All but one respondent were motivated. The person that showed no interest to use the campaign materials said more explanation was needed on the campaign and its materials.

Participation in the Train-the-Trainer event

Survey participants were asked whether they had participated in one of the Train-the-Trainer (TOT) events. About 62% of respondents said they had participated in one of the TOT events and they were then asked a series of follow-up questions related to the event. About a third (32%) of respondents said they had attended a TOT in Davis. Respondents also attended the Los Angeles (26%), Fresno (16%), Visalia (13%), San Diego (10%) and Mendota (3%) trainings. Over two-thirds (69%) of respondents felt they were well prepared to perform outreach and education on heat illness prevention after attending a TOT. About a quarter of respondents felt moderately prepared (26%) and 6% felt somewhat prepared to do outreach and education on heat illness.

Usefulness of educational materials

Respondents were provided a list of educational materials that were distributed during the Train-the-Trainer events and asked to rate the usefulness of each one. As a whole, the majority of respondents found all the items listed extremely useful. Specifically, over two-third said that the give-away items (77%) and the illustrated fact sheets on heat illness (67%) were extremely useful. The other materials mentioned were stickers and having an action plan. Only a small portion of respondents (3%) said some items were completely useless, and the items referenced were the DVD with discussion guide and give-away items.

Q: Of the educational materials you received, please tell us how useful you think each one was:

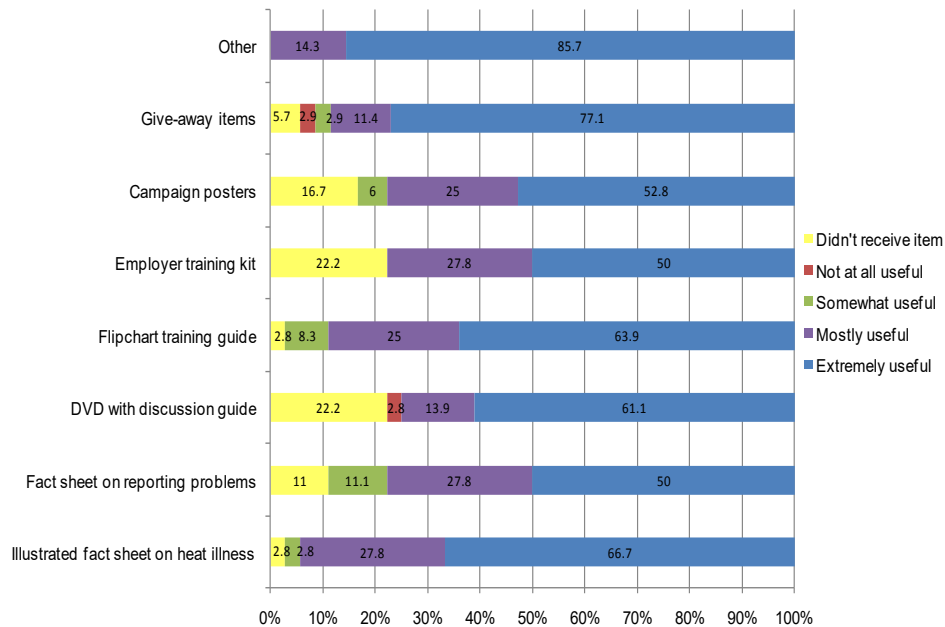


Figure 12: Usefulness of Materials

Twenty-five respondents provided feedback on the educational materials provided at the Train-the-Trainer events. Over half mentioned that the item they liked most was the flipchart to help train people. Respondents also mentioned that the DVD with discussion guide and the give-away/promotional items, particularly the bandanas, were useful. Respondents that provided specific comments on the materials liked the visual appeal of the materials and the understandability of the information.

Sixteen respondents provided feedback on the aspects of the educational materials that they least liked or thought could be improved. However, specific comments were each expressed by only one individual. These included: flipcharts being too small and sometimes repetitive; suggestion to include picture on the back of the flip chart for trainer to see; to print Cal/OSHA number on a large font; that using a DVD as a teaching method was too passive; and that the TOT itself was too focused on agriculture, construction and landscape and did not target other workers. Some respondents commented that the TOT trainings and materials should specify more about how to file a complaint, and address real life scenarios in a workplace.

Actions performed since participating in the TOT

Respondents were asked about the actions they had carried out since participating in the Train-the-Trainer workshop. The majority had distributed materials to workers (91%), posted campaign materials (75%), carried out workshops (53%) and conducted outreach through health fairs and other activities (50%). Respondents had also shown the heat illness DVD and led a discussion (36%), sought more information about heat illness (31%), requested more campaign materials (28%), assisted workers in resolving a heat problem or filing a complaint (22%) and obtained more training about heat illness (17%). Other activities that participants reported carrying out included developing water bottle designs on heat illness, sharing information with the Mexican Consulate during “Labor Week,” doing presentations at various meetings and distributing heat illness cards to employers.

Q: What activities have you done since participating in the TOT? Please select all that apply:

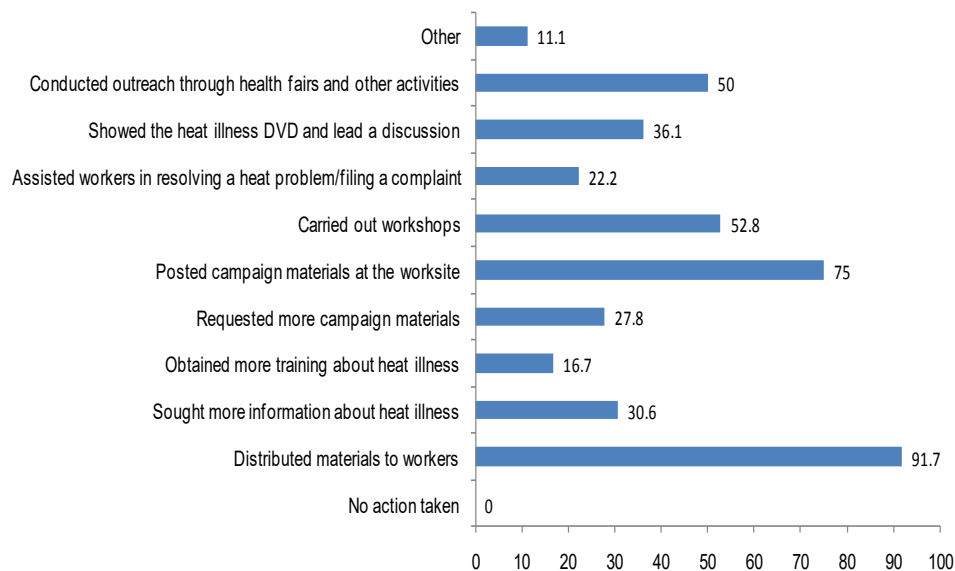


Figure 13: Activities performed since receiving the educational materials (N=36).

Those that reported engaging in outreach and education activities were asked approximately how many people they reached. Over a quarter said they reached between 51-100 people. Eighteen percent reported reaching between 100 and 500 people. While another eighteen percent reported reaching over 500 people. Some of those who responded in the 500+ category reported reaching several thousand people.

Q: Approximately how many people do you think your organization has reached with all of these activities?

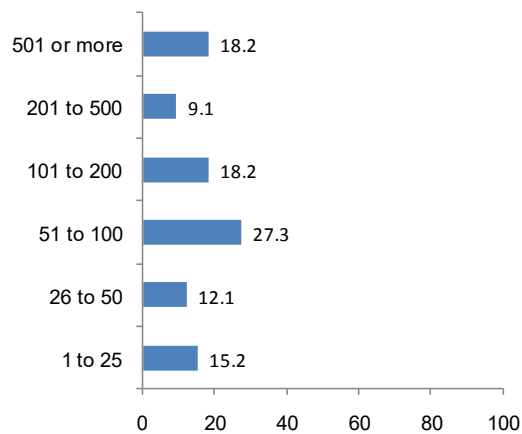


Figure 14: Numbers of Workers Reached

Usefulness of the www.99calor.org website

Respondents were asked if they had visited the heat illness prevention website at www.99calor.org. Over half of the respondents (59%) said they had visited the website. The majority (85%) of those said the website was mostly or extremely useful, and about 15% said it was only somewhat useful.

Q: How useful was the information on the website?

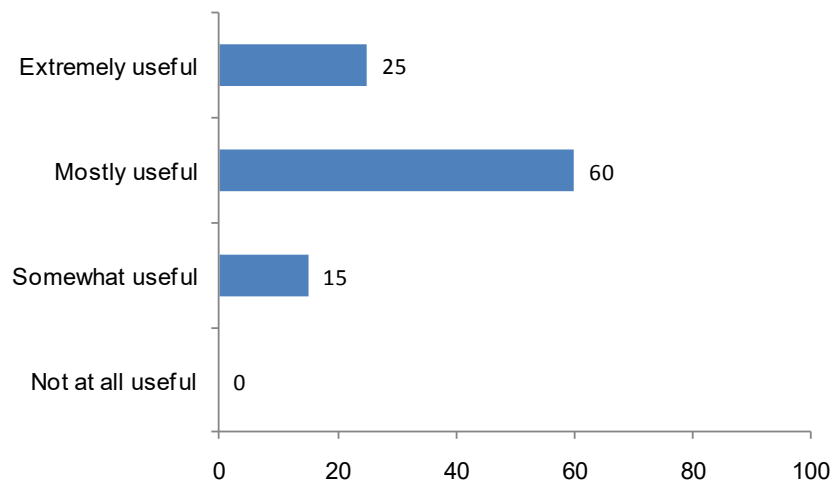


Figure 15: Usefulness of the www.99calor.org website (N=34).

Comments on educational materials by those who did not attend TOTs

The online survey asked those who hadn't attended the TOTs but had received campaign materials to describe the usefulness of these materials and any activities they had engaged in. About 78% of respondents in this category (non-TOT) said they had received educational materials. Like with the TOT participants, a large majority found the illustrated fact sheets on heat illness to be extremely useful. Two other materials that were highlighted as extremely useful were campaign posters and the fact sheet on reporting a problem to Cal/OSHA. A large portion of the respondents reported not receiving the give-away items (67%), flipchart training guide (53%) or the employer training kit (53%). This is consistent with the distribution activities, as the first two were mostly distributed through TOTs and Cal/OSHA outreach, while the last was targeted to employers.

Thirteen respondents provided specific feedback on the educational materials. A large portion mentioned the items they like most: the DVD and posters. Those who had received the give-away/promotional items and flipcharts mentioned that these were particularly useful, especially the bandanas. Respondents commented that they liked the visual appeal of the materials and the understandability of information. One person also appreciated that the materials were in Mixteco, which was helpful communicating with some older generation workers.

Q: Of the educational materials you received, please tell us how useful you think each one was:

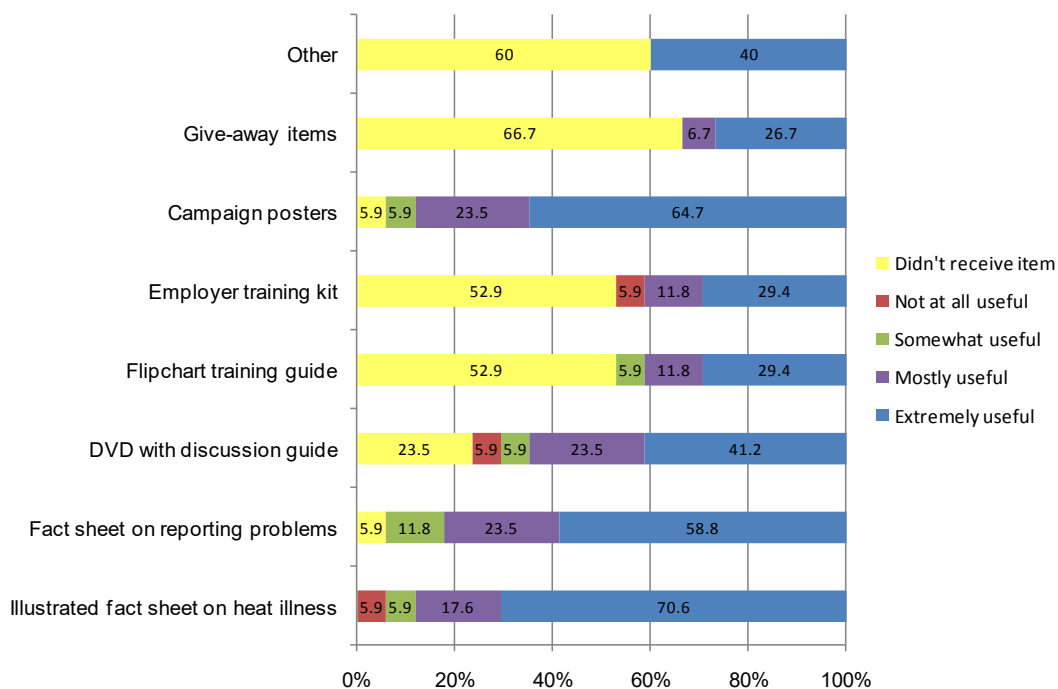


Figure 16: Usefulness of educational materials received (N=17 for all items).

Only four comments were made about what respondents liked least about the materials, but each comment was expressed by only one individual. These included: money could have been better spent on interpreters for field inspections; would have liked more examples about the

consequences of heat illness; and that the DVD and employer kits were not useful to their organization, as they would not regularly gather large groups of people together.

Respondents were asked about the activities they had performed since receiving the education materials. The majority had distributed materials to workers (94%) and posted campaign materials (71%). Respondents had also performed outreach through health fairs and other activities (47%), assisted workers in resolving problems or filing complaints (41%), requested more campaign materials (35%), showed the heat illness DVD and lead a discussion (35%), carried out workshops (29%). Other activities included working with employers, putting on workshops for various agencies, and communicating with younger generations to spread the heat illness prevention message.

Q: What activities has your organization done since receiving the materials? Please select all that apply:

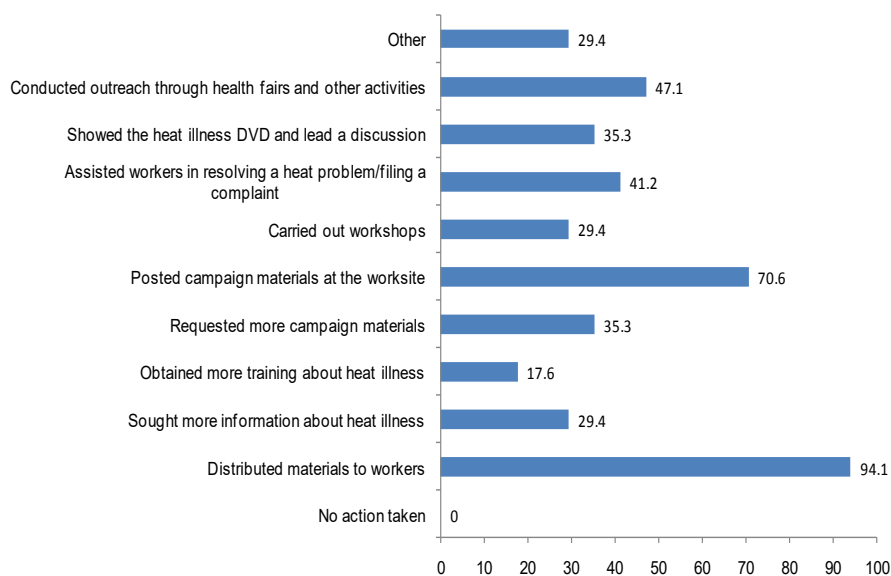


Figure 17: Activities performed since the educational materials (N=17).

For those that reported performing outreach and education activities, they were asked approximately how many people they reached. Fourteen percent said that they reached between 50-100 people. Twenty nine percent said that they reached 101-200 people. Half of respondents said they reached at least 500 people. Those that reported more than 500 were asked to specify the amount. Numbers of people reached ranged from 800 to 2,000.

Exposure to heat illness campaign media advertisements

Survey participants were asked if they had seen or heard any advertisements in their communities about heat illness prevention. About 83% of respondents said they had some type of exposure to the campaign materials. These respondents were then asked a series of follow-up questions related to the materials. Respondents were asked where they had seen campaign advertisements in their community. The majority of respondents said they had seen the ads on a billboard (66%) or posters (61%). Respondents also reported seeing or hearing ads on the radio (43%), on promotional items (32%) and on lunch trucks or vans (22%). Other places

respondents saw the advertisements were on storefronts, at churches, at conferences and in a Latino newspaper.

Q: Where did you hear or see these ads? Please choose all that apply:

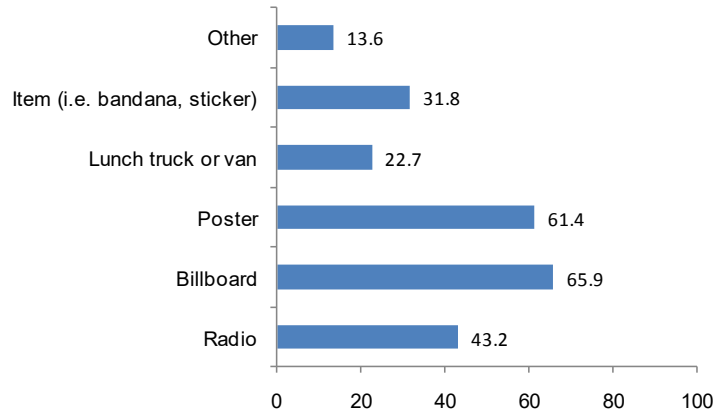


Figure 18: Locations of media campaign ads in respondent's community (N=44).

As a whole, respondents had positive opinions about the effectiveness of the overall media campaign. Over two thirds (72%) thought the campaign was either extremely or somewhat effective. About 18% of the respondents had either a neutral or slightly negative opinion of the campaign. However, about 11% thought the media campaign was extremely ineffective. Respondents were asked to provide specific comments on why they thought the campaign was effective or ineffective. For those that thought the media campaign was effective, respondents mentioned seeing or hearing the advertisements and obtaining feedback from workers and communities on the subject. For those that thought the media campaign or parts of it were ineffective, respondents felt the advertisements should have been in rural areas and on “ethnic” news and radio stations to reach more people.⁷ Also, some felt the ads were only geared toward the agriculture industries when many more industries are also affected by heat illness.

Q: In your opinion, how effective was this media campaign?

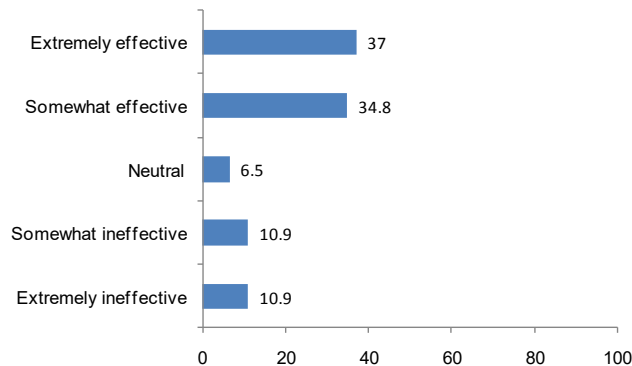


Figure 19: Effectiveness of Media Campaign

⁷ In fact, the ads were concentrated in rural areas and all radio placement was on Spanish, Mixteco or Hmong stations, of which the respondents may not have been aware.

Almost all of the respondents (98%) thought the radio and billboard advertisements were useful and caught people’s attention. The majority also thought the ads were believable (95%) and relevant to workers (93%). To a lesser degree, respondents thought the ads were relevant to employers or supervisors (79%). Respondents were asked if they had any feedback from workers about the campaign ads. Many respondents said that workers had seen the advertisements, and they gained valuable information on protecting their health as well as knowing their rights. On the other hand, some respondents said workers had not seen any advertisements or the advertisements were not realistic or useful for making changes to worker conditions.

Q: Thinking about the ads you saw or heard this summer, did you find that these ads were...

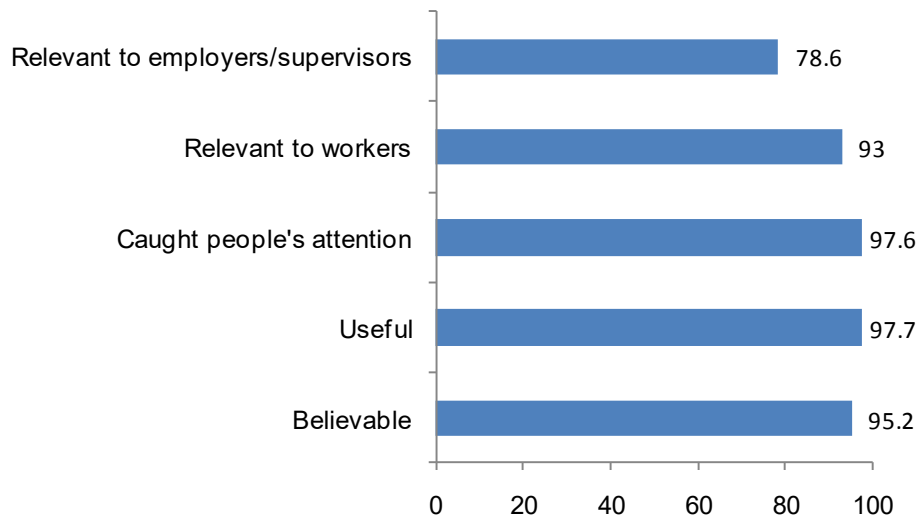


Figure 20: Thoughts about the media campaign (N=44 for all items).

Current understanding of heat illness

Respondents were asked to rate their level of understanding about six heat illness items after their exposure to the campaign. Respondents had the most considerable level of understanding about tips/actions needed to prevent heat illness (82%) followed by signs/symptoms of heat illness (80%), what to do if someone gets heat illness (74%), this summer’s campaign and materials (69%) and employer responsibilities (66%). Respondents felt least confident about their knowledge of California’s heat laws, with 59% reporting feeling competent in this area.

Q: As a result of the information you received this summer, please rate your current level of understanding about:

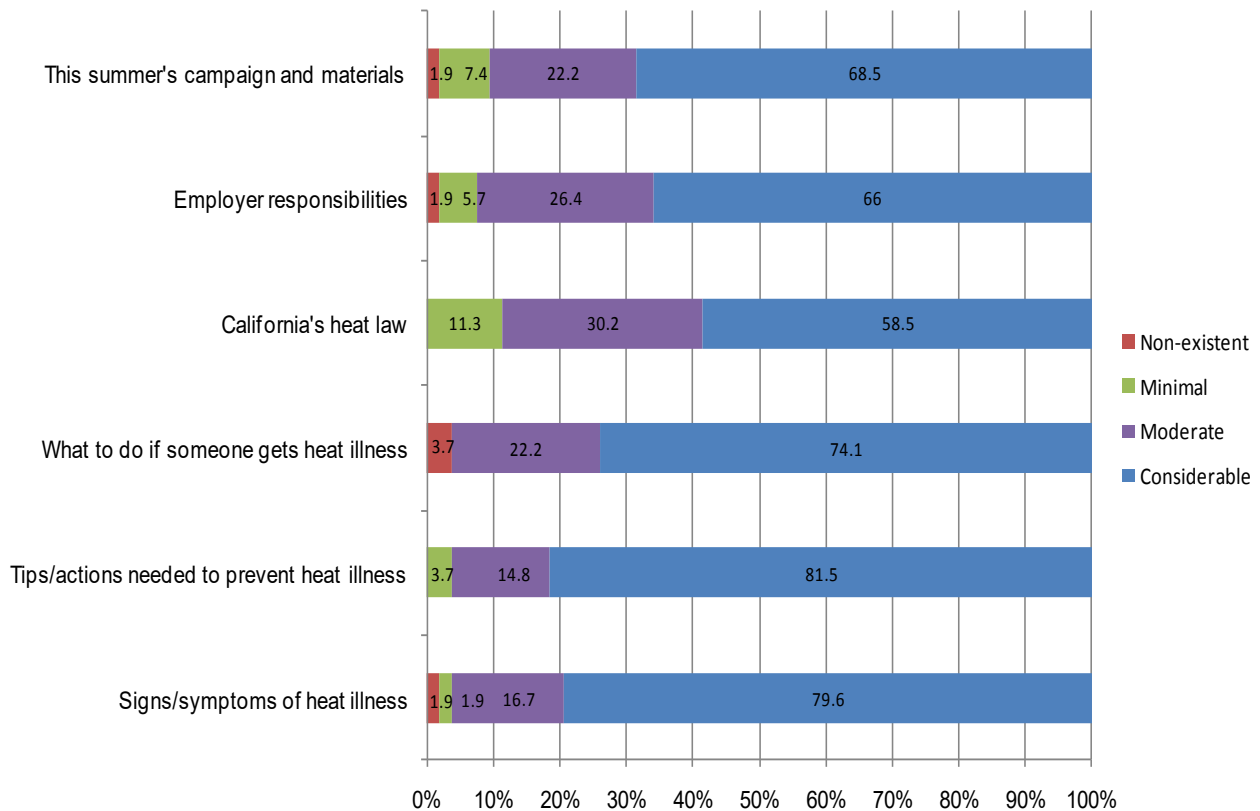


Figure 21: Level of current understanding regarding heat illness (N=54).

Helping workers resolve work-related issues

Respondents were asked if their organizations helps workers resolve work-related heat problems. About 40% of respondents said their organization does do this type of work. Survey participants who do assist workers to resolve heat problems were asked what specific actions their organization does to help workers. The majority (86%) said they provide information to workers about what they can do. This was followed by providing them contact information for Cal/OSHA (71%), helping them get more information about the law (68%), helping them figure out how to resolve the problem with their supervisor (52%) and referring them to a local organization that could help (52%). To a lesser extent, organizations helped workers contact Cal/OSHA directly (48%) or file a complaint with Cal/OSHA (43%).

Q: What did your organization help the worker(s) do? Please select all that apply:

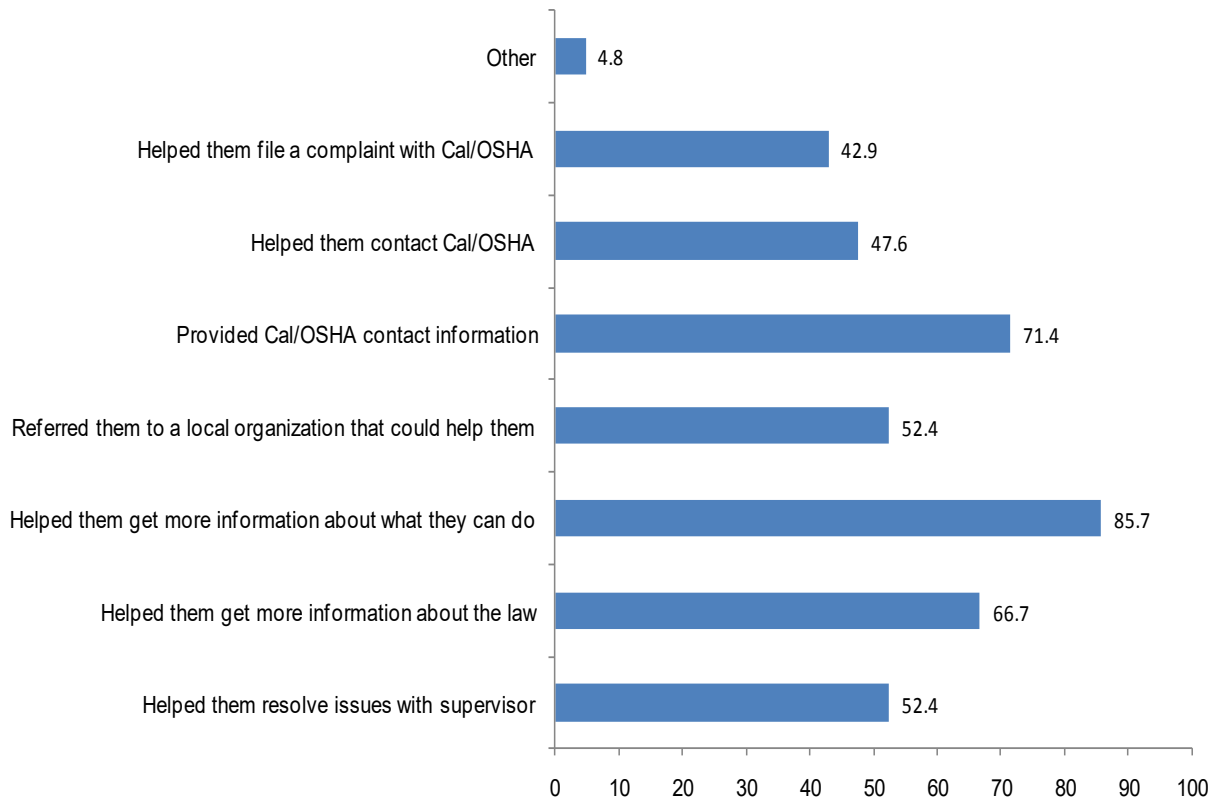


Figure 22: Assisting workers with work-related issues (N=21).

Final comments

Sixteen community representatives provided comments or recommendations about the campaign and/or the materials. Several respondents provided positive feedback about the campaign as a whole, especially for the educational materials and the bandanas as give-away items. A couple commented that the campaign had been effective in helping workers understand their rights but that there was still the challenge of providing solutions if workers are not provided with water, shade and rest especially since they worry about losing their job if they request these. Several respondents thought the TOTS were useful, and that more should be offered at various times throughout the year.

Fourteen respondents provided additional suggestions for future campaigns. Several mentioned having the information broadcast on television commercials, especially on Spanish-only stations, as well as more radio advertisements. A few mentioned that radio advertisement coverage was not adequate since it did not include areas thought to be cooler locations (specifically the Central Coast). In terms of locations to distribute information, worker centers, churches, schools, public libraries and child development centers were mentioned. Two respondents also mentioned that the campaign should deal with more realistic situations that workers encounter with regards to potential job loss if they complain and how workers should handle these potential realities.

Summary of Goal 3

The results of the online survey indicate that community organizations had a positive response to the media campaign and found the materials useful and effective. Community organizations and others that are access points for workers also reported a variety of actions related to heat illness prevention, reaching anywhere from hundreds to thousands of workers this summer. They reported being extremely familiar with the heat. Participants in general felt that each of the campaign components was well executed and useful in helping them work directly with outdoor workers.

The general consensus from key informant interviews with community representatives was that:

- Materials were simple and very useful as they were available in multiple languages
- Bandanas, key chains and lip balm were very popular
- Many reported seeing workers wearing the bandanas
- Many loved that these materials were small, that workers could carry them with them and that they could be brought home
- The fact that there was a Fahrenheit and Celsius reading on the key chain was very helpful to workers who are not familiar with Fahrenheit.

Community representatives also expressed that workers often fear job loss and have lost their jobs for speaking up about their rights to protect themselves against heat illness. Other workers are concerned about taking breaks due to the piece rate system.

Goal 4: Increase visibility of the Division of Occupational Safety and Health (DOSH) as an agency responsive to workers' needs.

Objectives: *By the end of the project period, project staff will:*

- 4A) Analyze the worker hotline, provide recommendations to improve messages, record new messages in five languages and integrate activities promoting the hotline into the campaign.
- 4B) Provide at least one webinar training to DOSH inspectors focused on improving their access to and increasing their effectiveness in handling complaints and concerns of non-English speaking workers.
- 4C) Develop messages, materials and activities (including those for use at health fairs) that promote DOSH's presence, visibility and positive image among workers to help increase the number of workers who call the worker hotline for more information.

Activities and evaluation strategies

The objectives for this goal were focused on deliverables rather than measurable impact outcomes (see Part I of the report). However, the data collected for the outcome evaluation was

reviewed to see if any information could be gleaned that would help assess the extent to which DOSH was being seen as responsive to workers' needs. The evaluation activities described previously, including intercept interviews and online surveys, captured information about use and effectiveness of hotline and Cal/OSHA responsiveness.

As part of the heat illness prevention campaign, webinars for employers and community representatives emphasized the requirements of Cal/OSHA's heat standard and promoted Cal/OSHA's efforts in this area, including educational outreach and enforcement sweeps. Many of the materials, such as campaign advertisements, listed website details and a hotline number by which to contact Cal/OSHA, thus positioning Cal/OSHA as a worker resource and also emphasizing that Cal/OSHA was paying attention to this issue. In addition, a factsheet on how to report problems to Cal/OSHA was developed for distribution primarily to community representatives. Finally, a webinar was held for DOSH staff to help create a more consistent approach to enforcement.

DOSH responsiveness to employers' need for information about how to comply with the standard

Cal/OSHA efforts to reach employers through associations and other employer groups were found to be helpful in disseminating materials and information and increasing understanding of regulatory requirements. After exposure to the campaign, between 75 and 91% of employers groups who responded to the online survey reported considerable understanding of the standard, their responsibilities, signs/symptoms of heat illness, what to do if someone suffers from heat illness and how to prevent heat illness.

After exposure to the campaign, employer groups were proud of their participation and role in preventing heat illness. Employer groups reported providing materials and training for workers and an increase in compliance on the heat illness prevention standard.

The webinar increased my awareness....I got familiar with the 99calor website and training materials available there (Employer Representative)

Outreach activities to employers and employer groups to raise awareness of the heat illness standard and their responsibilities in implementing it were effective. However, it is unclear what percentage of employers with an outdoor workforce was reached by the campaign.

Workers and community representative knowledge of how to use Cal/OSHA

After their exposure to the campaign, over two thirds of community representatives surveyed felt that they had a considerable level of understanding about tips/actions needed to prevent heat illness, signs/symptoms of heat illness, what to do if someone gets heat illness and employer responsibilities. Close to 60% of community representatives surveyed found that the fact sheet on how to report a problem to Cal/OSHA was useful to them.

Of those respondents whose organizations help workers resolve work-related heat problems (40% of respondents), over 70% had provided contact information for Cal/OSHA, while close to half stated had helped workers contact Cal/OSHA directly and/or filed a complaint with Cal/OSHA.

However, fewer had used the heat hotline 877-99CALOR. The majority of community representative respondents (71%) said they had not called the hotline nor did they know someone who had called the number. Only 6% of respondents called the heat hotline themselves or knew a worker that called the number. About 20% of respondents knew someone other than a worker that had called the heat hotline. Of the respondents who had called the hotline (or knew someone who had), about a third (36%) said the heat hotline was extremely or very helpful. The majority (46%) said the hotline was only somewhat useful and about 10% said it was not at all helpful.

Several comments by community representatives were made about the hotline number itself. One respondent said not all workers knew how to translate the call number from CALOR into numbers, and that the call number should be a direct line to Cal/OSHA. Apparently, workers were confused as to why they were being sent to an answering machine at the Mexican Consulate. This respondent also said the call line hours should be expanded beyond the normal hours when workers are on the job, such as after 5pm. Another community representative respondent had a problem with receiving email responses from heat@dir.ca.gov. Finally, one community representative said:

People are often hesitant to report the problem because they have to give their name and place of work in order for Cal/OSHA to go and investigate. I understand that Cal/OSHA needs that information but they should try and find a way where they don't ask for this and are still able to do the investigation.

Summary of Goal 4

The heat illness campaign appears to have been successful in raising awareness among workers, community representatives and employers about heat illness and heat illness prevention, and Cal/OSHA's role in this effort.

Some employer groups and community representatives suggest that while education and awareness are important, DOSH efforts to consistently enforce the regulation are what ensures that employers take action. For example, one employer group said that this campaign was geared more towards employees, but that:

The Cal/OSHA regulation enforcement officers have had the most impact on employers.

Several community representatives expressed the importance of DOSH having a presence in the field, and particularly noted the need to send translators on field visits and sweeps so that inspectors can communicate with workers and understand heat illness conditions from their perspectives.

SUMMARY

The evaluation findings indicate that the heat illness prevention campaign was effective in reaching non-English speaking workers, community organizations and employers. Since this summer's campaign took place over just a few months and evaluation was conducted immediately afterwards, this outcome evaluation focused on intermediate targets that need to be achieved on the path towards long-term change. This outcome evaluation looked at measures commonly used to evaluate health communication programs, including awareness of the communication, recall of the main messages, comprehension of the messages, and positive attitude toward the messages and the behaviors being promoted.

As a direct result of the heat prevention campaign, **worker awareness of heat illness prevention has significantly increased.** The large majority of workers (87%) who were interviewed about their exposure to the media campaign reported that they had seen or heard advertisements about heat at work, protecting oneself from heat or heat illness. When asked to recall main messages, nearly two-thirds mentioned drinking water on the job. About half also mentioned messages about taking breaks or stopping to rest, and nearly a third mentioned resting or taking a break in the shade.

The **vast majority of respondents responded positively toward the heat illness prevention messages developed for the media campaign.** Workers also thought the media campaign was relevant to them. Almost all (99%) thought the media campaign advertisements were useful. They also thought the ads were believable (93%) and important to their work (80%). Many workers who were interviewed expressed thanks and gratitude for the advertisements.

Workers also reported changes in behavior. **More workers are drinking water, resting in the shade and talking with employers and supervisors about heat prevention.** While it's probably not realistically to presume that 90% of workers are in fact following these behaviors, as reported in the interviews, there was a statistically significant change between behaviors reported this summer and previous behaviors. Even with the recognized limitations of the data based on self-report and response bias (wanting to provide the favorable response), the increase in the percentage of these behaviors indicates the summer's activities have had a positive effect on actions taken by workers.

Other positive behaviors workers reported taking after seeing or hearing the media ads included: Over half (58%) said they talked to their boss about heat safety, and a little over a third (38%) said they looked for more information. To a lesser extent, respondents reported a problem at their worksite (13%), something else (12%) and called the phone number on the advertisements (9%). Some of the other actions mentioned under "something else" were receiving training, being more proactive in asking for water, being more aware of one's own health and talking with coworkers.

While workers reported taking appropriate actions when they or their coworkers experienced heat illness symptoms, most did not notify the supervisor. When they personally experienced heat symptoms, 69% of respondents drank water and 60% went to cool in the shade. However, only 27% told their supervisors and 33% just kept on working. However, when a coworker had symptoms, more than two-thirds told the supervisor. Respondents also said they sought water for

their coworkers (55%) or sent their coworker to get medical care (27%). About one-third of respondents kept working when their coworkers experienced heat symptoms (31%).

As agricultural workers were the primary audience of the campaign, these workers were also the primary target for intercept interviews. While we anticipated that we would reach a larger percentage of construction and landscape workers through interviews at swap meets and other neighborhood-based locations, only 3% of those interviewed were construction workers and 4% were landscape workers. The worker survey data is therefore more reflective of agricultural workers' experience.

Employers and community organizations also reported awareness of the media campaign. About half of the employers interviewed and 83% of community representatives reported exposure to campaign. The findings may be limited by the fact that the evaluation methods used did not directly target supervisors and crew leaders, and that 30% of the community organizations responding were from areas in Southern California in which media was not placed. Response to effectiveness of media varied between these groups. **Over 70% of community representatives thought the ads were effective.** Almost all (98%) thought the radio and billboard ads were useful and caught people's attention. The majority also thought they were believable (95%) and relevant to workers (93%).

Employers reported mixed opinions with almost half stating the campaign was effective.

There are a variety of reasons for which employers may not have felt it was effective. Those who provided feedback stated that they should have been more radio and billboard ads, as well as ads on television. Employers could also have been influenced by the fact that ads were worker-focused and included a direct number to Cal/OSHA.

The campaign was very effective in involving community organizations and others who serve as good access points to workers, as well as employers, in providing training and promotion of heat illness prevention. **The majority of employers and community organizations found all of the materials developed for the campaign either extremely or mostly useful.** After exposure to the campaign, between 75 and 91% of employers groups who responded to the online survey reported considerable understanding of the standard, their responsibilities, signs/symptoms of heat illness, what to do if someone suffers from heat illness and how to prevent heat illness. Some employer groups were proud of their participation and role in preventing heat illness. In addition, **91% of employers reported using campaign materials** to train and provide information to their employees. There was also evidence that some employers and those responsible for work conditions had changed their work practices as a result of the campaign.

The outreach conducted to engage organizations in the campaign resulted in the involvement of many different types of organizations in extending the effort to reach workers. **Almost all the organizations who participated in the Train-the-Trainer programs were involved in distributing materials, conducting workshops, showing the DVD and leading discussions,** among others. Some were also able to assist workers to resolve heat problems by contacting Cal/OSHA, informing them of the law and referring them to other organizations for help. These organizations reached an estimated 6,000 – 8,000 workers.

The evaluation also **identified challenges that constrain workers' ability to adopt heat illness measures.** Some workers reported that conditions had not changed this summer because their

supervisors did not take the advertisements seriously or refused to provide the required water, shade and/or rest. Others said they were afraid to speak up or that they did not know how to report a problem. One worker reported that he/she was fired for helping a coworker who was experiencing heat illness symptoms. Community representatives commented that workers are still at risk of losing their jobs if they complain that their employers are not following the heat standard and that trainings and campaign materials did not address this fear. These comments indicate the need to continue efforts directed at employers, as they have direct control of conditions and promotion of a safety culture at their work site. In open-ended comments and in key informant interviews, both employer groups and community-based organizations recognized the important role of a consistent Cal/OSHA presence in the enforcement of the heat standard.

Finally, the heat illness prevention campaign appears to have **raised the profile of Cal/OSHA so that employees and community representatives are more aware of who to contact if laws are violated.** While the evaluation was not able to review actual number of calls made to the 877-99CALOR line, 9% of workers involved in intercept interviews stated they had called this number, and 6% of community representatives called the heat hotline themselves or knew a worker that called the number. About 20% of these same community representatives knew someone other than a worker that had called the heat hotline. Data is not available to assess worker satisfaction with the hotline, but 36% of the community representatives who called said the heat hotline was extremely or very helpful, while 46% said the hotline was only somewhat useful.

CONCLUSIONS

The 2010 heat illness prevention campaign represents a significant step towards ensuring that non-English-speaking outdoor workers do not die or suffer serious cases of heat illness on the job. The use of a media and social marketing campaign as a principal strategy resulted in the exposure of large numbers of workers, employers and community organizations throughout the state to the main messages, and influenced the development of a community norm that views heat illness as a serious issue which requires action in the workplace and community. The outreach and training components facilitated these workplace and community actions by providing effective materials and building the capacity to conduct training on this issue.

The parallel campaign carried out by DIR and DOSH during the spring and summer of 2010, primarily to reach employers, as well as the agency's enforcement sweeps, were an essential complementary piece to the campaign. These serve to remind employers of Cal/OSHA's focus on the issue, with a resulting greater incentive to comply with the standard.

APPENDIX A: Outdoor Media

Outdoor Media Regions	Freeway Bulletins	30 Sheets	Lunch Trucks	Wall Graphics	Vans	Total
Bakersfield-Kern	1	14	5	50	15	85
Fresno-Tulare-Madera-Merced	4	24	19	60	60	167
Imperial/Palm Springs		17		55		72
Los Angeles/Orange Co			36			36
Sacramento-Stockton-Yuba City	1	10	11	35	25	82
San Bernardino-Riverside		8				8
San Diego			12			12
Total	6	73	83	200	100	462

APPENDIX B: Radio Estimated Cumulative Audience and Reach Frequency

Data is based on Arbitron measured stations only, so does not include all stations that were a part of the campaign.

Bakersfield	Hisp A2554 6-10A	Avg 2 Week Reach/Frequency
KEBT-FM	29,800	87%/4.2
KBFP-FM	13,900	
KIWI-FM	18,300	
KMYX-FM	12,200	
KCHJ-FM	3,600	
KWAC-AM	4,000	
Weekly Cume	81,800	
Campaign Cume	877,600	95%/22.1

Fresno-Tulare- Madera	Hisp A2554 6-10A	Avg 2 Week Reach/Frequency
KOND-FM	41,100	88%/4.3
KFSO-FM	23,400	
KRDA-FM	15,000	
KLBN-FM	11,900	
KGEN-FM	600	
KMQA-FM	6,100	
KUFW-FM	600	
Weekly Cume	98,700	
Campaign Cume	1,069,200	95%/23.7

Sac-Stock-Mod	Hisp A2554 6-10A	Avg 2 Week Reach/Frequency
KRCX-FM	37,200	86%/3.9
KMIX-FM	21,400	
KBYN-FM	3,700	
Weekly Cume	62,300	
Campaign Cume	697,400	94%/19.8

Riverside-San Bern	Hisp A2554 6-10A	Avg 2 Week Reach/Frequency
KLYY-FM	37,200	49%/2.1
KAEH-FM	21,400	
KBTW-KXSB-KXRS	34,100	
KCAL	5,400	
Weekly Cume	98,100	
Campaign Cume	981,000	73%/8.1

Palm Springs	Hisp A2554 6-10A	Avg 2 Week Reach/Frequency
KLOB-FM	34,200	72%/3.5
Weekly Cume	34,200	
Campaign Cume	410,400	89%/16.7

Yuma-El Centrol	Hisp A2554 6-10A	Avg 2 Week Reach/Frequency
KMXX-FM	11,400	75%/4.5
Weekly Cume	11,400	
Campaign Cume	228,000	90%/15.0

APPENDIX C: Organizations included in outreach campaign

Agricultural Worker Health Initiative/ Poder Popular
American Friends Service Committee - Proyecto Campesino
American Friends Service Committee, San Diego
ASM Affiliates
Asociacion de Jornaleros de San Diego
Bayside Community Center San Diego
Bill's Market, H&R Block
Binational Health Initiative Promotora Network
Borrego Community Health Foundation
Brentwood Press
California Gastroenterology Associates, Fresno (serving Punjabi community)
California Office of Binational Border Health (COBBH)
California Institute for Rural Studies
California Primary Care Association
California Rural Legal Assistance Foundation
California Rural Legal Assistance, Inc.
California State Rural Health Association
Catholic Charities
Catholic Charities Emergency Services
Catholic Charities Immigration Services
Catholic Diocese Fresno
Catholic Diocese Monterey
Catholic Diocese San Bernardino
Catholic Diocese Sacramento
Cement Union Apprenticeship
Center for Immigrant and Worker Rights
Central California Legal Services
Central Valley Health Network
Central Valley Opportunity Center
Centro Binacional para el Desarrollo Indígena Oaxaqueño, Inc. (CBDIO), Fresno
Centro Binacional para el Desarrollo Indígena Oaxaqueño, Inc. (CBDIO), San Diego
Centro La Familia
Century Community Job Training
CHAMACOS, Salinas
Chrysalis
Chula Vista Community Collaborative
Clinica de Salud del Valle de Salinas
Clinica Sierra Vista, Brawley
Clinica Sierra Vista, Fresno
Clinicas de Salud del Pueblo, Inc.
Coalition for Humane Immigrant Rights of Los Angeles
Coalition for Responsible Community Development
Comite Pro Derechos Humanos Latinos Unidos, City Heights, SD
Community Care Health Centers
Community Change
Community Coalition
Community Health Centers
Community Health Improvement Partners (CHIP)
Council of Philippine American Organizations of SD County COPAO
Cypress Park Community Job Center

Del Norte Clinics
Diocese Stockton
Dixon District Chamber of Commerce
Dolores Huerta Foundation
Downtown Community Job Center, Los Angeles
Downtown Dixon Business Association
Dr. Jasbir Kang Medical offices
Dr. Madhu Jodhani Medical Clinic
Employment Development Department
Employee Rights Center, City Heights, San Diego
Environmental Health Coalition, San Diego
Escondido Human Rights/Comite Derechos Humanos
Familia Indigena Unida, San Diego
Family HealthCare Network/Ventanilla De Salud
Family HealthCare Network: Visalia Oak Health Center
Farmworker Health Services, Inc.
Family HealthCare Network Americorps
Fremont-Rideout Urgent Health Care Center
Frente Indigena Oaxaqueno BiNacional (FIOB) Fresno
Frente Indigena Oaxaqueno BiNacional (FIOB) San Diego
Fresno Center for New Americans
Fresno Interdenominational Refugee Ministry
Fresno Metro Ministry
GRID Alternatives
Gurdwara Guru Nanak Parkash Temple
Harbor City Day Laborer
Health Outreach Partners
Hollywood Community Job Center
Homeboy Industries
Institute for Mexicans Abroad, Consulate General of NY
Interfaith Committee for Worker Justice of San Diego County
Interfaith Community Services, Escondido
Interfaith Shelter Network
JOB-Justice Overcoming Boundaries
Jornaleros Unidos del Valle de San Gabriel
La Causa
Los Angeles County Federation of Labor
Los Angeles Trade Tech
La Cooperativa Campesina de California
Lao Family of Fresno
Lideres Campesinas
Los Angeles Conservation Corps
Los Niños Via International
MAAC Project (Maximize Access to Advance Our Communities) San Diego
Mexican Consulate, Calexico
Mexican Consulate, Fresno
Mexican Consulate, Los Angeles
Mexican Consulate, Sacramento
Mexican Consulate, San Diego
Mexican Consulate, San Francisco
Mexican Consulate, San Jose
Midnight Mission
Migrant Clinicians Network

Migrant Education Butte County Region 2
Migrant Education Firebaugh
Migrant Education Fresno County Region 4
Migrant Education Merced County Region 3
Migrant Education San Joaquin County Region 23
Migrant Education Woodland County
Mini-Corps, Butte County Office of Education
National American Hmong Farmers Association
National Farm Worker Ministry
National Immigrant Farming Initiative
Pac. Coast Khalsa Diwan Society
Pacific Coast Market Association
Pasadena Community Job Center
Poder Popular: Coachella
Poder Popular: United Way of Tulare County
Pomona Day Labor Center
Promotora Outreach
Promotoras de Coachella
Proteus, Inc.
Proyecto Access San Diego
Proyecto Casas Saludables, City Heights San Diego
PV Jobs
Roofers Apprenticeship Program
Roofers Local 95
San Diego Organizing Project
San Ysidro Health Center
San Ysidro Health Center
Scripps Wellbeing Center
San Diego Prevention Research Center
SDSU Institute for Public Health
SDSU-Graduate School of Public Health
SEIU Local 1877
Sikh Temple Sacramento
Somali Family Services of San Diego
St Francis Center
St. Elizabeth Catholic Church
Strategic Actions for a Just Economy
Tulare Health and Human Services
UC Extension Small Farms Project
United Farm Workers of America
United Farm Workers of America - National Office
United Health Center
United Health Center- Fresno
United Health Center-San Joaquin
United Way of Fresno County
United Way of Tulare County
Visión y Compromiso Promotora Network
West Fresno Health Care Coalition
West L.A. Community Job Center
WINTER (Women in Non Traditional Roles)
Winters Farmers Market
Yolo County Children's Alliance

APPENDIX D: Organizations that participated in Train-the-Trainer programs

American Red Cross
Armstrong & Associates Insurance Services
California Rural Legal Assistance Foundation
California Rural Legal Assistance, Inc
Contra Costa County Dept of Agriculture
Dixon Unified School
Rural Community Assistance Corporation
San Joaquin County Agricultural Commission
Sierra Gold Nurseries
SJCOE Migrant Education Program
California Association of Agricultural Labor
Central Unified School District
Comprehensive Youth Services/Migrant Education
Dolores Huerta Foundation
Fresno County Office of Education/Migrant Education
Proyecto MICASA UC Davis
Valley Health Team
Ventanilla de Salud/Mexican Consulate
Central Unified
Central Valley Health Network
City of Madera
County of Kings
DC Construction Group Inc
Empowerment Institute, Inc
Excelsior Farming Inc.
G & M Farming
Kings County Ag. Department
Merced Lao Family Community, Inc
Central California Child Development Services Inc.
Codallos Wellness
Departamento de Salud Public
Hughson Family Resource Center
Lideres Campesinas
Plaza Comunitaria
Sierra Vista Child & Family Services
Stanislaus County Health Services Agency
Campesinas Unidas del Valle de San Joaquin
Centro Binacional Indigena Oaxaqueño
Family Healthcare Network
Family Healthcare Network
Fresno County Office of Education/Migrant Education
Kaweah Delta Healthcare District
Kaweah Delta Hospice
Migrant Education Region VIII
Proteus Inc.
Tulare Community Health Clinic
American Friends Service Committee
Asociacion de Jornaleros de San Diego
Comite Derechos Humanos de Escondido

Comite Pro Derechos Humanos Latinos Unidos (CPDHLU)
Frente Indigena de Organizaciones Binacionales
Interfaith Community Services --Confia en Ti Worker Center
Project Access, San Diego
Proyecto Casa Saludables
Promotoras Independientes Indio Ca./Planned Parenthood
San Diego County -- Programa Educacion Migrante
State of CA Employment Development Department
Comite de Salud y Seguridad de la Campaña de Carwasheros
Consulado de Mexico Fresno, Ventanillas de Salud
Consulado Mexicano Los Angeles
Esperanza Community Housing Corporation-- Rescatando Salud
Instituto de Educacion Popular del Sur de California (IDEPSCA)
Jornaleros Unidos Valle de San Gabriel/IDEPSCA
Promotoras Independientes de Coachella
Vision y Compromiso
West Fresno Health Coalition

APPENDIX E: LOGIC MODEL FOR HEAT ILLNESS PREVENTION CAMPAIGN TO PROTECT NON-ENGLISH SPEAKING OUTDOOR WORKERS IN CALIFORNIA

