

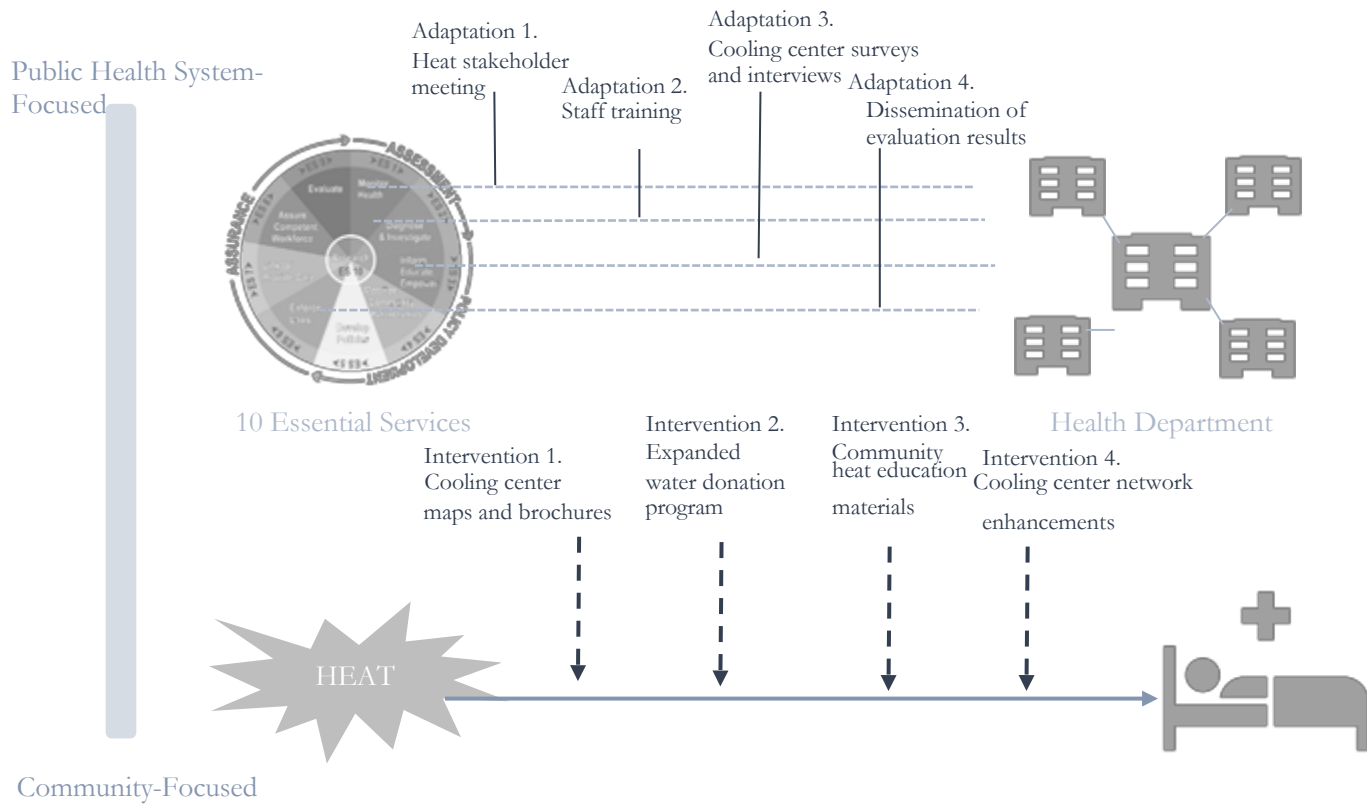
Arizona Department of Health Services Implementation and Monitoring Strategy (IMS) For: Heat in Yuma County



This IMS is a living document. It outlines a plan of action for the Arizona Department of Health Services and Yuma County Public Health Services District to implement adaptations and interventions aimed at disrupting the pathway between heat and its subsequent health outcomes. Interventions and adaptations described throughout this IMS were deemed suitable through previous steps of BRACE (Steps 3 and 4) as well as through engagement with stakeholders to the adaptations and interventions. This plan of action requires a description of how each adaptation and intervention will be implemented, communicated, and evaluated. An initial, completed IMS for all selected exposure foci will satisfy performance measures A through H of the CDC-RFA-EH16-1602. Updates to all IMS's over time will satisfy performance measure K of the CDC-RFA-EH16-1602.

HEAT EXPOSURE-RESPONSE ADAPTATIONS AND INTERVENTIONS IN YUMA COUNTY, AZ

EXPOSURE – RESPONSE PATHWAY



Yuma Cooling Center Evaluation Implementation and Monitoring Strategy

August 2017

Implementation Component—Increase awareness and utilization of Yuma County Cooling Centers and Water Sites

Description of Intervention

Yuma County is located in southwest Arizona. The County experiences temperatures of 100°F and higher for most of the summer between the months of May through September. High temperatures experienced by residents and visitors put them at increased risk for heat-related illness. Preventing heat-related illness is beneficial for reducing the number of hospitalizations and deaths related to heat. Therefore, there is a recognized public health need for actions to mitigate this hazard. Yuma County Public Health Services District is seeking to increase effectiveness in Yuma area cooling centers through evaluative techniques including surveys, observation, and interviews and understand the role cooling centers play in mitigating the hazard. Key informant interviews at locations of vulnerable populations, such as homeless shelters, will be done to identify gaps in heat illness prevention measures and barriers to address in the evaluation. The evaluation of cooling centers is meant to inform the YCPHSD and its stakeholders about cooling center efficacy. Data collection will involve surveying facility managers about current practices and perceived challenges and surveying cooling center visitors about their experience. Following the evaluation, YCPHSD will make recommendations to the volunteer water and cooling centers on opportunities to encourage and enhance participation for visitors and facility managers. Some of the anticipated improvements may include maps of cooling center locations, more geographically diverse stakeholders, recommendations for adding new locations, signage indicating locations of centers, brochures, and greater online presence. Additional evaluation efforts on these changes that are accepted for implementation will be monitored to see if they have made positive outcomes in preventing heat illness. Results will be useful for informing the YCPHSD public health emergency response plan extreme weather annex.

Key Informant Surveys

Initial vulnerable population key informant surveys will be conducted focusing on Yuma County's homeless population as it is thought that they are particularly vulnerable to heat-related illness due to prolonged periods of exposure. Areas frequently congregated by this group will be surveyed around Yuma County such as the Yuma County Heritage Library, areas along the Colorado River as well as the Crossroads Mission which also serves as a cooling center.

Update:

A Key Informant Survey was developed with collaboration between Yuma County Public Health, Arizona Department of Health Services, and Arizona State University. Development of the survey began in March 2018 and was finalized in both English and Spanish versions in May 2018. Volunteers were recruited and completed the required Collaborating Institutional Training Initiative Human Research IRB-Social & Behavioral Research basic course. Additional Just in Time training took place on May 30, 2018 reviewing safety procedures such as the use of 700 MHz radios, overview of the project, surveyor do's and don'ts, and a recruitment script.

Key Informant Surveys were conducted on May 31, 2018 and included staff from Yuma County Public

Health, Yuma County Emergency Management, Arizona Department of Health Services, and Arizona State University. Three people teams were deployed to areas frequented by the target group around Yuma County such as the Heritage Library Park, Along the Colorado River, near exit ramps of Interstate 8, and Crossroads Mission. A total of 76 homeless individuals were surveyed. Of the 76 surveyed 86% were male. Of those surveyed, 71% did not indicate that they had a regular home. 40% know where cooling centers are located, but the Hispanic population had an overall lower awareness of cooling centers. 43% indicated that they bike to cooling centers, and 38% indicated that they walk. 12 out of 30 people found out about cooling centers from someone they knew. When asked about adverse heat effects, and whether they felt their health is in danger, 58% reported having adverse heat effects, and 41% felt their health is in danger on hot days.

Site visits will take place May through September 2018 and possibly in future years. Visitor Surveys will be done by an evaluation team that is physically present in the cooling centers. The evaluations will then be analyzed jointly by the CHAMP (Climate and Health Monitoring Program) team members from the Arizona Department of Health Services, university partners, and Yuma County that are funded through Centers for Disease Control and Prevention's Climate Ready States and Cities Initiative. Further details regarding staffing among these organizations are identified in the stakeholder team and roster section. Development of the surveys and analyses will take place at respective organization offices either in person or virtually. Key informant interviews will be conducted in city parks and other public facilities including Yuma's Heritage Library at which homeless people are known to congregate. These will be done prior to surveys at the cooling centers which are for implementing the visitor survey, observational survey, and facility manager survey. These surveys will be implemented at the cooling centers during the summer season. A list of these locations will be identified and agreed upon during a stakeholder engagement meeting where social services entities are expected to be in attendance. Additionally, training will occur at either the Yuma County Public Health Services District or a public library to train survey administration volunteers about cooling centers, heat safety resources, and heat-related illness prevention, recognition, and treatment. Dissemination of the project and results will take place at the Yuma County Public Health Services District as well as the State Heat Safety Workgroup Meeting held at the Arizona Department of Health Services in Phoenix, AZ. A possible location for a planning meeting among the CHAMP team may occur at Arizona State University to discuss development of evaluation tools and/or analyzing results.

During fall 2017, the evaluation team will email a cooling center to provide a background of the project and hold a teleconference to collect preliminary data, perception of the heat season, and barriers. These findings will help shape the official survey instruments.

Site Location Addresses:

- Yuma County Public Health Services District - Planning Efforts and Results Analyses, Training
- Vulnerable Population Public Spaces in Yuma County - Survey Location
- Yuma area cooling centers - Survey Location
- Arizona Department of Health Services - Planning Efforts and Results Analyses (virtual)/(in-person)
- Arizona State University - Planning Efforts and Results Analyses (virtual)/ (in-person)
- ~~Yuma County Heat Relief Group Meeting - TBD (Within Yuma County) - Dissemination of Results~~

- Yuma Public Libraries - Conference rooms to hold trainings

Methodology

The evaluation will be based on four different sources of data: surveys of cooling center visitors, interviews of facility managers, key informant interviews of vulnerable populations, and site observations conducted by the evaluation team. All evaluation instruments will be reviewed and approved by the human subjects Institutional Review Board at Arizona State University prior to deployment. All team members will be certified through the CITI program, where necessary, to conduct human subjects research in compliance with ethical guidelines and institutional standards. Evaluation instruments will be pilot tested prior to deployment and all study team members involved in data collection will be trained by senior members of the team (CHAMP team members) with relevant experience and expertise. The senior evaluation team, members of the CHAMP team from ASU and ADHS, include multiple personnel who contributed to the 2014 Maricopa County cooling center evaluation, from which this project builds.

Surveys will be developed by the CHAMP team to understand the population served by cooling centers as well as assess the role of cooling centers in meeting community needs from the perspectives of cooling center visitors and learn how to increase effectiveness of this public health strategy. Yuma surveys will be adapted from surveys developed during the 2014 evaluation in Maricopa County (Berisha et al. 2016).

In addition to surveying groups that are already utilizing or otherwise involved with cooling centers, the CHAMP team intends to develop a questionnaire targeted at homeless populations in public gathering spaces which will be implemented by doing key informant interviews. The purpose of these key informant interviews is to pilot the questions asked for the observational and visitor, and facility manager surveys. This survey will aim to understand the barriers of cooling center utilization to Yuma County's homeless and other vulnerable populations. Vulnerable populations in Yuma will be identified from results of the Arizona Department of Health Services - Building Resilience Against Climate Effects Program's (BRACE) vulnerability assessment on climate and health effects. Surveys will be translated during the planning period and available in English and Spanish. ADHS will assist with survey instrument translation. Where possible, surveys will be administered by a member of the evaluation team or affiliated volunteers supporting the project. Affiliated volunteers will be recruited from interns under ASU staff on the project as well as Citizen Corps affiliated agencies in Yuma County (<https://www.ready.gov/citizen-corps>). The survey instruments will be piloted to minimize attrition due to length of time needed to finish.

During the time of surveys, health education materials will be distributed to cooling center facility managers and public locations where pilot efforts occur.

Interviews will be conducted with individual cooling center facility managers as well as cooling center network coordinators. These interviews, also adapted from those developed for the 2014 Maricopa County evaluation (Berisha et al. 2016), will be conducted to learn more about the resources that best support cooling center operations, perceived challenges and successes, and the resources desired to improve service provision to cooling center visitors. The interview will also provide insight regarding the extent to which services and operations are coordinated between individual facilities within the network (include draft interview as appendix).

Key informant interviews will be employed in at least 1 public gathering space of vulnerable populations as a pilot for getting feedback on implementing the observational, facility manager, and visitor surveys during summer 2018.

Facility manager interviews will be carried out under the direction by CHAMP team members from Yuma County Public Health Services District, Arizona Department of Health Services, and Arizona State University.

Observation will be another method used to assess the efficacy. CHAMP team members and cooling center project volunteers will collect information about the cooling centers that includes accessibility, visibility, capacity, utilization, features, and amenities.

Training - a heat illness training will be implemented at Yuma County Public Health Services District or a public library to Citizen Corps volunteers affiliated with the project, prior to field work in the summer.

Analysis of surveys will occur after all cooling center evaluations are complete. Analysis will include descriptive statistics and cross-tabulations from survey responses, thematic coding from interviews, and descriptive statistics and cross-tabulations from site observations. This analysis will inform the CHAMP team's recommendations regarding how the centers can be improved to help more in their target populations.

Update:

Facility Evaluation questions were developed and interviews with managers were scheduled in late October 2018. Facility manager interviews were conducted on November 13, 2018. 2 person teams from Yuma County Public Health, Arizona Department of Health Services, and Arizona State University visited First United Methodist Church, Helping Hands of Yuma, Hope Inc., Crossroads Mission, and Yuma Community Food Bank. Information was shared on the Key Informant Survey and an Info Graphic developed by ADHS was provided to each manager relaying some key findings of the survey. Information gathered included basic facility information, capacity and utilization, services and supplies, and cost and burden of providing the service to the community. Findings of the evaluation varied from location to location. Most, however did not find providing water and/or a location allowing visitors to get relief from the effects of the heat was a burden financially. Most utilized their own resources in the purchase of water, and at some locations even snacks. A few received donations of water from other agencies. Areas of opportunities are the relatively low number of sites that are open extended hours or on weekends, and few have true designated cooling areas designed for just visitors to sit and seek relief from the heat.

Local Data

Local data will include the survey responses, and observations collected during the evaluation. ~~There will be 3 separate sets data for each of the 11 cooling center sites: the facility manager survey responses; the visitor survey responses; and the evaluator's observations of the site.~~ An additional Data set will consist of survey responses from the homeless population collected at Yuma's parks and other public spaces. A pre-test/post-test evaluation survey of the training to volunteers will be implemented to see improvement in preventing, recognizing, and responding to heat illness.

The CHAMP team will also utilize data about each cooling center's location, hours, and available services. ~~This data has been provided by the Yuma Heat Relief Network.~~

Update:

Yuma County Public Health Emergency Preparedness Division contacted each site in March and April 2019 to determine continued participation, and sent each participating site a newly developed BRACE program registration form which outlines the sites key demographic information.

Yuma County Public Health also was successful in recruiting five additional cooling and water sites in Yuma's South County through recruitment efforts with the Local Healthcare Coalition prior to the 2019 summer months.

Stakeholder and Team Roster and Responsibilities**Team Roster:**

Arizona Department of Health Services - Climate and Health Program (ADHS)

Yuma County Public Health Services District (YPHSD)

Arizona State University (ASU)

Methods	Leader(s)	Team Roles and Responsibilities
Develop IMS Plan for Yuma County on Heat	Lead: YPHSD, Support: ASU, ADHS	Identify opportunities for engagement around heat and health for vulnerable populations in Yuma
Engage service organizations involved in heat and health prevention	YPHSD, ASU, ADHS	Communicate project to stakeholders and results
Disseminate communication materials	YPHSD, Volunteers	Deliver heat illness prevention materials

Stakeholder List:

Organization	Site	Roles/Responsibilities
Salvation Army	Thrift Store 600 W Catalina Dr, Yuma, AZ- 85364	Cooling Center Water Site Manager survey Participant interview

Red Cross	2191 S. 4th Ave. Yuma AZ 85364	Cooling Center Water Site Manager survey Participant interview
Crossroads Mission	944 S Arizona Ave, Yuma, AZ 85364	Cooling Center Water site Manager survey Participant interview
First United Methodist Church	298 W 3rd St, Yuma, AZ 85364	Water Site
Salvation Army Foothills	Thrift Store 11825 S. Fortuna Rd, Yuma Az. 85367	Cooling Center Water Site Manager survey Participant interview
Hope Inc.	201 S. 1st Ave. Yuma AZ 85364	Water Site Manager survey Participant interview
Starbucks Coffee Company	2383 W. 24th St. Yuma Az.85364	Cooling Center Water Site Manager survey Participant interview
St. Paul's Episcopal Church	1550 S 14th Ave, Yuma, AZ 85364	Water Site Manager survey Participant interview

Western Arizona Council of Governments	1550 s 14th Ave, Yuma AZ 85364	Water Site Manager Survey Participant interview
Walmart	8151 E 32nd St Yuma AZ 85364	Cooling Center Water Site Manager survey Participant interview
Helping Hands of Yuma Co.	11776 S. Sheryl Dr. Yuma AZ 85367	Cooling Center Water Site Manager survey Participant interview

Note: New Partners for 2019

National Community Health Partners	255 W. 24 th St. Yuma, AZ 85364	Water Site
Crossroads Mission Thrift Store	550 W. 8 th St. Yuma, AZ 85364	Water Site Cooling Center Manager Survey Participant Interview
Family Behavior Integrated Health Services	1130 E. Main St. Somerton, AZ 85350	Cooling Center Water Site

Develop facility manager survey, observational survey, and visitor survey																	
Conduct evaluation key informant survey																	
Analyze evaluation results																	
Report and Distribute Results																	
Develop training on HRI Resources for cooling center staff and volunteers surveying																	
Conduct training for volunteers																	
Develop health education materials for cooling centers (maps, brochures)																	
Disseminate health education materials (maps, brochures)																	

Update: Timeline of Events

Date	Event	Location	Total Attendees	Direct Contact	Target Demographic	Description
3/1/2018	Development of Key Informant Survey	Conference Calls with ADHS, ASU, YCPHSD	3 to 5	3 to 5	Homeless Population	Key informant survey was developed to target homeless population. Survey was finalized in May 2018 in both English and Spanish
5/15/2018	CITI IRB Training Completed by Volunteer Surveyors	Online	12	n/a	all surveyors	Required to perform survey
5/30/2018	Just In Time Training for Survey	YCPHSD	12	n/a	all surveyors	Safety, 700 MHz radio training and survey process training
6/30/2018	Evaluation of Key Informant Survey Begins	Conference Calls with ADHS, ASU, YCPHSD	3 to 5	3 to 5		Evaluation of survey results begin
8/17/2018	Yuma Heat Block Party & Car Show	YCPHSD	2500	800	All age groups	Educational booth set up at block party and car show in downtown Yuma from 3 pm to 10 pm providing educational information and heat safety materials.
10/1/2018	Facility Evaluation Development	Conference Calls with ADHS, ASU, YCPHSD	3 to 5	3 to 5	Facility Managers of Cooling Centers/Water Sites	Facility Evaluations were developed which included key findings of Key Informant Survey, basic facility information, capacity and utilization information, services and supplies and burden/cost information.
3/1/2019	BRACE Cooling Center & Water Site Enrollment flier developed	YCPHSD	2	n/a	All water and cooling center facilities and prospective new facilities	Flyer created to update key facility information, and recruit new facilities in Yuma County.
3/1/2019	Development of new map with updated cooling centers & water sites & removal of Yuma Heat Relief Group affiliation	Conference Calls with ADHS, ASU, YCPHSD	3 to 5	n/a	All residents of Yuma County	Develop a new map with the assistance of ADHS that is available both in hard copy and as a link to be added to the Yuma County website for residents and visitors of Yuma County to locate available cooling centers and water sites in the area.
3/12/2019	Healthcare Coalition/April	Yuma County Health District	38	38	All age groups	Passed out educational materials, water bottles, and presented information on the BRACE program to our Healthcare Coalition. 38 members attended, representing various healthcare organizations throughout Yuma County. Potential to have information shared with thousands of residents, as well as an opportunity to recruit water/cooling sites. (Example - Regional Center for Border Health is a member of this coalition, and soon after volunteered their clinics as cooling sites for South Yuma County).

4/1/2019	Water & Cooling Site Participation & re-enrollment	YCPHSD	2	n/a	All water and cooling center facilities and prospective new facilities	Information sent to all current water and cooling centers after a personal call to verify that they are still participating in the program
4/4/2019	Public Works Safety Fair	Yuma County Public Works	70	70	All age groups	Provided educational materials, water/cooling center maps, and goody bags filled with BRACE supplies. This event targets our staff members that work in the heat.
5/4/2019	Cinco De Mayo Block Party	Main Street Yuma, AZ	2500 (Est)	500	All age groups	Annual Block Party hosted by the City of Yuma. Yuma County PHEP coordinated a "Spin the Wheel" booth in which participants could win one of our BRACE giveaways. All BRACE giveaways were branded with the Yuma County/BRACE logo. (Hats, Sunglasses, Sunscreen, Water bottles, Cooling Towels, Misting Fans, Chap sticks). In addition, We handed out and estimated 500 bags with Summer Heat Safety education materials, as well as the 2019 Cooling Center map.
5/21/2019	Employee Safety Meeting	Bureau of Reclamation	30	30	All age groups	Gave presentation to staff members on heat-related illness and prevention. Played heat-relief cross-word puzzle (found on ADHS website). Provided educational materials, water/cooling center maps, and goody bags filled with BRACE supplies.
6/1/2019	Come Out and Play Day	Valley Aquatic Center	1000	150	Families/Young Children	Come out and Play Day is an annual event sponsored by Yuma County which focuses on Summer Safety (Heat, drowning prevention, etc...) Yuma County PHEP participated in the event by coordinating a "bean bag toss" booth. Attendees were encouraged to play the game and win one of our BRACE giveaways. All giveaways were related to heat-related illness prevention and branded with the Yuma County/BRACE logo. (Hats, Sunglasses, Sunscreen, Water bottles, Cooling Towels, Misting Fans, Chap sticks)We handed out roughly 150 bags which include Summer Heat Safety education materials, as well as the 2019 Cooling Site maps.

6/15/2019	Aging Well Resource Fair	Yuma Civic Center	500	500	55+ demographic	Aging Well Resource Fair is an annual event that coincides with Elder Abuse Awareness Day. This event feature free services, resources, Health & Wellness Demonstrations, Advocacy Assistance, Educational Presentations, and more. This event is targeted for the 55+ community, and therefore was a great opportunity for Yuma County PHEP to pass out our 2019 BRACE Surveys. We were able to distribute 200 Surveys as well as an estimated 500 Summer Heat Safety educational bags. Participants also played the "Spin the Wheel" game and won one of our BRACE giveaways, which are all related to preventing heat related illness. (Hats, Sunglasses, Sunscreen, Water bottles, Cooling Towels, Misting Fans, Chap sticks)
7/1/2019	BRACE Surveys for Senior Vulnerability Assessment posted on Yuma County Webpage & County Facebook page. Paper surveys printed and distributed to cooling facilities and social service programs	Social Media	Unknown	50	65+	YCPHSD launched online survey on county website and via social media. Paper surveys were dropped off at various water/cooling sites and social service providers in the area.
7/3/2019	Board of Supervisors/Health Watch	Yuma County Admin	5	5	All age groups	Mary interviewed for the Health Watch, which is Yuma County's local news segment featured at the Board of Directors meeting. BRACE Goody bags and educational materials handed out at the Board of Directors meeting to raise awareness on the program.
7/18/2019	CASPER Training	Cocopah Indian Reservation	40	40	All age groups	Hosted by our tribal partners, provided exercise participants with BRACE bags/heat-relief giveaways
7/30/2019	ABWA (American Business Women's Association)	Radisson Hotel Yuma, AZ	90	90	All age groups	Provided educational materials, water/cooling center maps, and 3 door prizes goody bags filled with BRACE giveaways

8/6/2019	BRACE Surveys	Senior Nutrition Center Yuma, AZ	100	25	65+	Partnered with U of A Public Health students to survey 65+ community members. Received and estimated 25 completed surveys.
8/20/2019	Facebook Contest	Social Media	Unknown	20	All age groups	Giveaway for 1st 20 people that recognized where the Yuma County Beat the Heat Cooling Towel was pictured. In just 2 hours all 20 giveaways were gone. This was done in conjunction with heat advisory the week of August 20th

Needed Resources

Funding: CDC grant supporting Arizona Department of Health Services, Arizona State University, and Yuma County Public Health Services District Staff Personnel:

Yuma Medical Reserve Corps

- Evaluation
- Heat education

dissemination Yuma HOSA

- Evaluation
- Heat education

dissemination

Cooling Center Staff

- Heat education dissemination
- Evaluation

Yuma Public Health Services District

- Program planning, implementation, and evaluation
- Communicatio

ns Arizona State
University

- Program planning, implementation, and evaluation

ADHS Program Staff

- Program planning, implementation, and evaluation
- Communications

Equipment and materials:

- Budget for printing communication materials
- Budget and personnel for engaging partner organizations and evaluation
- Budget for personnel for developing and distributing communications materials

Communication Component--Objective

The goal is to reduce morbidity and mortality to heat illness by improving strategies for delivering public health interventions in Yuma County.

Activities

1. Activity Name- Share results of intervention (Yuma County Heat Stakeholder Meeting and AZ Heat Safety Meeting)
 - a. Description: The Yuma BRACE team will share the plan to the Yuma heat preparedness stakeholder list by emailing the list about the project and presenting the project at a future county heat planning meeting. Results of the findings will be shared by email and by in-person heat planning meeting at the county and state scale.
 - b. Stakeholders: Yuma Public Health Services District, Arizona Department of Health Services, Arizona State University, ~~Yuma Heat Relief Project, Yuma Heat Stakeholder Group~~, Cooling Centers Facility Managers
 - c. Target audience: ~~Yuma Heat Stakeholder Group~~ YCPHSD, Cooling Center Facility Managers, ~~Yuma Heat Relief Project~~, Other AZ public health jurisdictions
 - d. Timeline: August 2017 for plan, August 2018 for results
 - e. Number and description of all materials used: 2 communications about the plan (county partners, state partners), 1 written report of evaluation results, 2 PowerPoint presentations (1 county meeting and 1 state meeting).
2. Activity Name- Cooling Center Staff and Volunteer Training
 - a. Description: In person 15-20 minute presentation on interviewing, filling out survey forms, and role of the cooling center in prevention and reduction of morbidity and mortality due to HRI.
 - B. Stakeholders: Yuma County Public Health Services District, Arizona Department of Health

Services, Arizona State University.

- c. Target audience: Cooling Centers, Medical Reserve Corps, HOSA
 - d. Timeline: Prior to 2018 Heat Season, April-May 2018
 - e. # and description of all materials used: Power Point Presentation, 200 surveys, observation records and interview forms.
3. Activity Name- Infographic summary of project through email distribution
- a. Description: Provide one page infographic of the project.

B. Stakeholders: Yuma Heat Relief Network, Yuma County Public Health Services District, Arizona Department of Health Services, Arizona State University

- c. Target audience: ~~Yuma Heat Group~~, Yuma Regional Medical Center, Medical Reserve Corps, HOSA, Social Service Agencies.
- d. Timeline: Prior to April 2018.
- e. # and description of all materials used: Infographic of the BRACE project-75 copies.

4. Activity Name- BRACE Grantee summary of project through email distribution

- a. Description: Provide survey tools, survey result report, and infographic summary
- b. Stakeholders: BRACE grantees
- c. Target audience: ~~Yuma Heat Group~~, Yuma Regional Medical Center, Medical Reserve Corps, HOSA, Social Service Agencies.
- d. Timeline: March 1,-October 30, 2018
- e. # and description of all materials used: Survey tool, survey result report, and infographic summary.

5. Activity Name- Heat Health education material distribution

- a. Description: Publish on website and deliver to cooling centers
- b. Stakeholders: Yuma residents, hospitals, cooling center managers Yuma County Public Health Services District
- c. Target audience: Yuma Residents, Cooling center visitors, Social Service agencies, faith-based organizations. Medical Reserve Corps, Health related training classes.
- d. Timeline: January 1, 2018 to December 31, 2018
- e. # and description of all materials used: Internet information, brochures, hand-outs.

Evaluation Component--Evaluation Purpose

Evaluating cooling centers is a critical step in ensuring the health and safety of Yuma County residents during extreme heat. Examining the experiences of those who visit and manage the cooling centers will allow us to make targeted improvements to increase the number of visitors, in addition to the perceived quality of the time spent there. Our team also aims to enhance the experience for facility managers. By meeting the needs of this group, we will better the chances that more organizations will offer to host a cooling center, thus increasing the total number of sites available to residents.

Stakeholder name or group	Stakeholder Category	Interest of perspective	Role in evaluation
Yuma County Public Health Services District	Primary	YCPHSD would like to increase effectiveness in the area's cooling centers to decrease the risk of heat illness or death to its residents and visitors.	YCPHSD will be the lead on evaluation. They will delegate tasks to Arizona Department of Health Services and Arizona State University staff in addition to other volunteers. They will also directly carry out surveys and interviews with facility managers during the evaluation. YCPHSD will be the lead in disseminating the results to stakeholders.
Yuma Heat Relief Network	Primary	Yuma Heat Relief Network is the organization that coordinates the cooling centers. This organization's mission is to keep residents of Yuma cool and is interested in employing best practices informed by the evaluation.	The Heat Relief Network will assist with supplying volunteers when necessary for surveys. YHRP is a recipient of the evaluation results and will receive recommendations for increasing effectiveness.
Arizona Department of Health Services	Secondary	ADHS would like to establish best practices that it can share with other states and Arizona counties interested in developing or improving cooling center networks.	ADHS will participate in the survey, interview and observation component of the evaluation led by YCPHSD. They also will support the analysis and compilation of data collected throughout the evaluation.
Arizona State University	Secondary	ASU would like to establish best practices and contribute to the evidence base by	ASU will participate in the survey, interview, and observation component of the evaluation led by

		discussing these findings in publications and professional conferences	YCPHSD. They will also take the lead on analyzing and compiling data collected throughout the evaluation
Red Cross	Secondary	Red Cross likely has some interest in improving the cooling centers as it may alleviate some of their burden to help unsheltered people stay comfortable and safe	The Red Cross will not assist with carrying out the evaluation, but the internal processes are directly affected by the relative success of cooling centers. Organization is a survey respondent.
Yuma Regional Medical Center	Tertiary	Yuma Regional Medical Center has an interest in improving cooling centers as a way to decrease heat illness and death in the area they serve	Yuma Regional Medical Center will not assist with carrying out the evaluation, but they may be contacted for feedback or recommendations during or after the evaluation
Yuma County Sheriff's Department and city police departments	Tertiary	The sheriff's department may have some interest in keeping unsheltered residents cool to decrease heat-related incidence response	The sheriff's department will not assist with carrying out the evaluation, but they may be contacted for feedback or recommendations during or after the evaluation
Yuma County Residents	Tertiary	Yuma County residents may have some interest in improving cooling centers if they routinely utilize them or to increase safe spaces for their community	Many Yuma County residents will be surveyed during the evaluation process
Salvation Army	Secondary	Improvements to cooling centers would decrease the strain placed on resources	The Salvation Army will not assist with carrying out the evaluation, but the internal processes are directly affected by the relative success of cooling centers. Organization is a survey respondent.
Businesses and Non-governmental Organizations that donate water	Tertiary	Easily identify locations to provide water to help their mission relating to helping vulnerable populations.	Will receive map of cooling center sites with contact information on how to share water.

Cultural competence

Yuma County, AZ is an Arizona county that borders with Mexico. Approximately 202,987 people live in Yuma County (2015 American Community Survey, US Census). Nearly 17% of the population is 65 years and older. Additionally, 61.1% of the population identifies as Hispanic or Latino and 2.1% identify as American Indian or Alaskan Native. According to the US Census, 58.5% of people who identified that they are Hispanic or Latino describe a Mexican heritage. Therefore, we will aim to have translations of health education materials that use phrasings more colloquially recognized by speakers of Spanish from Mexico. Additionally, the same principles will be used for translating the trainings and conducting the key informant interviews. We will pilot the materials with 1 cooling center regarding this context before applying on a larger scale.

Need

One out of every five individuals in Yuma County lives below the poverty line. Seventeen percent of the population is 62 years old or older (US Census FactFinder, American Community Survey, 2015). These characteristics, combined with the fact that Yuma borders Mexico illustrate the need for adopting cultural respective practices for the demographic.

Context

Yuma experiences chronic summer heat from May to September. Cooling centers are not just open during heat warnings issued by the National Weather Service. Most sites are open to reflect this chronic heat issue. Cooling centers in Yuma are not a government funded service and rely on volunteer citizens and businesses including private and nongovernmental entities to keep their doors open. Water is provided by donations. The intervention to improve this network relies on the ability of the cooling center stakeholders to keep their doors open in future years and their willingness to take a survey. Convincing the facility managers that the goal of the work is not to grade them or find liability issues, but to improve public health is crucial. Explaining the overall long-term objective is a reduction in heat illness and deaths can be improved by their contribution to the baseline knowledge on cooling center usage.

Population addressed

One out of every five individuals in Yuma County live below the poverty line. Eighteen percent of the population is over the age of 62. These two factors, combined with Yuma's high temperatures, necessitates the support of a system of cooling centers for those individuals who may be more prone to health effects from heat exposure.

Logic model

The logic model below denotes the resources/inputs, activities, outputs and outcomes for this project. For details on how each of these components relate to each other see figure below.

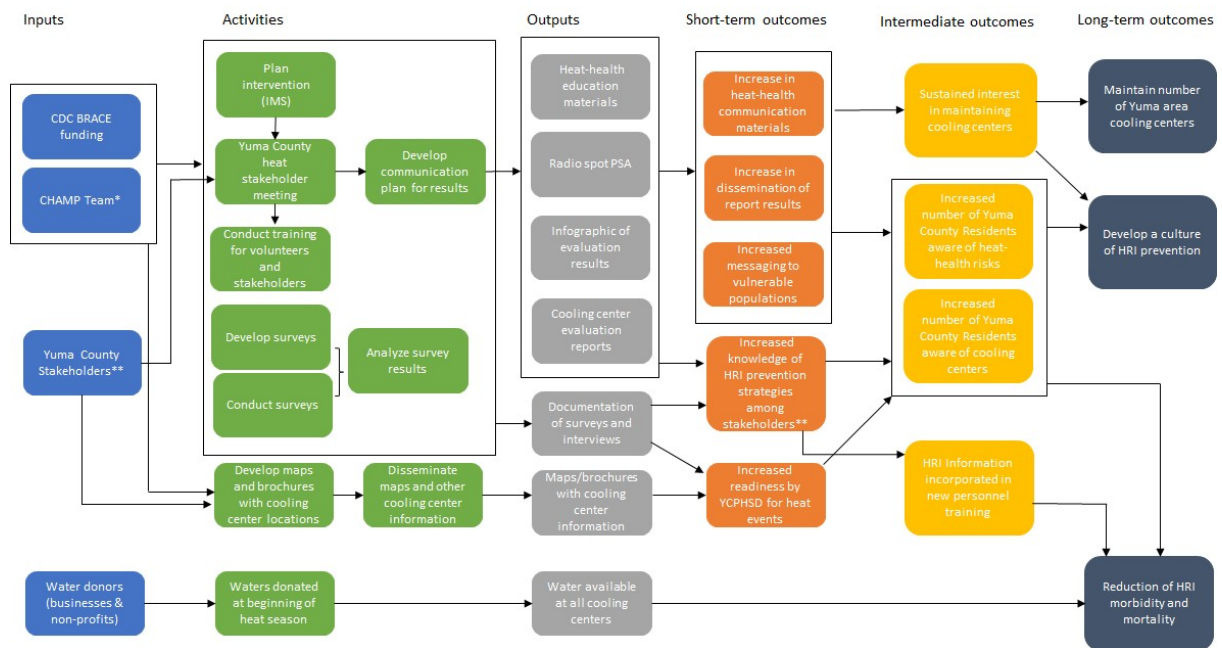
Resources/Inputs	Activities		Outputs	Outcomes		
	Initial	Subsequent		Short -Term	Intermediate	Long-term
CDC BRACE Funding	Create IMS intervention/adaptation plan	IMS revisions with stakeholder input	Visually Impaired Material(Access a Functional Needs Population) - Radio Spot PSA	Increase in heat -health communication materials (low literacy level materials)	Increase in the number of Yuma Residents aware of heat health risks.	Reduction in heat -related ED visits and deaths in Yuma County residents and visitors.
Arizona State University (ASU) - Part of CHAMP Team	Yuma heat County area stakeholder meeting	Develop communication plan for reporting and distributing results	Website Update Low-Literacy Brochure (English/Spanish)	Increase in dissemination of report results	Increase in the number of Yuma residents aware of cooling centers.	Decrease morbidity and mortality related to HRI
ADHS Climate and Health Program - Part of CHAMP Team	Develop training on HRI resources for cooling center staff and volunteers surveying	Conduct HRI resource and survey training	In-Person training (PPT) to survey volunteers, cooling center staff	Increased capacity to communicate public health prevention strategies and health messaging to Yuma vulnerable populations to heat	Increase in the number of Yuma area cooling centers.	Maintain number of Yuma area cooling centers
Yuma Public Health Services District - Part of CHAMP Team	Develop facility manager survey, observational survey, and visitor survey	Provide brochures to police and maps.	Cooling Center Map Updates and Printing Maps (Sites and Donation Sites)	Increased readiness by the Yuma County Public Health Services District to respond to heat events	Sustain interest in maintaining cooling center	Develop a culture of HRI prevention

Red Cross	Conduct surveys for visitor, observation, and facility manager surveys at cooling centers	Analyze evaluation result data for visitor, observation, and facility manager, survey	Cooling Center Evaluation Report on Visitors, Observational survey, and facility manager survey w recommendations	Increased knowledge of heat illness prevention, recognition, and response in cooling center facility managers	Incorporate HRI prevention into discharge planning	Reduction of HRI morbidity and mortality
Yuma Regional Medical Center	Develop health education materials for cooling centers (maps, brochures)	Increase in water donation throughout the heat season	Documentation of surveys and interviews	Increased knowledge of cooling centers and where to find information on location	Integrate knowledge into new personnel training	
Yuma County Sheriff's Department and City Police Departments	Disseminate HRI information, maps, at cooling center	Indicate increase in knowledge of Yuma Area cooling centers and HRI	Infographic of evaluation results	Increased knowledge of HRI and importance of hydration	Increased knowledge of HRI prevention and response	
Yuma County Residents	Have HRI information available during season		Health Education Materials on Heat Safety (e.g. brochures, website)	Assess need for HRI intervention through community agencies	Increased number of Yuma residents aware of HRI resources	
Salvation Army	Donation of water at beginning of heat season.		Disseminate HRI information			
Businesses and Non-Governmental Organizations that donate water	Indicate level of knowledge of Yuma area cooling centers		Integrate HRI information into Other seasonal outreach activities			
			Give HRI information upon discharge for HRI DX			

			Water available at all cooling centers			
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Logic Model

Yuma County Cooling Center Intervention Logic Model



Evaluation Questions and Indicators

Evaluation Question	Indicator	Standards (What constitute s “success”?)
At what capacity are cooling centers currently operating?	Facility manager survey: questions about cooling center visitors and volume of water distributed, Room capacity information from observational survey	Cooling center has water throughout the heat season, not having to turn people away.
Do facility managers find continuing to operate as a cooling center difficult?	Percentage of facility managers who indicate they are willing to participate in the next year	Majority of facility managers indicate that cooling centers are willing to participate in the next year
Are cooling centers utilized by populations deemed vulnerable (CDC identified vulnerable populations to heat: e.g. older adults, kids, outdoor workers, chronic medical conditions, prescription medications, pregnant women, those who exercise outdoors, homeless, low income, and non-English speaking)?	Presence of vulnerable populations at all cooling center locations identified through visitor survey	At least 1 person defined as being a vulnerable population visits each cooling center
Are cooling centers easy to access?	Signage and ADA compliance. Access to a translation service.	Observational surveys indicate that cooling centers have a sign outside indicating they are a center and it is accessible (ADA compliant). Access to a translation service at a majority of centers.
Do visitors utilize cooling centers regularly?	Number of times visitors go to cooling centers in a heat season.	Visitors use cooling centers more than once in a heat season. No cooling center had 0 visitors throughout warm season.

Are Yuma County residents and key informants knowledgeable about cooling center locations?	Percentage of key informants/residents that are Aware of cooling center map and where to find the map.	Majority of key informants/residents Interviewed/surveyed are aware of cooling center map. # of website clicks for map increased compared to previous year.
Are Yuma County residents more informed about the resources to prevent risks of heat to health?	Website clicks for cooling center maps Website clicks for heat safety brochure # of brochures distributed to cooling centers and other stakeholders in Yuma County	Increase in website clicks compared to previous year. Brochures delivered to 100% of cooling centers and at least 1 new stakeholder per year

Data Collection Table (Methods)

Evaluation Question	Indicator	Data Collection Method	Source of data	Frequency of data collection	Person responsible for collection	Due Date
At what capacity are cooling centers currently operating?	Facility manager survey: questions about cooling center visitors and volume of water distributed, Room capacity information from observational survey	Survey/interview	Survey/interview--facility managers (primary data collection) , Observational Survey	Annually	CHAMP team	October 2018
Do facility managers find continuing to operate as a cooling center difficult?	Percentage of facility managers who indicate they are willing to participate in the next year	Survey/interview	Survey/interview--facility managers (primary data collection)	Annually	CHAMP team	October 2018
Are cooling centers utilized by populations deemed vulnerable (CDC identified vulnerable populations to heat: e.g. older adults, kids, outdoor workers, chronic medical conditions, prescription	Presence of vulnerable populations at all cooling center locations identified through visitor survey	Survey	Survey--visitor (primary data collection)	Annually	CHAMP team + volunteers	October 2018

medications, pregnant women, those who exercise outdoors, homeless, low income, and non-English speaking)?						
Are cooling centers easy to access?	Signage and ADA compliance. Access to a translation service.	Observation	Cooling center observation (primary data collection)	Annually	CHAMP team + volunteers	October 2018
Do visitors utilize cooling centers regularly?	Number of times visitors go to cooling centers in a heat season.	Survey	Visitor surveys	Annually	CHAMP team + volunteers	October 2018
Are Yuma County residents and key informants knowledgeable about cooling center locations?	Percentage of key informants/residents that is aware of cooling center map and where to find the map.	Interviews	Key informant interviews	Annually	CHAMP Team	October 2018
Are Yuma County residents more informed about the resources to prevent risks of heat to health?	Website clicks for cooling center maps Website clicks for heat safety brochure # of brochures distributed to cooling centers and other	Website clicks and number brochures distributed (inventoried by ADHS)	YCPHSD heat website and ADHS brochure distribution	Annually	CHAMP Team	October 2018

	stakeholders in Yuma County					
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Plan of action for dissemination

Audience for evaluation findings	Evaluation information of interest	Purpose of communicating to this audience	Potential dissemination formats	Month and year of planned dissemination	Person(s) responsible for dissemination
Arizona County Health Departments	<u>Survey Tools</u> Survey Results: Observation Facility Key Informant	They make decisions about activities.	Formal presentation, Reports	Tools – May 2018 Results – November 2018	Lead - ADHS - Climate and Health Program, Support – ASU, YCPHSD
BRACE Grantees	<u>Survey Tools</u> Survey Results: Observation Facility Key Informant	They make decisions about activities.	Formal presentation, Reports	Tools – May 2018 Results – December 2018	Lead - ADHS - Climate and Health Program, Support – ASU, YCPHSD

Yuma Heat Relief Project	Observation Survey Results Visitor Survey Results Facility Manager Survey Results	They make decisions about activities; They have requested to be updated.	Formal presentation, Reports	September 2018	Lead ——— YCPHSD
Cooling Center Managers	Observation Survey Results Visitor Survey Results Facility Manager Results	They make decisions about activities; They have requested to be updated.	Infographic	October 2018	Lead - YCPHSD
State Heat Workgroup	Observation Survey Results Visitor Survey Results Facility Manager Results	They have requested to be updated.	Formal presentation, Reports, Meeting	October 2018	Lead - ASU, Support - YCPHSD

Yuma County Social Service Agencies	Observation Survey Results Visitor Survey Results Facility Manager Results	They make decisions about activities.	Infographic	November 2018	Lead YCPHSD -
Cooling Center Visitors	Visitor Survey Results	They make decisions about using the intervention.	Infographic	November 2018	Lead Cooling Center Managers, Support - Yuma Heat Relief Network, YCPHSD
Yuma Heat Workgroup	Observation Survey Results Visitor Survey Results Facility Manager Results	They make decisions about activities.	Formal presentation, Reports, Meeting	October 2018	Lead YCPHSD