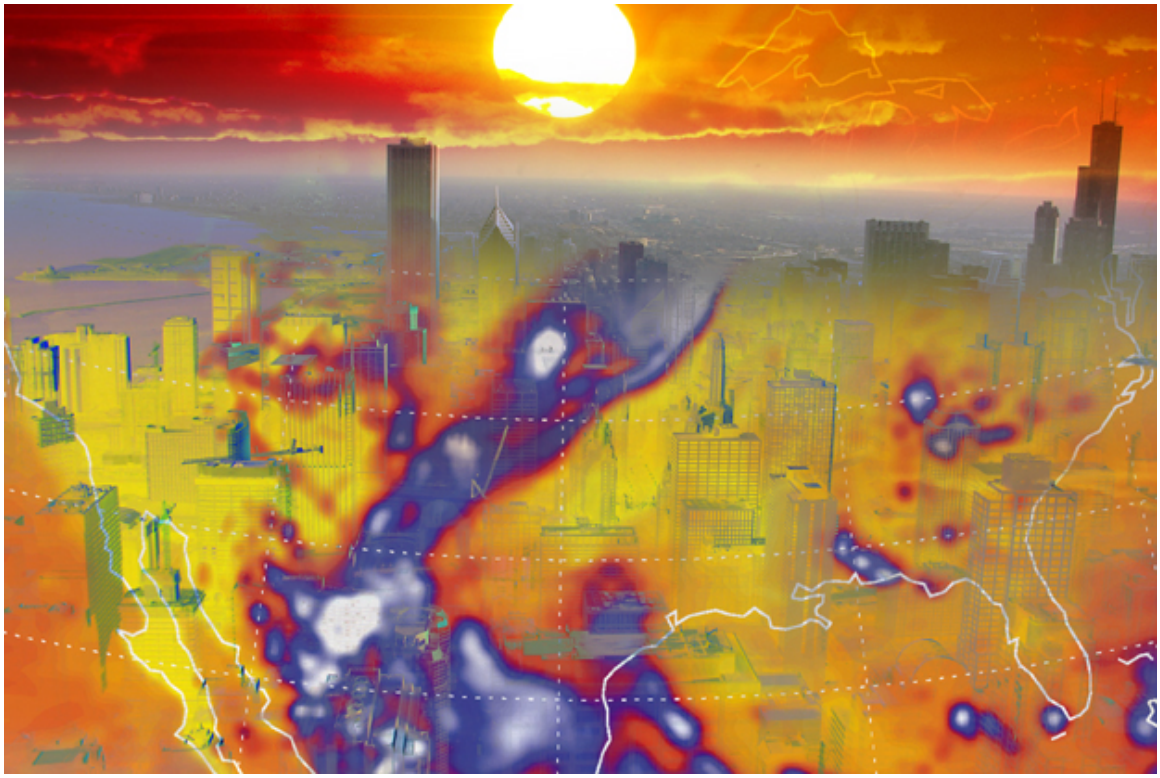
Heat & Health:
A Workshop for Community Leaders

- A Facilitator's Guide -



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Note: The purpose of this training, described on page 3, is to assist social service providers and community leaders in preventing heat's adverse health effects among vulnerable populations. This training is intended to help guide public health interventions and is **NOT** intended to be read as a guide for clinical care for patients experiencing heat-related health outcomes.

About this Training

Social service providers and community leaders are crucial players in public health emergencies. In their daily work, they are experts in accessing vulnerable, hard-to-reach populations, and they are adept at identifying the capacities and needs of these populations. They are the case managers helping low-income families to access housing, staff at community centers running after-school activities, and drivers delivering meals to seniors, among many other roles. In emergency situations, these day-to-day programs become points of intervention to educate and protect vulnerable populations likely at risk for increased morbidity and mortality. Given the mounting threat of extreme heat events in the U.S., new public health adaptation opportunities have emerged to both train and learn from these diverse community leaders.

Inspired by a mental models risk communication framework,[1] this facilitator guide and the accompanying workshop materials are intended to help local government agencies or non-profit organizations train these community leaders in efforts to reduce vulnerability to expected changes in warming climates. Mental models recognize the two-way, participatory nature that distinguishes risk communication from general health communication, and they attempt to account for people's existing models of reality. Much preliminary research[2] informs this workshop by offering insights on how the public, both leaders and community members, perceive heat. This workshop will encourage participants to engage in 'double-loop learning,[3] interrogation and modification of their own and their clients' mental models to generate risk communication messages and plans that reflect scientific and experiential realities.

The goals of this workshop are threefold:

1) To share information about heat effects on health and misconceptions regarding health behavior during heat events (e.g., myths about cooling centers, misuse of fans)

2) To provide information about local and national resources including formal and informal programs to support social service clients, potential policies for heat preparedness, and general resources for risk communication or management

3) To solicit suggestions for improving local interventions during heat events.

However, this workshop will be most successful when goals and materials are modified accordingly by facilitators based on their organization's and community's needs and resources.

Developed by researchers and practitioners at the Michigan Department of Community Health and the University of Michigan School of Public Health, with input from diverse community organizations, this workshop consists of interactive activities, quizzes, case studies, discussions, a short video, and brief presentations. During spring 2012, two-hour workshops were tested at three organizations with 65 participations, including case managers at a city aging agency, a team of emergency response volunteers, and staff at a large transitional housing agency. At the completion of the workshop, participants were asked to complete a 10-question evaluation (included for facilitator use), assessing

[1] Morgan, M., Fischhoff, B., Bostrom, A., & Atman, C. (2002). *Risk Communication: A Mental Models Approach.* New York, NY: Cambridge University Press.
[2] ICLEI: Local Governments for Sustainability, n.d. Preparing for the health impacts of increased heat workshop series. [online] Available at <http://www.icleiusa.org/climate_and_energy/Climate_Adaptation_Guidance/heat-health-workshops/preparing-for-the-health-impacts-of-increased-heat-workshop-series/>
[3] Sterman, J.D., (2006). Learning from evidence in a complex world. *American Journal of Public Health, 96*(3), 505-514.

learning, attitudes, behavior change, suggestions for future interventions, and general satisfaction. When asked, on a scale of one to ten, how satisfied they were with the overall workshop, participants reported 9.12, on average. Participants also reported that their knowledge increased between 'somewhat' and 'very much' regarding the health effects of heat, the populations that are vulnerable to heat's health effects, barriers for these populations to staying cool, and local and national resources for addressing heat and health.

Temperatures in the U.S. are expected to climb by 5 to 9˚ F, on average, by the end of the century.[3] With these changes, the public is likely to experience negative health impacts, with heat events instigating heat stroke, respiratory illness, cardiovascular disease, and premature mortality.[4] To prevent the occurrence of events reminiscent of the 1995 Chicago Heat Wave or the 2003 European heat wave, which killed nearly 600 and 70,000 people respectively, public health must respond.[5] Thus, this curriculum and guide might assist local communities in their climate adaptation efforts.

Approximate length: 2 hours **Number of participants:** approximately 10-20

Recommended audience: Community leaders and social service providers such as staff at senior nutrition programs, senior centers, recreation centers, church program coordinators, emergency outreach workers, and housing coordinators

Materials: Wipeboard or chalkboard, folder with several handouts (included), nametags, snacks, sign-in sheet, large poster-size post-it notes, markers

Presentation: Heat & Health: A Workshop for Community Leaders (see attached PowerPoint slides)

Handouts:*

1. Agenda
2. Heat & Health Quiz
3. Heat & Health: Relevant Terms
4. Heat's Health Effects
5. Case Studies (3)
6. Heat and Health: Research and Information
7. Local Resources for Heat and Health,
8. Additional Education & Outreach Materials
9. Survey and Workshop Evaluation

* *Many of the workshop materials are appropriate for use across the U.S. in regions where heat poses a public health threat. However, we encourage facilitators to modify materials accordingly for their local context. For example, facilitators may wish to add local resources (e.g., cooling center locations) to Handout #6.*

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[4] Anderson, G.B., & Bell, M.L. (2011). Heat waves in the United States: Mortality risk during heat waves and effect modification by heat wave characteristics in 43 U.S. communities. *Environmental Health Perspectives*, *119*(2), 210-218.

[5] Stone, B., Hess, J., & Frumkin, H. (2010). Urban form and extreme heat events: Are sprawling cities more vulnerable to climate change than compact cities? *Environmental Health Perspectives, 118*(10), 1425-1428.

Annotated Agenda

Welcome & introductions (15 minutes)
Handout: Heat & Health Quiz
- Present key points:
  - Explain who/why/how this workshop emerged
  - Recognize that participants work with vulnerable populations each day and are experts
  - Describe how you see your role: to encourage dialogue, present resources, and solicit suggestions for what community leaders could do to prepare for heat
  - *Note well that this is **NOT** meant to advise on clinical care of heat-related illnesses*
- Facilitate a few low-stakes, 'fun' quiz questions (see attached slides and handout)
- Ask each person to introduce self & review agenda

Heat & health – Who is vulnerable? (25 minutes)
Handouts: Heat & Health: Relevant Terms, Heat's Health Effects
- For 10 or 15 minutes, ask participants to walk around the room and write answers on three poster-size post-it notes with these questions on them:
  - In regards to heat, who is vulnerable?
  - In regards to heat, what threats are vulnerable populations susceptible to?
  - What preventative measures should one take during extreme hot weather?
- Bring the group back together to discuss responses
- Share handout on heat and health definitions and discuss popular definitions of terms

Designing strategies & messages to prevent heat illness (45 minutes)
Handout: Case Studies (3)
- Assign a single case study to each group of 3 or 4 individuals, and ask them to discuss their responses to question prompts regarding health behavior, programming, and messaging
- Ask each group to briefly present their case study and summarize responses to prompts
- Refer to Facilitator Guide to Case Studies to lead a discussion on each case study

Local projections for heat & health (10 minutes)
- Deliver presentation on projections for heat & health in your region (modify attached slides)

Local resources and next steps for heat & health (10 minutes)
Handouts: Local Resources for Heat & Health, Heat & Health: Research & Additional Information, Additional Educational Materials
- Deliver brief presentation on existing/developing resources in region, noting those the group mentioned earlier that are on the list or should be added
- Elicit suggestions for additional local initiatives to be reported to local leaders as is appropriate

Wrap-up & evaluation (10-20 minutes)
Handout: Survey and Workshop Evaluation
- Ask each person to write down one 'next step' and request volunteers to share (e.g., I will prepare training for my staff. I will establish a floor captain system at the housing center I run.)
- Distribute survey to gauge participant learning and evaluate the workshop

Heat & Health:
A Workshop for Community Leaders

Agenda

9:00 am - Welcome, & introductions

9:15 am - Heat & health – Who is vulnerable?

9:40 am - Designing strategies & messages to prevent heat illness

10:25 am - Local projections for heat & health

10:35 am - Local resources and next steps for heat & health

10:45 am - Wrap-up & evaluation

11:00 am - Conclude

Heat & Health Quiz

1. Of all natural disasters, the leading cause of death in the U.S. is:
   a. Heat waves
   b. Floods
   c. Tornadoes
   d. Earthquakes

2. Approximately how many people died in the 2003 European heat wave?
   a. < 100
   b. ~10,000
   c. ~ 70,000
   d. > 150,000

3. According to the National Weather Service, the official definition of a heat wave is:
   a. A period of abnormally and uncomfortably hot and unusually humid weather. Typically a heat wave lasts two or more days.
   b. A period of three days with a heat index above 90 degrees Fahrenheit
   c. A period of three days with a temperature above 90 degrees Fahrenheit
   d. There is no standard definition of a heat wave

4. Heat health warning systems are used to determine when a heat advisory or warning should be declared. Which factor is NOT considered in this decision?
   a. Temperature
   b. Humidity
   c. Number of predicted deaths
   d. Cloud cover
   e. Number of previous heat warnings in last month

5. On average, approximately how many days does Michigan experience every year that are considered excessive heat events?
   a. None
   b. 2-3
   c. 8-10
   d. 12-15

Heat & Health Quiz – Answers

1. a. **Heat waves**

From 1979 to 2003, more people died in America from extreme heat than floods, hurricanes, lightening, tornadoes, and earthquakes combined.[6]

2. c. **~ 70,000**[7]

Heat-related mortality (also called 'excess deaths') is a difficult number to understand, however.

3. a. **A period of abnormally and uncomfortably hot and unusually humid weather. Typically a heat wave lasts two or more days.**
   d. **There is no standard definition of a heat wave**

The first choice (a.) is the definition on the National Weather Service website.[8] It is important to note the last response (d.) is true also, as different regions and nations use different definitions.

4. **e. Number of previous heat warnings in last month**

'Number of previous heat warnings in last month' is not typically considered in any major models. Although, it depends on the type of heat health warning systems (HHWS) in use.[9,10] This is variable geographically. A major question for practitioners, media, and research is how to prevent the 'boy who cried wolf' phenomenon where people become desensitized by regular warnings.

5. **c. 8-10**

This number is based on predictions presented in the Natural Resources Defense Council's report, *Killer Summer Heat*.[11] The report explains that an excessive heat event (EHE) day occurs when EHE days occur when "a location's temperature, dew point temperature cloud cover, wind speed and surface atmospheric pressure throughout the day combine to cause or contribute to heat-related deaths in that location." This question can be modified for other locations in the U.S. by referring to tables in the report.

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[6] Centers for Disease Control and Promotion. (2009). Extreme heat: A prevention guide to promote your personal health and safety. Retrieved from: http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp

[7] Robine JM et al. (2008). Death toll exceeded 70,000 in Europe during the summer of 2003. *Les Comptes Rendus/Série Biologies*, 331,171–178.

[8] National Weather Service. (n.d.) Glossary. Washington D.C.: National Atmospheric and Oceanic Administration. Retrieved from: http://www.weather.gov/glossary/

[9] Hajat, S., Sheridan, S., Allen, M., Pascal, M., Laaidi, K., Yagouti, A.,…Kosatsky, T. (2010). Heat-Health Warning Systems: A comparison of the predictive capacity of different approaches to identifying dangerously hot days. *American Journal of Public Health, 100,* 1137-1144.

[10] Zhang, K. et al. (2012). Comparing exposure metrics for classifying "dangerous heat" in heat wave and health warning systems. *Environment International*.

[11] Natural Resources Defense Council. (2012). Killer summer heat: Projected death toll from rising temperatures in America due to climate change. Retrieved from: http://www.nrdc.org/globalwarming/killer-heat/files/killer-summer-heat-report.pdf

Heat & Health: Relevant Terms

Climate adaptation: Any measure or action that reduces the negative impacts of climate change or increases new opportunities embedded in a changing climate. (ICLEI)

Climate change: Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from: natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun; natural processes within the climate system (e.g. changes in ocean circulation); or human activities that change the atmosphere's composition (e.g. through burning fossil fuels) and the land surface (e.g. deforestation, reforestation, urbanization, desertification, etc.) (EPA)

Climate mitigation: Any measure or action taken to reduce greenhouse gas emissions. (ICLEI)

Heat Health Warning System (HHWS): plans for initiating emergency public health interventions once forecasts have identified weather conditions to breach predetermined trigger levels. (Hajat et al., 2010)

Heat advisory: Issued within 12 hours of the onset of the following conditions: heat index of at least 105°F but less than 115°F for less than 3 hours per day, or nighttime lows above 80°F for 2 consecutive days. (National Weather Service)

Heat exhaustion: A mild form of heat stroke, characterized by faintness, dizziness, and heavy sweating. (National Weather Service)

Heat index: The Heat Index (HI) or the "Apparent Temperature" is an accurate measure of how hot it really feels when the Relative Humidity (RH) is added to the actual air temperature. (National Weather Service)

Heat-related morbidity: Illnesses attributed to heat events such as heat stroke, heat exhaustion, heat cramps, or heat rashes, as well as illnesses exacerbated by heat events such as respiratory illness, cardiovascular disease, and diabetes. (Centers for Disease Control and Prevention)

Heat-related mortality: Often referred to as ‘excess deaths’ attributable to a heat wave event; mortality is actually difficult to attribute to heat, however, because heat may be one of many risk factors leading to an individual’s death over a period of time during or following a heat event.

Heat stress: A term used to refer to a class of heat-related illnesses, including heat stroke, heat exhaustion, heat syncope, heat cramps, and heat rash.

Heat stroke: A condition resulting from excessive exposure to intense heat, characterized by high fever, collapse, and sometimes convulsions or coma. (National Weather Service)

Heat wave: A period of abnormally and uncomfortably hot and unusually humid weather. Typically a heat wave lasts two or more days. (National Weather Service)

Urban heat island: As urban areas develop, changes occur in their landscape. Buildings, roads, and other infrastructure replace open land and vegetation. Surfaces that were once permeable and moist become impermeable and dry. These changes cause urban regions to become warmer than their rural surroundings, forming an "island" of higher temperatures in the landscape. (EPA)

Heat's Health Effects

Adapted from: National Institutes of Health[12]

Considerations:

Heat illnesses are easily preventable by taking precautions in hot weather. Children, elderly, and obese people have a higher risk of developing heat illness. People taking certain medications or drinking alcohol also have a higher risk. However, even a top athlete in superb condition can succumb to heat illness if he or she ignores the warning signs.

If the problem isn't addressed, heat cramps (caused by loss of salt from heavy sweating) can lead to heat exhaustion (caused by dehydration), which can progress to heatstroke. Heatstroke, the most serious of the three, can cause shock, brain damage, organ failure, and even death. Heat can also exacerbate symptoms of existing cardiovascular and respiratory illnesses.

Causes:

Heat emergencies are caused by prolonged exposure to extreme heat. The following are common causes of heat emergencies:

- Alcohol use
- Dehydration
- Heart disease
- High temperatures or humidity
- Medications (e.g., diuretics, neuroleptics, phenothiazines, and anticholinergics)
- Prolonged or excessive exercise
- Sweat gland problems
- Too much clothing

Symptoms

The early symptoms of heat illness include:

- Profuse sweating
- Fatigue
- Thirst
- Muscle cramps

Later symptoms of heat exhaustion include:

- Headache
- Dizziness and lightheadedness
- Weakness
- Nausea and vomiting
- Cool, moist skin
- Dark urine

The symptoms of heatstroke include:

- Fever (temperature above 104 °F)
- Irrational behavior
- Extreme confusion
- Dry, hot, and red skin
- Rapid, shallow breathing
- Rapid, weak pulse
- Seizures
- Unconsciousness

[12] Medline Plus. (2010). Heat emergencies. Bethesda, MD: National Institutes of Health. Retrieved from: http://www.nlm.nih.gov/medlineplus/ency/article/000056.htm

Heat's Health Effects

Adapted from: National Institutes of Health

First Aid

- Have the person lie down in a cool place.
- Raise the person's feet about 12 inches.
- Apply cool, wet cloths (or cool water directly) to the person's skin and use a fan to lower body temperature. Place cold compresses on the person's neck, groin, and armpits.
- If alert, give the person beverages to sip (such as Gatorade), or make a salted drink by adding a teaspoon of salt per quart of water. Give a half cup every 15 minutes. Cool water will do if salt beverages are not available.
- For muscle cramps, give beverages as above and massage affected muscles gently, but firmly, until they relax.
- If the person shows signs of shock (bluish lips and fingernails and decreased alertness), starts having seizures, or loses consciousness, call 911 and give first aid as needed.

DO NOT

- Do NOT underestimate the seriousness of heat illness, especially if the person is a child, elderly, or injured.
- Do NOT give the person medications that are used to treat fever (such as aspirin or acetaminophen). They will not help, and they may be harmful.
- Do NOT give the person salt tablets.
- Do NOT give the person liquids that contain alcohol or caffeine. They will interfere with the body's ability to control its internal temperature.
- Do NOT use alcohol rubs on the person's skin.
- Do NOT give the person anything by mouth (not even salted drinks) if the person is vomiting or unconscious.

When to Contact a Medical Professional

Call 911 if:

- The person loses consciousness at any time.
- There is any other change in the person's alertness (for example, confusion or seizures).
- The person has a fever over 102 °F.
- Other symptoms of heatstroke are present (like rapid pulse or rapid breathing).
- The person's condition does not improve, or worsens despite treatment.

Prevention

- Wear loose-fitting, lightweight clothing in hot weather.
- Rest frequently and seek shade when possible.
- Avoid exercise or strenuous physical activity outside during hot or humid weather.
- Drink plenty of fluids every day. Drink more fluids before, during, and after physical activity.
- Be especially careful to avoid overheating if you are taking drugs that impair heat regulation, or if you are overweight or elderly.
- Be careful of hot cars in the summer. Allow the car to cool off before getting in.

Heat & Health:
Case Study 1

You are interested in holding a training on heat and health at a private, 20-story senior housing complex. You have spoken with a two active seniors who live there, and they interested in helping you. According to your senior co-organizers, only some residents have air conditioning and fans, but many do not use them or, if they do, it is rare. You want to encourage seniors to go to cooling centers, parks, or other cool places during a heat event. However, when you approach your senior organizers, one tells you, “Oh yeah, there are cooling centers for homeless folks in the city. We don’t want to send seniors there. How would they even get there?” The other tells you, “I guarantee that Mrs. Mason will not go to a cooling center and leave Bruno [her pet Chihuahua] at home.” Further, you know there are several residents who are fully homebound due to various physical disabilities who cannot attend the training even if it’s held at the facility in a common room.

1. What are the issues that concern you most in this scenario?
2. What strategies do you think could address these issues?
3. What types of health messages may help this population? Who would deliver these messages best?
4. What stories, data, or images may be helpful in conveying this message?
5. What other policies or programs would you like to see in the city to address these issues?

Heat & Health:
Case Study 2

You run a meal program for a local organization targeting homeless individuals. As summer temperatures are beginning to warm up, you have started to worry about your clients getting safely to the center to get lunch, water, and some respite. You know that many will find their way to air-conditioned libraries and shaded parks. However, you also know that many are dealing with other mental and physical health issues that will prevent them from getting to or being welcomed in these places. You have heard of water stations in other cities, such as Phoenix, and have started to organize a few volunteers to set a few up throughout the city in hopes that you can hydrate folks who may not make it to the center. You expect a heat advisory will go into effect soon and decide to train your volunteers who will be off-site at water stations.

1. What are the issues that concern you most in this scenario?
2. What strategies do you think could address these issues?
3. What types of health messages may help this population? Who would deliver these messages best?
4. What stories, data, or images may be helpful in conveying this message?
5. What other policies or programs would you like to see in the city to address these issues?

Heat & Health:
Case Study 3

You are a caseworker for a social service organization. Many of your clients are seniors in older homes across the city. As the summer temperatures begin warming, you have become concerned that many of your clients will be unable to stay cool. You are aware of many who are behind on their utility bills from winter heating and know they are unlikely to turn on their air conditioner if they have one. You think you may be able to acquire some large fans through donations and hope many will use them to draw hot air out of their homes and cool off. Due to difficult economic times, you have many clients whose children and grandchildren have moved into their homes with them. This relieves you because you know they will likely have more people looking out for them when the next heat wave hits— to make sure they are drinking fluids, taking their medications, and getting medical attention if necessary.

1. What are the issues that concern you most in this scenario?
2. What strategies do you think could address these issues?
3. What types of health messages may help this population? Who would deliver these messages best?
4. What stories, data, or images may be helpful in conveying this message?
5. What other policies or programs would you like to see in the city to address these issues?

Facilitator Guide to Case Studies

These follow-up questions reflect common issues that may emerge during heat events. Workshop participants may have already mentioned many of these topics. Choose the most appropriate questions to guide a debrief discussion for each case. Some questions may not have easy answers and some may require follow-up. If there are organizations in your city working on heat and health planning, solicit suggestions for additional interventions during this time.

Case Study 1:

- Do you need to obtain permission to hold the training? Is the facility private or publically run?
- How can you encourage seniors to use air conditioners? For those seniors that don't want to use air conditioners or do not own one, what alternative health messages can you share?
- What concerns or preconceived notions do seniors have about cooling centers? How can you address these?
- What transportation resources can you recommend? How can you increase the chances that these seniors will use these resources?
- How will you address the issue of pets?
- What strategies might you use to ensure homebound seniors get these messages and are kept safe also during heat events?

Case Study 2:

- What issues might your clients encounter at libraries, parks, or cooling centers? How can staff at these locations prepare best to help your clients?
- What mental and physical health issues might make your clients vulnerable to heat?
- How will you determine where to locate water stations? How will you conduct outreach to let individuals know where these water stations are?
- How will you determine when to staff the water stations? Will you wait until there is an advisory?
- What topics will you cover in your training for volunteers? What should they be aware of? What will you do to ensure their safety?
- What policies guide local law enforcement if they are concerned for someone's health during a heat event? When should your staff contact an emergency responder?

Case Study 3:

- What resources exist to assist seniors or other low-income individuals with utility bills?
- Does you local utility company stop utility shut-offs during heat events? If so, how do they determine when this policy is implemented, and how soon will they return to shut-offs?
- If you are able to distribute fans to low-income seniors, what additional considerations may arise? Can you assume they know how to use fans correctly for cooling an old home? Can fans be placed in windows? Can they open their windows and do so feeling safe in their neighborhood?
- Does having more family at home ensure seniors will have assistance during heat events? In preparing for heat, what are the positive and/or negative implications of having clients with multi-generational households?
- Do your clients know the strategies for staying cool in a heat event? How can you increase the likelihood they will drink fluids, avoid sugary drinks, reduce daytime travel, etc.?
- Given the cost of heating and cooling, how can you convince seniors to use fans or air conditioners? If they are not convinced, what alternative strategies for staying cool might you suggest?

Local Resources for Heat & Health

Please contact organizations for up-to-date information.

Detroit Cooling Centers

Libraries:
Main Library, 5201 Woodward
Chandler Park Branch, 12800 Harper
Chase Branch 17731 W. Seven Mile Rd.
Edison Branch, 18400 Joy Rd.
Knapp Branch, 13330 Conant
Redford Branch, 21200 Grand River
Skillman Branch, 121 Gratiot
Campbell Branch, 8733 W Vernor
Chaney Branch, 16101 Grand River
Conely Branch, 4600 Martin
Franklin Branch, 13651 E. McNichols
Mark Twain Annex 4741 Iroquois
Sherwood Forest, 7117 W. Seven Mile
Wilder Branch, 7140 E. Seven Mile Rd.

Check City of Detroit website for additional cooling centers at recreation centers and schools.

Weatherization & Energy Assistance

WARM Training Center
4835 Michigan Ave.
Detroit, MI 48210
(313) 894-1030
http://www.warmtraining.org/

DTE Payment Assistance
800.477.4747
http://www.dteenergy.com/residential
Customers/billingPayment/payment
Programs/payAssistance.html

The Heat & Warmth Fund (THAW)
607 Shelby Suite, Suite 400
Detroit, MI 48226
(313) 226-9465
http://www.thawfund.org

Transportation

Detroit Metrolift
1301 East Warren
Detroit, MI 48207
http://www.ci.detroit.mi.us/ddot

Additional Services

United Way
Call: 2-1-1
http://www.liveunitedsem.org/issues/2-1-1

Community Emergency Response Team
13331 Lyndon Street
Detroit, MI 48227
http://www.citizencorps.gov
(313) 596-6558

Detroit Senior Services

Detroit Area on Aging (DAAA)
1333 Brewery Park Blvd.
Detroit, MI 48207
(313) 933-1300
Contact regarding:
Meals on Wheels, senior housing, programs for grandparents raising grandchildren, care management,

Contact local churches and senior centers for additional related programming

Additional Education & Outreach Materials

The Metro Detroit Climate Justice Task Force

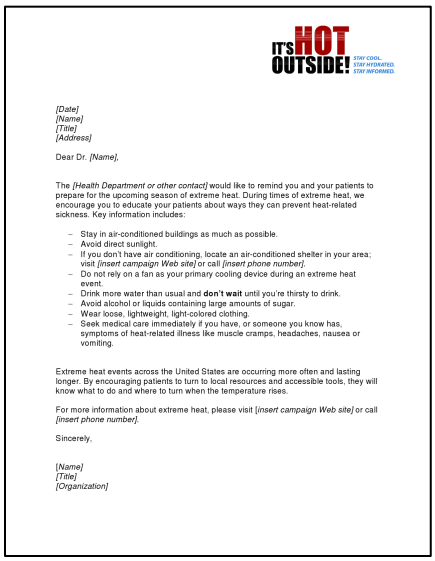
During the summer of 2011, the Metro Detroit Climate Justice Task Force developed signage (shown here) for local agencies and organizations to promote health during hot summer weather. The Task Force also produced a public service announcement (PSA) for local radio about how to stay cool in Detroit. To obtain a copy of the PSA or acquire copies of these signs to post or distribute to senior centers, churches, schools, or other appropriate community locations, please contact:

Dominic Smith
Michigan Department of Community Health
517-373-3740

The Centers for Disease Control and Prevention (CDC)

The CDC offers a free 'Extreme Heat Media Toolkit' including a large range of materials for local health educators to use. These include: logos for standardized messages, web tools, press release templates, and outreach materials for different stakeholders including caretakers, physicians, employers, parents, and coaches. With some examples shown here, these materials can be found at:

http://www.cdc.gov/nceh/extremeheat/materials.html



IT'S HOT OUTSIDE! STAY COOL. STAY HYDRATED. STAY INFORMED.

[Date]
[Name]
[Title]
[Address]

Dear Dr. *[Name]*,

The *[Health Department or other contact]* would like to remind you and your patients to prepare for the upcoming season of extreme heat. During times of extreme heat, we encourage you to educate your patients about ways they can prevent heat-related sickness. Key information includes:

- Stay in air-conditioned buildings as much as possible.
- Avoid direct sunlight.
- If you don't have air conditioning, locate an air-conditioned shelter in your area; visit *[insert campaign Web site]* or call *[insert phone number]*.
- Do not rely on a fan as your primary cooling device during an extreme heat event.
- Drink more water than usual and **don't wait** until you're thirsty to drink.
- Avoid alcohol or liquids containing large amounts of sugar.
- Wear loose, lightweight, light-colored clothing.
- Seek medical care immediately if you have, or someone you know has, symptoms of heat-related illness like muscle cramps, headaches, nausea or vomiting.

Extreme heat events across the United States are occurring more often and lasting longer. By encouraging patients to turn to local resources and accessible tools, they will know what to do and where to turn when the temperature rises.

For more information about extreme heat, please visit [*insert campaign Web site]* or call *[insert phone number]*.

Sincerely,

[Name]
[Title]
[Organization]

Heat & Health: Research & Additional Information

Government Resources

Climate Change Webinars: A Public Health Response
Centers for Disease Control and Prevention
http://www.cdc.gov/climatechange/webinar_response.htm

Extreme Heat: A Prevention Guide to Promote Your Personal Health and Safety
Centers for Disease Control and Prevention
http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp

Heat-Related Illness Prevention - A web course (with continuing education credits)
Centers for Disease Control and Prevention
http://www.cdc.gov/nceh/hsb/extreme/heat_illness_training.htm

Heat Emergencies
National Institutes of Health - Medline Plus
http://www.nlm.nih.gov/medlineplus/ency/article/000056.htm

Urban Heat Islands Webcasts & Conference Calls
U.S. Environmental Protection Agency
http://www.epa.gov/heatisld/resources/webcasts.htm

Research Articles

Anderson, B.G., Bell, M.L. (2009). Weather-related mortality: How heat, cold, and heat waves affect mortality in the United States. *Epidemiology* 20, 205-213.

Bernard, S.M., McGeehin, M.A. (2004). Municipal heat wave response plans. *American Journal of Public Health* 94, 1520-1522.

Ebi, K.L., Teisberg, T.J., Kalkstein, L.S., Robinson, L., Weiher, R.F. (2004). Heat watch/warning systems save lives: Estimated costs and benefits for Philadelphia 1995–98. *Bulletin of the American Meteorological Society* 85,1067–1073.

Hajat, S., Sheridan, S., Allen, M., Pascal, M., Laaidi, K., Yagouti, A.,…Kosatsky, T. (2010). Heat-Health Warning Systems: A comparison of the predictive capacity of different approaches to identifying dangerously hot days*. American Journal of Public Health, 100,* 1137-1144.

Harlan, S., Brazel, A., Prashad, L., Stefanov, W., Larsen, L. (2006). Neighborhood microclimates and vulnerability to heat stress. *Social Science and Medicine* 63, 2847–2863.

Luber, G., McGeehin, M. (2008). Climate change and extreme heat events. *American Journal of Preventative Medicine* 35, 429-435.

O'Neill, M.S., Jackman, D.K., Wyman, M., Manarolla, X., Gronlund, C.J., Brown, D.G., Brines, S.J., Schwartz, J., Diez-Roux, A.V. (2010). US local action on heat and health: Are we prepared for climate change? *International Journal of Public Health* 55, 105-120.

Zhang, K. Rood, R., Michailidis, G., Oswald, E., Schwartz, J., Zanobetti, A., Ebi, K.L., O'Neill, M.S. (2012). Comparing exposure metrics for classifying "dangerous heat" in heat wave and health warning systems. *Environment International*, in press.

Survey & Workshop Evaluation

Thank you for participating in this survey. The following questions should take approximately 10 minutes to complete. We appreciate your honest, constructive feedback on today's workshop. We plan to use your suggestions to improve the workshop goals, content, and delivery for future participants.

Using a scale of 1 to 5, please indicate how much your knowledge changed after today's workshop in regards to the following topics:

	Not at all	Not really	Undecided	Somewhat	Very much
1. Health effects of heat	1	2	3	4	5
2. Populations that are vulnerable to heat's health effects	1	2	3	4	5
3. Barriers for these populations to staying cool	1	2	3	4	5
4. Local and national resources for addressing heat and health in my community	1	2	3	4	5

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5. Before this workshop, how much did you agree with this statement: *Extreme heat events are an important health issue for my community*?	1	2	3	4	5
6. After this workshop, how much did you agree with this statement: *Extreme heat events are an important health issue for my community*?	1	2	3	4	5

7. After today's workshop, will you integrate heat preparedness into the work you do in any new ways? ☐ YES ☐ NO

   Please explain why or why not. If yes, what actions are you considering?

8. If funding were available, what would be the top one or two interventions (policies, new resources, educational materials, etc.) you would like in your community to address heat and health?

9. On a scale from 1 to 10, how satisfied are you with today's workshop (10 = highly satisfied; 1=not at all satisfied)? _____

Describe reason(s) for your response:

10. Please offer any other additional feedback for improving the content or delivery of today's workshop:

Thank you for today's participation and feedback!!!

Contact Information

For more information about this training, including its development or use, please contact:

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