

**Appendix D:  
Draft Language  
for Heat Response  
Plan/Excessive Heat  
Annex**

# Draft Language for Heat Response Plan/Excessive Heat Annex

This document is intended to provide basic information to help public health practitioners and planners develop a heat response plan or an annex to their jurisdiction's All Hazards Plan (AHP) for extreme heat events. The document contains major sections usually found within an annex for an AHP and was purposely written as a general checklist, so that it could be adapted and modified to meet the needs of different communities in Minnesota. The information provided is based on a literature review of vulnerable populations, risk factors and strategies that are useful in reducing the incidence of heat-related morbidity and mortality. The draft plan does NOT contain every section that could be included in a response plan nor does it provide a comprehensive list of strategies that could be used. Everything contained in this draft plan is a suggestion, and may or may not be relevant to your location. Many AHP will contain some of the information listed below. You do not need to duplicate information that is already in your AHP, such as a communications plan, but it is important to add unique strategies for dealing with extreme heat events and criteria for determining activation of the heat annex. All language in your plan should be agreed upon and verified by all the partners that participate in the plan. Your jurisdiction's plan and strategies should be responsive to local resources, conditions and vulnerabilities. Developing a heat response plan is the first step in planning for and responding to an extreme heat event.

NOTE: The text in **red** is the draft language. The text in *italics and underlined* is for you to fill in with local information and/or preferences.

## 1. Purpose:

Ultimately, the goal of the Heat Response Plan is to reduce the incidence of heat-related morbidity and mortality from an extreme heat event. The Heat Response Plan should perform the following functions:

- Identify a lead agency for activating the Heat Response Plan and for coordinating the efforts of the other agencies and organizations involved in the plan
- Identify criteria for activating and deactivating the Heat Response Plan
- Define the roles and activities of the public health department, counties, cities, tribes, community organizations, etc. that are involved with the plan
- Guide communications between the plan partners, as well as, to the public before, during and after an extreme heat event
- Identify high-risk and vulnerable populations in the jurisdiction to ensure that they are provided services and resources to prevent heat-related illnesses and deaths
- Evaluate and revise the plan to improve its effectiveness for the next extreme heat event

## 2. Scope:

The scope should state the geographic area covered by the response plan and the criteria for activating and deactivating the plan. Relationships should be developed with the National Weather Service to ensure receiving information about an upcoming extreme heat event in a timely manner.

- The lead agency of the Heat Response Plan is the *local public health department or emergency management*
- The National Weather Service (NWS) alerts the *lead agency* of an impending extreme heat event through a *phone call*

- The NWS defines a Heat Advisory and Warning as *(see Table 1, page 1-8 in the Minnesota Extreme Heat Toolkit for definitions)*.
- This plan can be activated under the following circumstances:
  - The NWS alerts the lead agency that a Heat Advisory or Warning will be issued or is issued
  - Local conditions do not meet the exact criteria for the NWS to issue a heat advisory, but are very close
  - Information gathered from service providers, including from first responders and emergency room doctors, indicate a need to activate the plan
  - *Other—insert here*
- The plan will be deactivated when *[insert conditions here]*

### 3. Definitions:

- *Define a Heat Advisory and Warning (see Table 1, page 1-8 in the Minnesota Extreme Heat Toolkit for definitions)*
- *Cooling Center—a temporary or permanent air-conditioned public space set up by local authorities to deal with the health effects of extreme heat. Usually cooling centers are sited at several locations to prevent heat-related illnesses*
- *Add any additional definitions*

### 4. Situation Overview:

The situation overview can include all or some of the following suggestions and/or local information on extreme heat and heat-related illness and mortality.

- *Extreme heat events occur in Minnesota and cause heat-related illnesses and deaths*
- *A review of mortality records for deaths occurring in the months of May through September indicates that 35 deaths were directly attributable to extreme heat in Minnesota during the years 2000-2010<sup>1</sup>*
- *It is predicted that Minnesota will experience hotter summers with more days of extreme heat<sup>2</sup>*
- *On July 19, 2011, a record state dew point temperature was set in Moorhead at 88°F. The air temperature was 93°F, creating conditions that made it feel like almost 130°F. On that same day, the Twin Cities experienced an all-time high dew point of 82°F with an air temperature of 95°F. The combined hot air and high dew point temperatures created a heat index of almost 119°F<sup>3</sup>*
- *From 1979 to 2003, more people in America died from extreme heat than from floods, hurricanes, lightning, tornadoes, and earthquakes combined<sup>4</sup>*

<sup>1</sup> Minnesota Department of Health, Minnesota Environmental Public Health Tracking Program (personal communication, March 7, 2012).

<sup>2</sup> Kling, G.W., K. Hayhoe, L.B. Johnson, J.J. Magnuson, S. Polasky, S.K. Robinson, B.J. Shuter, M.M. Wander, D.J. Wuebbles, D.R. Zak, R.L. Lindroth, S.C. Moser, and M.L. Wilson (2003). *Confronting Climate Change in the Great Lakes Region: Impacts on our Communities and Ecosystems*. Union of Concerned Scientists, Cambridge, Massachusetts, and Ecological Society of America, Washington, D.C. [http://ucsusa.org/assets/documents/global\\_warming/greatlakes\\_final.pdf](http://ucsusa.org/assets/documents/global_warming/greatlakes_final.pdf).

<sup>3</sup> Source: Matt Friedlein, Meteorologist, National Weather Service - Twin Cities/Chanhassen, MN. Personal communication, August 29, 2011.

<sup>4</sup> Centers for Disease Control and Prevention (last updated July 31, 2009). Retrieved on June 23, 2011 from [http://www.bt.cdc.gov/disasters/extremeheat/heat\\_guide.asp](http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp).

## 5. Planning Assumptions & Risk Analysis:

Everyone is susceptible to heat-related illnesses; however, certain characteristics can increase a person's risk. Demographic characteristics, social/behavioral factors, and geography/location may affect the ability of an individual to maintain normal body temperature and stay hydrated. See the section, "Characteristics that increase the risk of heat-related illnesses," in the Minnesota Extreme Heat Toolkit for a description and list of the characteristics. Identification of populations that are more vulnerable to extreme heat events is useful for targeting limited public resources to people who need additional aid during an extreme heat event. Consider identifying the following characteristics when analyzing your jurisdiction's hazards and vulnerabilities: population distribution, geographic areas where vulnerable populations reside, locations of cooling centers, locations of publically accessible air-conditioned buildings, and locations of special-care facilities, such as nursing homes, etc. For more information on mapping vulnerable populations and environmental characteristics to determine the best strategies for your jurisdiction, see section, "Developing a heat response plan," in the Minnesota Extreme Heat Toolkit.

### Risk Analysis/Vulnerable Populations to Extreme heat:

- *Insert your risk and vulnerability analysis here from your review of vulnerable populations and characteristics in your jurisdiction*
- *Add your own assumptions here*
- **Activating public cooling centers may help reduce the risk of heat-related illnesses. However, not all vulnerable persons will visit cooling centers, so additional strategies should be implemented to prevent heat-related illnesses**
- **It may be difficult to reach some at-risk and vulnerable populations**

## 6. Concepts of Operations:

The Concept of Operations should clearly describe the sequence and scope of the planned response. The section explains the key activities of the response in the order of performance, the agencies responsible for each activity, and a description of the activity (what it is, when it will be performed, etc.). The process of initiating the activities, maintaining the activities and ending the activities also should be articulated. The activities and roles and responsibilities of the participants in the plan can be presented in multiple ways, i.e., by sequence of activities and by the agency responsible (as in a section on Roles and Responsibilities). Regardless, the steps in the response and the agencies/organizations involved in each activity needs to be clear. The activities/strategies used for responding to an extreme heat event should cover areas of preparing, responding and recovering from an extreme heat event. A listing of contact information for all the participating agencies should be developed and referenced within the response plan.

The Concept of Operations can include a phased approach to managing the severity of an expected extreme heat event. For example, there could be a phase 1, which implements a certain level of activities, and a phase 2, which implements additional activities to prevent morbidity and mortality from extreme heat. For an example of a phased approach, see "Operation Heat Wave: an Operational Guideline for Excessive Heat Emergencies" at: <http://www.kcoem.org/Library/Operation%20Heatwave%20CG.pdf>.

See Figure 1 on page 3-3 in the Minnesota Extreme Heat Toolkit for the key steps for preparing for and responding to an extreme heat event. The steps, as applicable, should be incorporated into the heat response plan. The following are possible activities loosely organized by timing: before, during and after an extreme heat event.

### **Preparing For An Extreme Heat Event:**

- Involve community organizations and other stakeholders in the response planning process
- Develop response plan
- Develop maps of vulnerable populations to help identify areas to target for interventions
- Provide late spring education/awareness campaigns that include information on how to identify and prevent heat-related illnesses
- Identify buildings with air conditioning for public cooling centers and determine who will run the cooling centers
- Develop a database/list of facilities and organizations that serve/employ at-risk populations to extreme heat (e.g., social service agencies, senior living centers, long-term care facilities, group homes, daycare centers, schools, organized sports, construction companies, etc.) so that they can be immediately contacted of an impending extreme heat event
- Communicate with the NWS and monitor weather reports
- Develop strategies that can be used if there is a power outage

### **Responding To An Extreme Heat Event:**

- Alert all agencies involved in the response plan
- Work with the media to alert the public of an extreme heat event and advise people on recognizing and preventing heat-related illnesses (Target communications to specific audiences as articulated in the communications plan)
- Alert all community organizations and other organizations that serve vulnerable populations
- Activate an emergency heat line
- Ensure outreach to vulnerable populations
- Open cooling centers
- Provide maps of locations of cooling centers and cool places (after permission has been received from the owner of the cool buildings)
- Ensure free transportation to cooling places
- Extend hours of public pools and air conditioned buildings used for public cooling
- Arrange for extra staffing of emergency support services
- Monitor heat illnesses through calls to emergency rooms, 911, etc.
- Collaborate with the necessary agencies to provide financial aid to low income earners for electricity bills
- Collaborate with the necessary agencies to prevent shutoff of electricity and water during an extreme heat event

### **Recovering From An Extreme Heat Event:**

- In collaboration with all the organizations involved in the response plan, evaluate the steps and activities that were implemented
- Make adjustment to the response plan accordingly

Below are sample responsibilities of possible agencies/organizations participating in the response plan.

### **Sample of Responsibilities for Different Agencies:**

- I. Lead agency (e.g., local department of health, human services, emergency management)**
  - Activate heat response plan
  - Notify other emergency managers and organizations participating in the implementation of the response plan
  - Develop maps of vulnerable populations to help identify areas to target for interventions
  - Provide education to the public and community organizations about preparing for extreme heat events
  - Notify social service agencies/community organizations/schools/daycare centers/organized sports organizations/construction companies/senior living facilities, etc. (any organization that has persons at risk for heat-related illnesses) of an impending extreme heat event and provide information on recognizing and preventing heat-related illnesses
  - Regularly communicate with the NWS
  - Activate and test emergency heat line
  - Activate reverse 911 messaging
  - Monitor emergency calls
  - Prepare list of cooling places
  - Build partnerships with necessary agencies to prevent shutoff of utilities during an extreme heat event and to provide free transportation to cool places
- II. Local social services agencies/agencies serving vulnerable populations (e.g., the American Red Cross, Salvation Army, Arc, Meals on Wheels, etc.)**
  - Outreach to vulnerable populations
  - Distribute information on recognizing and preventing heat-related illnesses to at risk- persons and groups working with vulnerable populations
  - Directly contact vulnerable persons to ensure they are hydrated and staying cool and that any symptoms of overexposure are recognized and alleviated as soon as possible
- III. Community/church organizations**
  - Alert vulnerable persons in the community of a possible upcoming heat wave event
  - Distribute information on recognizing and preventing heat-related illnesses to at risk- persons
  - Directly contact vulnerable persons to ensure they are hydrated and staying cool and that any symptoms of overexposure are recognized and alleviated as soon as possible
- IV. Police**
  - Monitor activities during an extreme heat event and provide assistance as necessary
- V. Medical organizations/groups**
  - Advise people on tips on how to prevent heat-related illnesses
  - Monitor heat-related illnesses
- VI. Media**
  - Provide daily information on the weather conditions

- Provide information on recognizing and preventing heat-related illnesses
- Provide locations of cooling centers and numbers the public can call for more information

#### VII. The Red Cross

- Distribute maps of locations of cooling places
- Open, maintain and close cooling centers

#### VIII. NWS

- Provide timely weather forecasts
- Warn the lead agency early of an upcoming extreme heat event

### 7. Communications Plan:

The communications plan should articulate communication strategies both between partners involved in the response plan and with the public. There should be frequent communication between the NWS, the lead agency in charge of the response plan and other collaborating organizations. Additionally, the plan should identify communication strategies for communicating heat-related information before, during and after an extreme heat event. Messages should include information on what to do (e.g., how to prevent illnesses from extreme heat) (See Appendix E of the Minnesota Extreme Heat Toolkit for a Tip Sheet), symptoms of heat-related illnesses, characteristics of persons more vulnerable to extreme heat, and where to go for more information. See Appendix J of the Minnesota Extreme Heat Toolkit for a sample press release. Messages may be transmitted through a variety of media outlets, including television, radio, internet, and distribution of fliers and posters. Messages should be tailored, translated and sensitive to the demographics and vulnerable populations of the area. For example, translations of tip sheets for individuals could be translated into the top five languages spoken in Minnesota in addition to English, which are Spanish, Hmong, Somali, German and Vietnamese.<sup>5</sup> The communications plan should be developed before the heat event and updated after the event using lessons learned from implementing the plan.

#### Communication Strategy Before An Extreme Heat Event:

- *Insert communication strategies to NWS and organizations participating in the heat response plan*
- *Insert communication strategies to the public in the spring to prepare them for extreme heat events*

#### Communication Strategy During An Extreme Heat Event:

- *Insert communication methods to NWS and organizations participating in the heat response to ensure that strategies are being coordinated and implemented smoothly*
- *Insert communication strategies to the media and to the public to inform them of cooling centers, cooling places, ways to identify and prevent heat-related illnesses, etc.*

#### Communication Strategy After An Extreme Heat Event:

- *Insert communication methods to NWS and organizations participating in the heat response to deactivate the plan and review and update the heat response plan*

<sup>5</sup> U.S. Department of Education. (2012) Consolidated State Performance Reports (CSPR) for SY2008-2009. Available online: <http://www2.ed.gov/admins/lead/account/consolidated/index.html>.