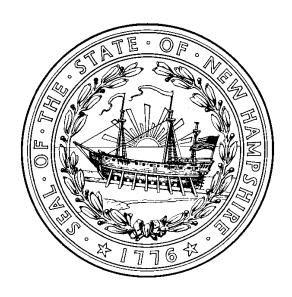
State of New Hampshire Department of Health and Human Services



Excessive Heat Emergency Response Plan

Appendix 2

to

Emergency Services Function 8 Annex

of

New Hampshire State Emergency Operations Plan

July 2014

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Record of Revisions and Changes

Date	Subject Area	Change #	Initials
August 2011	Initial Release		
March 2012	Added Record of Revisions and Changes page		SLW
March 2012	Edits made from BIDC		HB & DM
April 2013	Minor revisions made		SLW
July 2014	Updated charts 1 & 2 and some of the links		KAD&DMM

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Acronyms Used in This Document

Hospital Emergency Department Data with Disability Act
with Disshility Ast
with Disability Act
Red Cross
Elderly and Adult Services
or Children, Youth and Families
t of Environmental Services
t of Health and Human Services
Public Health Services
Management Director
Medical Services
Support Function
Services Unit
rt Network
erations Team
Security and Emergency Management
ommand Center
Support Team
lew England Metropolitan Medical Response System
oshire Hospital Association
cident Management System
ceanic and Atmospheric Administration
Veather Service
lth Region
rmation Office
gency Operations Center

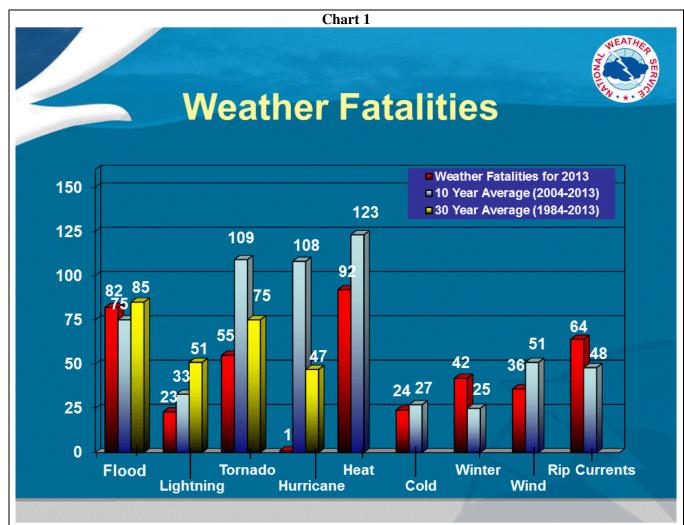
1. BACKGROUND

Excessive heat events do not elicit the same immediate response as floods, fires, earthquakes and typical disaster scenarios. They destroy less property but have claimed more lives over the past fifteen years than all other declared disaster events combined.

Heat emergencies can be slow to develop. It may take a number of days of oppressive heat for a heat wave to have a significant or quantifiable impact. Heat waves do not strike victims immediately, but rather their cumulative effects slowly take the lives of vulnerable populations.

While there is no readily available heat-attributable death data for New Hampshire, estimates of heat-attributable deaths per summer, along with mortality rates are available for select U.S. metropolitan areas. The average number of summertime heat-attributed deaths in Boston, Massachusetts is estimated to be as high as 96 deaths each summer for an estimated 1.76 mortality rate (estimated heat-attributable deaths per 100,000, 1990s baseline).

Chart 1 below illustrates the significant impact heat has on weather-related fatalities in the U.S. It can be found on the National Oceanic and Atmospheric Administration's National Weather Service website at http://www.nws.noaa.gov/om/hazstats.shtml



The U.S. Natural Hazard Statistics provide statistical information on fatalities, injuries and damages caused by weather related hazards. These statistics are compiled by the Office of Services and the National Climatic Data Center from information contained in *Storm Data*, a report comprising data from NWS forecast offices in the 50 states, Puerto Rico, Guam and the Virgin Islands.

2. PURPOSE

The purpose of this plan is to provide information and to identify the Department of Health and Human Services' (DHHS) role in response to excessive heat emergencies in the State in collaboration with the NH Public Health Regions (PHR) and with other State agencies, and in accordance with the National Incident Management System (NIMS).

3. SCOPE

The plan includes the threshold for response activation, a description of heat indices and associated health risks, response activities by heat emergency phase, and criteria for cooling centers. It also includes templates for an extreme heat press release, hotline script, health alert message, and heat fact sheet.

4. ACTIVATION THRESHOLD

Preparedness plans must be in place before extreme heat conditions occur, and increased readiness efforts must begin when high temperatures are forecast rather than when they arrive.

The thresholds for activation of a response, by phase, are as follows:

Phase 1- Readiness: The threshold for implementation of Phase 1 will be when the National Weather Service (NWS) announces that a Heat Wave is predicted for the State.

Phase 2 - Heat Alert: The threshold for implementation of Phase 2 will be when the NWS issues a Heat Advisory/Warning for NH.

Phase 3 - Heat Emergency: The threshold for implementation of Phase 3 will be when the NWS issues an Excessive Heat Warning for NH, which is expected to last 3 or more days.

The Department of Safety's Homeland Security and Emergency Management (HSEM), State Emergency Operations Center staff will monitor the NWS advisories and will notify DHHS within 24 hours when a Heat Wave is predicted. HSEM will notify Emergency Support Function (ESF) 8 when either a Heat Advisory or Excessive Heat Warning is issued. ESF 8 will then notify all Division of Public Health (DPHS) partners.

5. HEAT INDEX READINGS & HEAT-RELATED MEDICAL CONDITIONS

The Heat Index is a measure that combines temperature and humidity to approximate how hot it "feels" outside (see Chart 2 and Table 1 under Heat Index below). As relative humidity increases, the air seems warmer than it actually is because the body is less able to cool itself via evaporation of perspiration.

As the Heat Index rises, so do health risks. It is important to recognize the early signs of heat-related illnesses and know what to do about them. During normal weather, the body's internal thermostat produces perspiration that evaporates and cools the body. However, during periods of extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature. If the body cannot cool itself, serious illness can result. Those who are susceptible (e.g. infants, children, the elderly, those with mental illness or chronic illness) are less able to sweat or regulate their internal temperatures than others, and have increased risk of experiencing a range of potential adverse health outcomes.

Table 1 below lists the more serious medical conditions directly attributable to excessive heat exposure, along with recommended responses.

Table 1. Medical conditions directly attributable to excessive heat exposure

Medical Condition	Symptoms	Responses
Heat cramps	Painful muscle cramps and spasms, usually in muscles of legs and abdomen. Heavy sweating.	Apply firm pressure on cramping muscles or gently massage to relieve spasm. Give sips of water; if nausea occurs, discontinue water intake. Consult with a clinician or physician if individual has fluid restrictions (e.g., dialysis patients).
Heat Exhaustion	Heavy sweating, weakness, cool skin, pale, and clammy. Weak pulse. Normal temperature possible. Possible muscle cramps, dizziness, fainting, nausea, and vomiting.	Move individual out of sun, lay him or her down, and loosen clothing. Apply cool, wet cloths. Fan or move individual to airconditioned room. Give sips of water; if nausea occurs, discontinue water intake. If vomiting continues, seek immediate medical attention. Consult with a clinician or physician if individual has fluid restrictions (e.g., dialysis patients).
Heat stroke (sunstroke)	Altered mental state. Possible throbbing headache, confusion, nausea, and dizziness. High body temperature (106°F or higher). Rapid and strong pulse. Possible unconsciousness. Skin may be hot and dry, or patient may be sweating. Sweating likely especially if	Heat stroke is a severe medical emergency. Summon emergency medical assistance or get the individual to a hospital immediately. Delay can be fatal. Move individual to a cooler, preferably airconditioned, environment. Reduce body temperature with a water mister and fan or sponging. Use air conditioners.
	patient was previously involved in vigorous activity.	Use fans if heat index temperatures are below the high 90s. Use extreme caution. Remove clothing. If temperature rises again, repeat process. Do not give fluids.

Sources: CDC, 2004a; Kunihiro and Foster, 2004; NWS, 2004.

Table 2 below lists other heat-related, but less severe, conditions attributable to heat or sun exposure, along with recommended responses.

Table 2. Less severe heat-related conditions attributable to heat or sun exposure

Medical Condition	Symptoms	Responses
Heat rash (prickly heat)	A skin irritation caused by excessive sweating during hot humid weather. Most common in young children, although can occur at any age. The rash looks like a red cluster of pimples or small blisters and is most common in the neck and upper chest, in the groin, under the breasts, and in elbow creases.	Move individual to a cooler place and keep the affected area dry. Use a dusting of talcum powder to increase comfort. Usually does not require medical assistance.
Sunburn	Damage to the skin caused by too much sun exposure. The skin becomes red, painful, and warm. Blisters may develop.	Medical attention should be sought if the sunburn affects an infant or if there is fever, fluid-filled blisters, or severe pain. Otherwise, the person should avoid sun exposure, apply cold compresses or immerse the burned skin in cool water, apply moisturizing lotion to the burn, and avoid breaking the blisters.

6. THE HEAT INDEX

The National Oceanic and Atmospheric Administration (NOAA) is a federal agency focused on the condition of the oceans and the atmosphere. The following NOAA charts show the health risks as temperature and relative humidity increase:

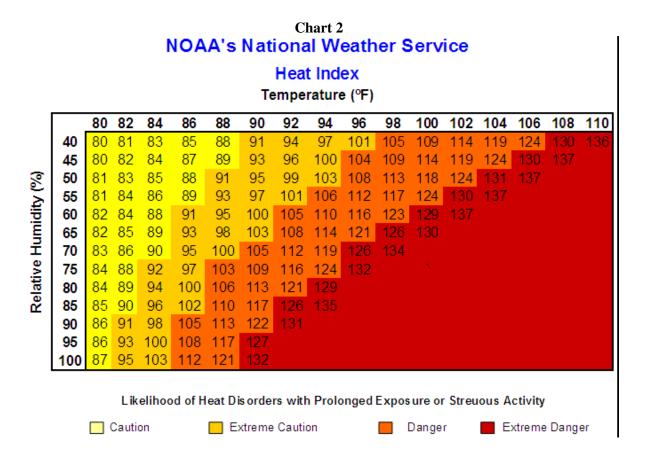


Table 1: Heat Index Results Chart

Celsius	Fahrenheit	Notes	
27–32 °C	80–90 °F	Caution — fatigue is possible with prolonged exposure and activity. Continuing activity could result in heat cramps	
32–41 °C	90–105 °F	Extreme caution — heat cramps, and heat exhaustion are possible. Continuing activity could result in heat stroke	
41–54 °C	105–130 °F	Danger — heat cramps, and heat exhaustion are likely; heat stroke is probable with continued activity	
> 54 °C	>130 °F	Extreme danger — heat stroke is imminent	
Note: exposure to full sunshine can increase Heat Index values by up to 8°C (14°F).			

In New Hampshire, the Department of Environmental Services (DES) issues Air Quality Alerts whenever unhealthy levels of ozone or fine particulates are forecast. Air quality data and air quality forecasts can be found on the DES website at:

<u>http://www2.des.state.nh.us/airdata/air_quality_forecast.asp.</u> NH DES does not issue heat advisories, but Air Quality Action days often occur on hot, sunny days in the summer.

Heat Advisories or Excessive Heat Warnings (see definitions in Table 2 below) are issued by the NWS in Taunton, MA and Gray, ME. The Taunton, MA office covers parts of southern NH, while the Gray, ME office covers the rest of the State. The NWS routinely holds conference calls with HSEM so that State officials can be prepared before an announcement is made to the general public.

Table 2: National Weather Service Heat Terms

Heat Wave	A Special Weather Statement may be issued to highlight a heat wave that doesn't meet requirements for advisories/warnings. A heat wave is defined as 2 or more days of ≥90°F temperatures.
Excessive Heat Outlooks	Issued when the potential exists for an excessive heat event in the next 3-7 days. An Outlook provides information to those who need considerable lead time to prepare for the event.
Excessive Heat Watch	Issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours. A Watch is used when the risk of a heat wave has increased but its occurrence and timing is still uncertain. Heat indices in excess of $105\text{Å}^\circ\text{F}$ ($41\text{Å}^\circ\text{C}$) during the day combined with nighttime low temperatures of $80\text{Å}^\circ\text{F}$ ($27\text{Å}^\circ\text{C}$) or higher are forecast to occur for two consecutive days.
Heat Advisory/ Warning	Issued when an excessive heat event is expected in the next 36 hours. These products are issued when an excessive heat event is occurring, is imminent, or has a very high probability of occurring. The warning is used for conditions posing a threat to life. An advisory is for less serious conditions that cause significant discomfort or inconvenience and, if caution is not taken, could lead to a threat to life. 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.

7. PHASES

The most appropriate level of response to a heat emergency in NH will be carried out by DHHS using the thresholds and phases outlined below. If additional assistance is needed, the State Emergency Operations Center (SEOC) will be opened.

- Phase 1 Readiness
- Phase 2 Heat Alert
- Phase 3 Heat Emergency
- Phase 4 Recovery

Phase 1 - Readiness

HSEM will monitor weather forecasts. If the NWS predicts a Heat Wave (see definition above), HSEM will inform Emergency Support Function (ESF) 8 Health and Medical through the DHHS Emergency Services Unit (ESU) Director (or designee) that a Heat Wave advisory has been issued and the following actions will be taken:

- ESU Director (or designee) will inform the DHHS Division of Public Health Services' (DPHS) Director of the advisory.
- The ESU and DPHS will collaborate with the PHR Coordinators to determine the readiness and availability of resources, including pre-determined cooling centers and/or cooling stations, e.g. senior centers, community centers, shopping malls, churches, ice skating rinks (see Attachment 1 for criteria).
- PHR's will identify vulnerable populations in their regions to determine where relief efforts need to be focused to protect those most at risk (see section 8. VULNERABLE POPULATIONS).
- The DPHS Infectious Disease Surveillance Section will monitor surveillance data from multiple sources, including the Automated Hospital Emergency Department Data (AHEDD) system for increased heat-related visits, and electronically filed death certificates recorded by NH's Division of Vital Records Administration for heat-related mortality.
- ESU will review criteria for cooling facilities that consider accommodations for pets and possible 24-hour operations.
- ESU will ensure that plans for dealing with vulnerable populations are in place.
- The DHHS Public Information Office (PIO) will ensure Excessive Heat Fact Sheet has current information, and post on DHHS website, in multiple languages.
- DHHS PIO in coordination with HSEM PIO will issue a press release to increase awareness of the risk from heat for vulnerable populations and the general public.
- DHHS PIO will revise the Public Inquiry script, if needed, and forward to 211.

Phase 2 - Heat Alert

If the NWS issues a Heat Alert (see definition above), HSEM will inform ESF 8 Health and Medical through the DHHS Emergency Services Unit (ESU) Director (or designee) that a Heat alert has been issued and the following actions will be taken:

- HSEM will activate their SEOC.
- ESU will advise the SEOC to create an incident specific board on WebEOC, if not already done.
- ESU Director (or designee) will activate the DHHS-Incident Command Center (ICC).
- ESU Director (or designee) will inform the Commissioner, the Commissioner's Office Senior Management Team and the DPHS Director of the alert.
- DHHS-ICC will notify ESF Partners, ESU Team Coordinators, and Northern New England Metropolitan Medical Response System (NNE MMRS) to place their response teams (and related assets) in readiness for deployment.
- DHHS-ICC will contact the Medical Examiner's Office to ensure they are prepared to address fatality management issues.
- DHHS-ICC will alert the Inventory Support Team (IST) Coordinator to prepare to deploy medical surge supplies, if necessary.
- DHHS-ICC may send ESF 6-Mass Care and Housing and ESF 8-Health and Medical Coordinators to the SEOC.
- DHHS-ICC will schedule conference call(s) with DPHS, PHR Coordinators and ESF Partners to provide updated information and to determine readiness in areas expected to be most affected.
- ESF 6 Coordinator will provide information updates to the DHHS-ICC and coordinate cooling station activation with the Granite Chapter of the NH American Red Cross (ARC) and private organizations.
- Local Emergency Management Director's (EMD) will open pre-identified cooling centers in the affected areas and reach out to vulnerable populations previously identified.
- ESF 6 Coordinator will ensure cooling center information is entered into WebEOC and status information is up-to-date including daily number of individuals utilizing facility and needs.
- ESF 8 Coordinator at the SEOC will provide information updates to the DHHS-ICC and coordinate medical and personnel resources with appropriate ESF's.
- DHHS-ICC will communicate with:
 - o Bureau of Elderly and Adult Services (BEAS) to ensure safety of BEAS protected populations.
 - Division for Children, Youth and Families (DCYF) to ensure safety of adoption/foster children and families and child daycare facilities.
 - o Juvenile Justice Services to ensure all residential placements are safe.

- Health Facilities to advise nursing homes/residential care facilities to monitor residents closely for signs of heat related illnesses. If facility is not equipped with air conditioning, suggest acquiring one so residents can stay where they are most familiar.
- Home Care Association to advise home-based care agencies to visit/contact
 patients to assess their need to leave their home and notify local first responders
 (police/fire/EMS) about their location and special needs.
- NH Hospital Association (NHHA) to consider activating the DHHS Alternate
 Care Center Plan to handle any anticipated heat related illnesses across the state
 so as to free-up the hospitals for more critical-care cases.
- DHHS PIO will issue a revised press release as the situation warrants.
- DHHS PIO will post cooling center locations on the DHHS website and update NH211.
- DHHS PIO will revise the Public Inquiry script, if needed, and forward to 211.
- The State Epidemiologist, in coordination with the Health Alert Network (HAN) Coordinator, will issue a heat advisory message (see attachment 4).
- ESU HotOps members may augment 211 staff if requested.

Phase 3 - Heat Emergency

If the NWS issues an Excessive Heat Emergency Warning (see definition above), HSEM will inform ESF 8 Health and Medical Coordinator at the SEOC (if open) or through the DHHS ESU Director (or designee) that a Heat Emergency has been issued and the following actions will be taken:

Continue actions listed under Phase 2.

DHHS-ICC in coordination with PHR Coordinators will:

- Consider posting notices in grocery stores, hospitals, community centers, doctors' offices, homeless shelters, etc.;
- Consider the recommendation for cancellation of government sponsored and/or outside school sponsored sporting events with advisories given to those participating in outdoor activities:
- Ensure that plans for dealing with vulnerable populations remain in place;
- DHHS PIO in coordination with SEOC PIO will release to the press locations of open cooling stations;
- DHHS PIO will revise the Public Inquiry script, if needed, and forward to 211;
- The State Epidemiologist, in coordination with the HAN Coordinator, will issue a revised heat advisory message if the situation warrants.
- ESU HotOps members may augment 211 staff, as requested.

Phase 4 – Recovery

If the NWS is no longer issuing heat advisories or warnings, and temperatures and heat indices have returned to normal, the following actions will be taken:

- Local EMD's will systematically close cooling centers
- DHHS-ICC will schedule a conference call with DPHS, PHR Coordinators and ESF Partners for discussion on what went well and what improvements are needed for future heat emergencies.
- After Action Report will be written by HSEM (if activated) or DHHS-ICC.

8. VULNERABLE POPULATIONS

Situational and physical characteristics help to identify vulnerable populations that may not comfortably or safely access and use disaster resources. Specifically, when discussing heat related emergency preparedness, the following groups could be considered vulnerable or at greater risk in a heat emergency:

- Older persons (65 years old and older)
- Infants and young children
- Women who are pregnant
- People with a mental illness or who are under the influence of drugs or alcohol
- Those with chronic diseases such as heart conditions, diabetes, obesity, and high blood pressure
- People with mobility restrictions
- People engaged in rigorous outdoor work or exercise
- Those living in poverty
- The homeless
- People who are socially isolated
- Non-English speaking people who may not have access to current information

Identifying these high-risk groups in given locations allows public health officials to develop and implement targeted notification and response actions that focus surveillance and relief efforts on those at greatest risk.

ATTACHMENT 1: COOLING CENTER CRITERIA

The local EMD's in collaboration with PHR Coordinators will be responsible for establishing cooling center locations. The DHHS ICC may suggest opening cooling centers based on NH211 inquiries.

Critical Criteria	
Air conditioning	
Americans with Disabilities Act (ADA) Compliant	
Seating for ten or more persons	
Available drinking water	
Continuous staffing (1-2 persons per facility)	
Communications, i.e. phone, computer	
Child friendly with materials for play	
Public restrooms continuously maintained and accessible to disabled	

Suggested Criteria		
24/7 capability		
Large capacity		
Toys and small furniture for children		
Available televisions, books, games		
Back-up generator		
Parking		
Proximity to public transit		
Transportation for those lacking their own		
Area for pets		
Follow-up resources for those in need of additional services, i.e. health care, social services, etc		

ATTACHMENT 2: EXTREME HEAT PRESS RELEASE

DHHS Reminds People to Take Precautions During Extremely Hot Weather

Contact:

Public Information Office

(603) 271-9389

Twitter: NHDHHSPIO

Division of Public Health Services

(603) 271-4501

Publish Date:

July 20, 2011

Concord, NH – With the high temperatures expected in the State over the next three days, the New Hampshire Department of Health and Human Services (DHHS) reminds people to take precautions to avoid heat-related illnesses, such as heat cramps, heat stroke, and heat exhaustion.

"Even though we may know what steps to take to prevent heat-related illnesses," said Nicholas Toumpas, Commissioner of DHHS, "they can come on quickly and we may not recognize the symptoms. We want everyone to enjoy all that New Hampshire has to offer, especially in the summer, but safely."

DHHS is working with regional and State partners to reach out to vulnerable populations, or people who may not realize they are at risk during extreme heat, such as seniors, children, and people with medical conditions. People should limit their time outside, stay hydrated, water is best, avoid hard physical labor or exercise as much as possible, especially during the hottest part of the day, wear light-weight clothing, and seek medical help if you begin to feel ill.

When the body is unable to cool itself sufficiently by sweating, the body temperature rises and people begin to experience symptoms indicating distress. Cool, moist, pale, or flushed skin; heavy sweating; headache; nausea or vomiting; dizziness; and/or fatigue are symptoms of heat exhaustion, which generally occurs when people exercise or work in hot, humid conditions and body fluids are lost. If the person does not take action, with cool beverages, seeking air conditioning, rest, and removing heavy clothing, heat stroke can result.

The symptoms of heat stroke red skin that is hot to the touch; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. The temperature may rise dramatically and the patient's skin may feel dry. If someone is experiencing heat stroke, they should be moved to a cool place and be cooled down with water if possible, and emergency medical help should be called immediately because heat stroke can be life threatening.

"Children and seniors are more at risk of heat-related illness but anyone can suffer from them under the right circumstances," said Dr. José Montero, Director of Public Health at DHHS. "There are, however, simple, common-sense precautions to take, including remaining in an air-conditioned environment whenever possible, which is the number one protective measure, drinking plenty of fluids, but avoiding caffeine, alcohol, and large amounts of sugar, wearing light clothing, and limiting outdoor activity."

DHHS will provide additional updates as new information becomes available until the extreme heat ends. For more information on heat-related illnesses, visit the DHHS website at www.dhhs.nh.gov or the Centers for Disease Control and Prevention (CDC) at www.cdc.gov. For questions about animal health and heat, call the Department of Agriculture at 603-271-2404 or visit www.agriculture.nh.gov. For questions related to air quality and the heat, contact the Department of Environmental Services at 603-271-1370 or visit www.airquality.nh.gov. For concerns about your health or someone else's during excessive heat, contact your healthcare provider or call 911 for emergency assistance.

ATTACHMENT 3: HEAT EVENT PUBLIC INQUIRY SCRIPT FOR 211

IMPORTANT: If the caller is experiencing any of the following symptoms (or calling about someone with them who has these symptoms) tell them to hang up immediately and dial 9-1-1. Symptoms that may need immediate medical attention include:

- a. Profuse sweating and muscle cramping
- b. High body temperature with hot dry skin
- c. Confusion or unconsciousness

Answer general questions about the current heat event by providing facts from the following documents or list of preventive measures listed below. Do not provide your opinion to the caller.

- Excessive Heat Fact Sheet
- Cooling center locations (obtained from DHHS-ICC)

Things that you can do to help prevent heat-related injury:

- 1. Use air conditioners or spend time in air-conditioned locations such as malls and libraries.
- 2. Use portable electric fans to exhaust hot air from rooms or draw in cooler air.
- 3. Take frequent cool showers or baths.
- 4. Stay out of the sun; wide-brimmed hats can be worn to minimize direct sun exposure.
- 5. Limit outdoor activity and avoid strenuous outdoor activity.
- 6. Stay hydrated regularly drink water; avoid alcoholic or caffeinated drinks.
- 7. Eat light, cool, easy-to-digest foods such as fruits or salads.
- 8. Wear light colored, loose fitting clothing.
- 9. Check on older, sick or frail people who may need help during this period of excessive heat.
- 10. Know the symptoms of excessive heat exposure and the appropriate responses.
- 11. Be aware that prescription medications may affect your heat tolerance. Check with your doctor if you're not sure.

If the caller has specific questions about their symptoms that can't be easily answered, **refer** the caller to the **Public Health Professional on call** with the Bureau of Infectious Disease Control who can be reached at the following numbers:

During business hours at 1-603-271-4496 (toll-free 1-800-852-3345 ext 4496)
After business hours at 1-603-271-5300 (toll-free after hours 1-800-852-3345 ext 5300)

ATTACHMENT 4: Health Alert Network (HAN) Message



New Hampshire Health Alert Network Health.Alert@nh.gov

Status: Actual
Message Type: Alert
Severity: Moderate
Sensitive: Not Sensitive
Message Identifier: HAN #20110721

Delivery Time: 12 hours Acknowledgement: No

Originating Agency: NH Department of Health and Human Services, Division of Public Health Services

DATE: July 21, 2011 **TIME:** 11:00 EDT

TO: Physicians, Infection Control Practitioners, Infectious Disease Specialists, Community Health Centers, Hospital Emergency Departments, NHHA, Manchester Health Department, MMRS, MRC, EMS, Community Mental Health Centers, Health Officers, Deputy Health Officers, Corrections, Daycare Providers, Home Care Providers, Long-Term Care Facilities, Nashua Health Department, Public Health Network, DHHS Outbreak Team, DPHS Investigation Team, DPHS Management Team

FROM: Sharon Alroy-Preis, MD, MPH, NH State Epidemiologist

SUBJECT: Heat Advisory

New Hampshire Department of Health and Human Services (NH DHHS) recommends:

- Keep cool by staying in an air-conditioned environment whenever possible
- Drink plenty of fluids, but avoid drinks with alcohol, caffeine or large amounts of sugar
- Limit outdoor activity and rest frequently
- Wear loose, lightweight, light-colored clothing
- Check on neighbors, especially the elderly or sick, who may need help responding to the heat
- Awareness that cooling stations are being opened today, call 2-1-1 for an up-to-date listing.

Background

The National Weather Service has issued a Heat Advisory today for southern New Hampshire with severe heat in the 90's that is expected to affect New Hampshire over the next three days. Heat-related illnesses and deaths are preventable, yet over the past 30 years more people have died in the US from heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined. It is important to prevent heat-related problems and to recognize the signs of heat illness early.

All New Hampshire residents should take some simple measures to prevent heat-related illness. High temperatures often contribute to poor air quality, and DES has issued an air quality action day today as well for predicted levels of air pollution. These conditions disproportionately affect people with lung or heart conditions and other vulnerable populations, specifically:

- Older persons (65 years old and older)
- Infants and young children

- Pregnant women
- People with mental illness or who are under the influence of drugs or alcohol
- Those with chronic diseases such as asthma, heart conditions, diabetes, obesity, and high blood pressure
- People with mobility restrictions
- People engaged in rigorous outdoor work or exercise
- People without access to air conditioning or fans
- Homeless persons
- People who are socially isolated
- Non-English speaking people who may not have access to current information

Information about cooling station availability will be continuously updated on 2-1-1.

For any questions regarding the contents of this message, please contact NH DHHS Infectious Disease Investigation and Surveillance Sections at 603-271-4496 (after hours 1-800-852-3345 ext.5300).

Attachments:

- 1) Table of heat related illness manifestations and management
- 2) List of Resources for Excessive Heat
- 3) Fact Sheet on Excessive Heat

DEFINITION OF TERMS AND ALERTING VOCABULARY

Message Type

Alert: Indicates an original alert

Update: Indicates prior alert has been updated and superseded

Cancel: Indicates prior alert has been cancelled Error: Indicates prior alert has been retracted

Status

Actual: Communication or alert refers to a live event

Exercise: Designated recipients must respond to the communication or alert
Test: Communication or alert is related to a technical, system test and

should be disregarded

Severity

Extreme: Extraordinary threat to life or property
Severe: Significant threat to life or property
Moderate: Possible threat to life or property
Minor: Minimal threat to life or property
Unknown: Unknown threat to life or property

Sensitive

Sensitive: Indicates the alert contains sensitive content

Not Sensitive: Indicates non-sensitive content

Message Identifier: A unique alert identifier that is generated upon alert activation.

<u>Delivery Time</u>: Indicates the timeframe for delivery of the alert.

Acknowledgement: Indicates whether an acknowledgement on the part of the recipient is

required to confirm that the alert was received, and the timeframe in

which a response is required.

Originating Agency: A guaranteed unique identifier for the agency originating the alert.

<u>Alerting Program</u>: The program sending the alert or engaging in alerts and communications

using PHIN Communication and Alerting (PCA) as a vehicle for their

delivery.

You have received this message based upon the information contained within our emergency notification database.

If you have a different or additional e-mail or fax address that you would prefer to be used please contact:

Denise M. Krol, MS

<u>Business Hours 8:00 AM – 4:00 PM</u>

NH HAN Coordinator Tel: 603-271-4596 <u>Denise.Krol@dhhs.state.nh.us</u> Fax: 603-271-0545

HAN ATTACHMENT 1: Heat-Related Illness



Nicholas A. Toumpas Commissioner

José Thier Montero Director

STATE OF NEW HAMPSHIRE

DEPARTMENT OF HEALTH AND HUMAN SERVICES

29 HAZEN DRIVE, CONCORD, NH 03301-6527 603-271-4496 1-800-852-3345 Ext. 4496 Fax: 603-271-0545 TDD Access: 1-800-735-2964



Response to Excessive Heat Conditions – Heat-Related Illness

As the Heat Index rises, so do health risks. It is important to recognize the early signs of heatrelated illnesses and know what to do about them. During normal weather, the body's internal thermostat produces perspiration that evaporates and cools the body. However, during periods of extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature. If the body cannot cool itself, serious illness can result. Those who are susceptible (e.g. infants, children, the elderly, those with mental illness or chronic illness) are less able to sweat or regulate their internal temperatures than others, and have increased risk of experiencing a range of potential adverse health outcomes.

Table 1 below lists the more serious medical conditions directly attributable to excessive heat exposure, along with recommended responses.

Table 1. Medical conditions directly attributable to excessive heat exposure

Symptoms	Responses
Painful muscle cramps and spasms, usually in muscles of legs and abdomen. Heavy sweating.	Apply firm pressure on cramping muscles or gently massage to relieve spasm. Give sips of water; if nausea occurs, discontinue water intake. Consult with a clinician or physician if individual has fluid restrictions (e.g., dialysis patients).
Heavy sweating, weakness, cool skin, pale, and clammy. Weak pulse. Normal temperature possible. Possible muscle cramps, dizziness, fainting, nausea, and vomiting.	Move individual out of sun, lay him or her down, and loosen clothing. Apply cool, wet cloths. Fan or move individual to air-conditioned room. Give sips of water; if nausea occurs, discontinue water intake. If vomiting continues, seek immediate medical attention. Consult with a clinician or physician if individual has fluid restrictions (e.g., dialysis patients).
Altered mental state. Possible throbbing headache, confusion, nausea, and dizziness. High body temperature (106°F or higher). Rapid and strong pulse. Possible unconsciousness. Skin may be hot and dry, or patient may be sweating. Sweating likely especially if patient was previously involved in	Heat stroke is a severe medical emergency. Summon emergency medical assistance or get the individual to a hospital immediately. Delay can be fatal. Move individual to a cooler, preferably air-conditioned, environment. Reduce body temperature with a water mister and fan or sponging. Use air conditioners. Use fans if heat index temperatures are below the high 90s. Use extreme caution. Remove clothing. If temperature rises again, repeat process. Do not give fluids.
	Painful muscle cramps and spasms, usually in muscles of legs and abdomen. Heavy sweating. Heavy sweating, weakness, cool skin, pale, and clammy. Weak pulse. Normal temperature possible. Possible muscle cramps, dizziness, fainting, nausea, and vomiting. Altered mental state. Possible throbbing headache, confusion, nausea, and dizziness. High body temperature (106°F or higher). Rapid and strong pulse. Possible unconsciousness. Skin may be hot and dry, or patient may be sweating. Sweating likely especially if

Sources: CDC, 2004a; Kunihiro and Foster, 2004; NWS, 2004.

Table 2 below lists other heat-related, but less severe, conditions attributable to heat or sun exposure, along with recommended responses.

Table 2. Less severe heat-related conditions attributable to heat or sun exposure

Condition	Symptoms	Responses
Heat rash (prickly heat)	A skin irritation caused by excessive sweating during hot humid weather. Most common in young children, although can occur at any age. The rash looks like a red cluster of pimples or small blisters and is most common in the neck and upper chest, in the groin, under the breasts, and in elbow creases.	Move individual to a cooler place and keep the affected area dry. Use a dusting of talcum powder to increase comfort. Usually does not require medical assistance.
Sunburn	Damage to the skin caused by too much sun exposure. The skin becomes red, painful, and warm. Blisters may develop.	Medical attention should be sought if the sunburn affects an infant or if there is fever, fluid-filled blisters, or severe pain. Otherwise, the person should avoid sun exposure, apply cold compresses or immerse the burned skin in cool water, apply moisturizing lotion to the burn, and avoid breaking the blisters.

HAN Attachment 2: Strategies for Communities and Individuals



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Response to Excessive Heat Conditions – Strategies for Communities and Individuals

Community Strategies for Local Response

The strategies outlined below can help reduce the impact of excessive heat conditions on New Hampshire citizens, and should be considered if the heat index is 95 or above, which is expected to be the case over the next several days.

- Extend the hours of public places that provide an opportunity to cool, such as pools and beaches
- Make sure public events have as much shade, beverages, and other cooling measures available as possible.
- Work with your Public Health Region officials to identify and promote cooling centers. A
 map of NH by Public Health Regions can be found on the NH Public Health Network
 website [http://www.nhphn.org/] and contact information can be found by typing in the
 name of your city or town.
- Check on people living alone and/or who are more vulnerable to heat's effects.
- Use communication channels to provide advice to individuals on addressing the heat.
- Open cooling centers, if heat index has risen beyond a heat advisory
- If cooling centers have opened, ensure that center locations are posted on the DHHS website and in local businesses and facilities, including grocery stores, hospitals, community centers, doctors' offices and homeless shelters

Tips for Responding to Excessive Heat Events

There are measures that people can take to help prevent heat-related illness and to reduce the impact of excessive heat conditions. The following provides tips for all individuals, as well as information for specific groups – the elderly; infants, children and youth; and people with mental illness.

1) All Individuals

Keep Cool

- Use air conditioning to cool down or go to an air-conditioned building such as a store, a library, or a cooling center.
- If you don't have air conditioning in your home, open windows and shades on the shady side and close them on the sunny side to try to cool it down.
- An electric fan can be beneficial but not reliable to cool off once the temperatures hit above the mid-90s (near or above body temperature of 98.6°F).

- Take a cool shower or bath.
- Wear loose, lightweight, light-colored clothing to help keep cool.
- Stay out of the sun as much as possible.
- Never leave children, pets or those with special needs in a parked car, even briefly.
 Temperatures in the car can become dangerous within a few minutes. Even with the windows rolled down two inches, it only takes 10 minutes for the inside of a vehicle to reach deadly temperatures on a hot summer day.

Drink Fluids

- Drink more fluids regardless of your activity level.
- Avoid alcohol, caffeine and sugary drinks, since these actually cause you to lose more body fluid.
- If you are on fluid restrictions or on diuretics, ask your doctor how much fluid you should drink.

• Rest Frequently

- Take regular breaks from physical activity, at least every hour.
- Avoid strenuous activity during the hottest part of the day (between 11 a.m. and 4 p.m.).

• If you must be out in the heat

- Try to limit your outdoor activity to morning and evening hours.
- Cut down on exercise. If you must exercise, drink two to four glasses of cool, nonalcoholic fluids each hour. A sports beverage can replace the salt and minerals you lose in sweat. If you are on a low-salt diet, talk with your doctor before drinking a sports beverage.
- Rest often in shady areas, at least every hour.
- Protect yourself from the sun by wearing a ventilated wide-brimmed hat (e.g., straw or mesh) and sunglasses, and by putting on sunscreen of SPF 15 or higher (the most effective products say "broad spectrum" or "UVA/UVB protection" on their labels).

2) The Elderly

Studies from heat waves show the highest risk factors for death and hospitalization are older age, living alone, lack of access to an air conditioner, and underlying medical conditions. Factors contributing to increased risk for the elderly include:

- Because of their physiology, elderly people do not adjust as well as young people to sudden
 changes in temperature. They tend to have a decreased thirst sensation and do not feel the
 urge to drink as often as younger people, and they may have physical conditions that make it
 difficult to drink.
- The elderly are more likely to have a chronic medical condition that upsets normal body responses to heat.
- The elderly are more likely to take prescription medicines, such as diuretics and anticholinergic medications, that impair the body's ability to regulate its temperature or that inhibit perspiration.

In addition to the tips for all individuals listed above, additional tips are listed below for caregivers, friends and neighbors of elderly citizens.

Caregivers, friends and neighbors of the elderly should consider the following:

- Visit, or have contact with, older adults at risk at least twice a day and watch them for signs of heat exhaustion or heat stroke.
- Provide access to an air conditioner, and if none is in the residence, transport the person to a store, public library, restaurant, senior center, or cooling center.
- Make sure older adults have access to an electric fan, though this is not reliable once the temperatures are above the mid-90s.
- Assure adequate fluid intake, avoiding those that contain caffeine, alcohol, or large amounts of sugar, as these can cause more loss of body fluid.
- Make sure the person has clothing that is loose and lightweight.
- Assure access to cooling water (bath, shower, wet towels).

3) Infants / Children / Youth

Children are more sensitive to heat and dehydration than adults, and dehydration can occur quickly in them. Factors contributing to increased risk for infants, children, and youth include:

- Children produce more heat because of a greater surface area-to-body mass ratio than adults.
- Children sweat less than adults.
- Children are less likely to drink adequate fluids during exercise and heat.
- Infants, and especially newborns, are at higher risk.
- Children who rarely exercise, are overweight or obese, have had a previous heat-related illness, drink caffeinated beverages, are developmentally delayed or have cognitive disabilities, or have underlying medical conditions (diabetes) are at higher risk.

In addition to the tips for all individuals listed above, additional tips are listed below for parents, caregivers, coaches and teachers.

Parents and caregivers of infants and young children should consider the following:

- Make sure infants and young children have access to air conditioning, lightweight clothing, adequate fluids, and cooling water. Infants and children up to 4 years of age are especially sensitive to the effects of high temperatures and rely on others to regulate their environments and provide adequate liquids.
- Monitor for and recognize the signs and symptoms of heat-related illnesses and dehydration in children. Dehydration in young children early on can present as: decreased urine output, dry or sticky mouth, irritability, and fatigue.

Coaches, parents and teachers should consider the following for children and youth involved in physical activity:

- Reduce the intensity of physical activity lasting more than 15 minutes, especially if heat and humidity are both high.
- Realize that conditioned athletes may be more susceptible to heat stroke because they have a larger body mass.
- Require young athletes to take fluid breaks before practice and every 15 60 minutes during practice, even if they are not thirsty.
- Require young athletes to take regular shade and rest breaks, and encourage them to take additional rest and fluid breaks anytime they feel the need to do so.
- Recognize signs of heat illness and dehydration in children. Dehydration early on can present as: dry or sticky mouth, thirst, headache, dizziness, cramps, and excessive fatigue.

4) People with Mental Illness

Factors contributing to increased risk for those with mental illness include:

- Some medications used to treat mental illness, such as anti-psychotics, inhibit the body's ability to regulate its temperature, leaving it more susceptible to heat stroke.
- People with mental illnesses often live in impoverished conditions and without air conditioning, further increasing their risk.

In addition to the tips for all individuals listed above, additional tips are listed below for caregivers, friends and neighbors of people with mental illness.

<u>Caregivers, friends and neighbors of those with mental illness should consider the following:</u>

- Visit or have daily contact with those people with mental illness, and especially those taking anti-psychotic medications.
- Provide access to an air conditioner, or transport the person to an air-conditioned building or cooling center.
- Make sure the person is drinking adequate fluids, and avoiding those that contain caffeine, alcohol, or large amounts of sugar, as these can cause more loss of body fluid.
- Make sure the person is wearing lightweight and loose-fitting clothing.
- A fan can be beneficial but not reliable to cool one off once the temperatures hit the high 90s.
- Have the person take a cool shower or bath.

HAN Attachment 3: Resources



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Resources for Response to Excessive Heat Conditions

Note: If you are unable to access any of the resources below by clicking on the appropriate link, copy and paste the link in your Internet browser.

NH Department of Health and Human Services' Excessive Heat Fact Sheet:

http://www.dhhs.nh.gov/tips/documents/heat.pdf

NH Department of Environmental Services' air quality data and forecasts:

http://www2.des.state.nh.us/airdata/air_quality_forecast.asp.

US EPA Heat Events Guidebook for Communities:

http://www.epa.gov/heatisland/about/heatguidebook.html

US CDC Extreme Heat Prevention Guide: http://emergency.cdc.gov/disasters/extrem eheat/heat_guide.asp

US CDC/NIOSH Protecting Workers in Heat Events: http://www.cdc.gov/niosh/topics/heatstress/

OSHA Protecting Workers in Heat Stress:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FACT_SHEETS&p_id=167

National Weather Service Heat Wave Guide:

http://www.nws.noaa.gov/om/brochures/heat_wave.shtml

National Weather Service three-day forecast for heat index can be found at:

http://www.hpc.ncep.noaa.gov/heat index MAX/hiprob95 day3.html

National Weather Service Heat Index Chart: http://www.weather.gov/om/heat/index.shtml

National Weather Service Weather Fatalities: http://www.nws.noaa.gov/om/hazstats.shtml

Federal Emergency Management Agency: http://www.fema.gov/before-extreme-heat

US CDC Heat Stress in the Elderly: http://www.bt.cdc.gov/disasters/extremeheat/elderlyheat.asp

AAP Policy Statement:

http://aappolicy.aappublications.org/cgi/content/full/pediatrics;106/1/158.full

NATA (National Athletic Trainers Association) Position Statement: Exertional Heat Illnesses: http://www.nata.org/sites/default/files/ExternalHeatIllnesses.pdf

Mayo Clinic: http://www.mayoclinic.com/health/dehydration/SM00037

NAMI Heat and Mental Illness:

http://www.nami.org/Template.cfm?Section=20065&Template=/ContentManagement/ContentDi splay.cfm&ContentID=35581

Humane Society of the United States, advise for pet owners during heat wave: http://www.humanesociety.org/animals/resources/tips/pets_safe_heat_wave.html New Hampshire
Department of
Health and Human Services
Division of Public Health Services

Fact Sheet

Excessive Heat

Is very hot weather dangerous for people?

People suffer heat-related illness when their bodies are unable to compensate for the heat and cool themselves. The body normally cools itself by sweating. But under some conditions sweating just isn't enough. In such cases a person's body temperature rises quickly. Very high body temperature may damage the brain or other organs.

What factors cause the body to be unable to cool itself?

Several factors can affect someone's inability to feel cooler during extremely hot weather. When the humidity (the amount of moisture in the air) is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions related to risk include age, obesity, fever, dehydration, heart disease, poor circulation, sunburn, and the use of alcohol and certain prescription drugs.

What types of problems can excessive heat cause?

Heat rash: Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. It may occur at any age but is most common in young children. Heat rash is not usually dangerous.

Heat cramps: Heat cramps are muscular pains and spasms due to exertion. Although heat cramps are the least severe of heat-related illnesses, they are an early signal that the body is having trouble coping with the heat.

Heat exhaustion: Heat exhaustion typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs.

This results in a form of mild shock. If not treated, the patient may suffer heat stroke.

Heat stroke: Heat stroke is life threatening. The patient's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.

Sunstroke: Another name for heat stroke.

What are the warning signs to look for?

Heat rash: Heat rash may look like a red cluster of pimples, a red area of skin, or small blisters. It is more likely to occur on the neck and upper chest, in the groin, under arms, and in elbow creases.

Heat exhaustion: Cool, moist, pale, or flushed skin; heavy sweating; headache; nausea or vomiting; dizziness; and/or fatigue. Body temperature will be near normal.

Heat stroke: Hot, red skin; changes in consciousness; rapid, strong pulse; and rapid, shallow breathing. Body temperature can be very high, as high as 105°F. If the patient was sweating from heavy work or exercise, skin may be wet, otherwise it will feel dry.

What should someone do if they develop any of these illnesses?

Heat rash: The best treatment for heat rash is to provide a cooler, less humid environment. Keep the affected area dry and body powder may be used to increase comfort.

Heat cramps: If you have heart problems or are on a low-sodium diet, get medical attention. If medical attention is not necessary, stop all activity and sit in a cool place, drink water, clear juice or a sports drink, and seek medical attention if heat cramps do not subside in an hour.

Heat exhaustion: Cooling measures that may be effective for a victim of heat exhaustion include sips of cool water, rest, cool shower or bath, air conditioning, and lightweight clothing. Seek medical help if the person vomits, has a change in mental status, chest pain, or difficulty breathing.

Heat stroke: Heat stroke may be a life threatening emergency. Get the victim to a shady area. Call for emergency medical help. Cool the victim rapidly using whatever methods you can, such as cool water, a cool shower, spray from a hose, or if the humidity is low, wrap the victim in a cool, wet sheet and fan them vigorously. Do not give the victim fluids to drink. Get medical care as soon as possible.

Who is most at risk for heat-related illness?

Although anyone at any time can suffer from heatrelated illness, some people are at greater risk than others.

- infants and children up to four years of age are sensitive to the effects of high temperatures and rely on others to regulate their environments and provide adequate liquids.
- The elderly may not compensate for heat stress efficiently and are less likely to sense and respond to change in temperature.
- People who are overweight may be prone to heat sickness because of their tendency to retain more body heat.
- People who overexert themselves during work or exercise may become dehydrated and susceptible to heat sickness.

 People who are physically ill, especially with heart disease or high blood pressure, or who take certain medications, such as for depression, insomnia, or poor circulation, may be affected by extreme heat.

What can people do to prevent heat-related illness?

Air conditioning: Air conditioning is the number one protective factor against heat-related illness and death. If a home is not air-conditioned, people can reduce their risk for heat-related illness by spending time in public facilities that are air-conditioned.

Fluids: During hot weather it is important to increase the amount of liquids you drink. If your doctor generally limits the amount you drink though or if you are on water pills, ask how much you should drink while the weather is hot. Avoid caffeine, alcohol, and large amounts of sugar because they can actually cause the body to lose more fluid. You should also avoid very cold drinks because they may cause stomach cramps.

Wear appropriate clothing: Wear less clothing, choosing lightweight, light-colored, and loose-fitting clothes.

Limit outdoor activity: If you must be outdoors, try to limit your activity to morning and evening hours. Try to rest often in shady areas so that your body's thermostat will have a chance to recover.

Watch what you eat: Eat small meals and eat more often. Avoid foods high in protein.

For specific concerns about heat-related illnesses contact your health care provider or call the NH Department of Health and Human Services Division of Public Health Services at 603-271-4496 or 800-852-3345 x4496 or refer to the Centers for Disease Control and Prevention website at www.cdc.gov