



Maryland Department of Health
Extreme Cold Emergency Plan
2024 Version 5.0

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Contents

Summary	4
Definitions	4
Maryland Regulations on Power Termination	7
Phase 1: Pre-Winter	7
Phase 2: Pre-Event	8
Phase 3: Cold Weather Advisory	9
Phase 4: Extreme Cold Warning	10
Phase 5: Complex Cold Emergency	11
Phase 6: Post-Winter	13
Post Season	14
Appendix A: MDH Action Checklist	15

Record of Changes

Date	Description	Draft Number
October 2020	Revised draft prepared	Draft Version 1.0
September 2021	Revised draft prepared	Draft Version 2.0
September 2022	Revised draft prepared	Draft Version 3.0
October 2023	Revised draft prepared	Draft Version 4.0
September 2024	Revised draft prepared	Draft Version 5.0

Organizational Acronyms

CISA - Cybersecurity & Infrastructure Security Agency
 DHS - Maryland Department of Human Services
 EMA - Emergency Management Agency
 LHD - Local Health Department
 MDEM - Maryland Department of Emergency Management
 MDH - Maryland Department of Health
 MDoA - Maryland Department of Aging
 MIEMSS - Maryland Institute for Emergency Medical Services Systems
 NWS - National Weather Service
 OCME - Office of the Chief Medical Examiner
 OHCQ - Office of Health Care Quality
 PSC - Public Service Commission



Summary

Purpose

The Maryland Extreme Cold Emergency Plan, developed by the Maryland Department of Health (MDH), guides the state's actions during an Extreme Cold Event, as well as those of partner agencies and organizations, as defined below. This plan also provides guidance for the local jurisdictions as they fulfill their roles. The Office of Preparedness & Response (OP&R) within MDH provides weekly cold reports on the [OP&R webpage](#) during each cold season.

Local Jurisdiction Actions

All actions listed for the local jurisdictions in this plan are recommendations. Each local jurisdiction handles Extreme Cold Events differently. The recommendations included in this plan may not be applicable or practical for all local jurisdictions or may be fulfilled by different organizations at the local level. Typically, the agency or organization that has a permit to host a public event can shut it down due to a weather emergency, including a Wind Chill Advisory, Wind Chill Warning/Watch, or Complex Cold Emergency. In addition, local health departments can provide targeted risk communication messaging to the public during Extreme Cold.

Disaster shelter managers should contact their local health officials for information specific to their locations as conditions vary from community to community.

Assumptions

Steady state operations subject to change with any order from the Governor.

Definitions

Extreme Cold - [Extreme Cold](#) as defined by Cybersecurity and Infrastructure Security Agency (CISA), is temperatures that are lower than historical averages to the point that it creates a dangerous environment for people, animals, and critical infrastructure. Extreme cold is often amplified or caused by:

- Polar Vortex - A large area of low pressure and cold air surrounding both of the earth's poles. It's a counterclockwise flow of air that helps keep the colder air near the poles.
- Cold Air Damming - The phenomenon in which a low-level cold air mass is trapped topographically. Often, this cold air is entrenched on the east side of mountainous terrain and often implies that the trapped cold air mass is influencing the dynamics of the overlying air mass.
- Blizzard - Sustained wind or frequent gusts to 35 miles an hour or greater and considerable falling and/or blowing snow (potentially reducing visibility to less than a quarter of a mile) for a period of three hours or longer.
- Lake-effect Snow - Forms when cold, below-freezing air passes over a lake's warmer waters. This causes some lake water to evaporate and warm the air. The moist air moves away from



the lake, cools, and falls to the ground as snow.

- Freezing Rain - Freezing rain is precipitation that reaches the ground in liquid form and then freezes on contact. The deposits of ice are called glaze. Glaze is not snow or sleet. The total icing accumulation is measured as a radius from stationary objects like twigs or fence wires.
- Ice Storm - Occasions when damaging accumulations of ice are expected during freezing rain situations. Significant accumulations of ice, more than one-half inch, pull down trees and utility lines resulting in loss of power and communication.
- Freezing Fog - Tiny, supercooled liquid water droplets in fog can freeze instantly on exposed surfaces when surface temperatures are at or below freezing.

Extreme Cold Event – An Extreme Cold Event is a weather condition with excessively low temperatures or a combination of cold temperatures and wind that has the potential to cause cold-related illnesses or injuries. An extreme cold event is defined in hours, a day, or series of days when:

- The expected temperature or wind chill is forecast to be approximately 32 degrees Fahrenheit or lower
- Weather or environmental conditions are such that a high incidence of cold-related illnesses or injuries can reasonably be expected

Complex Cold Emergency – A Complex Cold Emergency is a condition of an Extreme Cold Event with complications requiring additional response. Examples of complications are power outages, heavy precipitation (snow or ice), or an extended period of low temperatures combined with strong winds.

Shelters – Due to the coldest temperatures occurring overnight, sheltering the homeless is the primary objective in sheltering operations. Sheltering operations may also be employed or expanded during winter storms to reduce the risk to vulnerable populations. Both homeless and disaster shelters will be referred to in this plan as ‘shelters.’

Wind Chill – Wind Chill, or the apparent temperature, is a measure of what the temperature feels like despite the actual temperature. Wind Chill is a factor of both the actual temperature and wind speed and is the best indicator for a pending extreme cold event. Wind Chill is the key indicator of Extreme Cold as defined by the National Weather Service.¹

Cold Weather Advisory – The National Weather Service (NWS) issues a Cold Weather Advisory when seasonably cold air temperatures or wind chill values, but not extremely cold values, are expected or occurring.

Extreme Cold Watch – The NWS issues an Extreme Cold Watch when dangerously cold air, with or

¹ <https://www.weather.gov/safety/cold-wind-chill-chart>



without wind, is possible.

Extreme Cold Warning – The NWS issues an Extreme Cold Warning when dangerously cold air, with or without wind, is expected. Conditions could lead to hypothermia.

Cold-related Illness – A Cold-related Illness is a medical condition caused or exacerbated by extreme cold. For the purposes of this plan, cold-related injuries will be referred to as Cold-related Illness.

Hypothermia – Hypothermia occurs when the body is exposed to cold and the body’s mechanisms are unable to replenish the heat that is being lost. Symptoms, such as, shivering and mental confusion can occur due to a drop in the body’s core temperature. Hypothermia is likely at lower temperatures, especially when subjects are wet due to rain, fog or snow.

Cold-related Injury – A Cold-related Injury occurs when the body’s tissues are damaged by exposure to extreme cold. For the purposes of this plan, Cold-related Injuries will also be referred to as Cold-related Illness.

Frostbite – Frostbite is the medical condition where localized damage is caused to skin and other tissues due to extreme cold. Like hypothermia, frostbite is likely to occur at lower temperatures when the subjects are exposed to the cold, especially when they are wet due to rain, fog or snow.

Carbon Monoxide (CO) Poisoning – Carbon monoxide (CO) is an odorless, colorless gas that kills without warning. Many household items including gas- and oil-burning furnaces, portable generators, and charcoal grills produce this poison gas. Due to the prevalence of heaters and fuel-burning devices during the winter, CO poisoning presents the greatest risk during the winter months.²

High-Risk Groups – High-Risk Groups are vulnerable populations that are disproportionately affected by extreme cold. These groups include infants/newborns, older adults, those with chronic medical conditions, people who remain outdoors for extended periods of time (homeless, hikers, hunters, etc.), and those who drink alcohol or use drugs.

2

https://www.cdc.gov/carbon-monoxide/about/?CDC_AAref_Val=https://www.cdc.gov/co/default.htm



Maryland Regulations on Power Termination

[COMAR 20.31.03.03](#) forbids utility companies from terminating the power of an occupied residential building for nonpayment of bills without submitting an affidavit to the Public Service Commission (PSC) that the termination does not constitute a threat to the life or health of the residential occupants. In addition, PSC forbids termination for nonpayment of bills on any day when the forecast temperature, made at 6 a.m., is 32 degrees Fahrenheit or below through the extreme weather period. *For PSC, this timeframe is as follows: November 1 through and including March 31 of the immediately succeeding calendar year unless the utility first certifies to the Commission by an affidavit filed at least 24 hours before the termination, that the termination does not constitute a threat to the life or health of the occupant(s).*

Phase 1: Pre-Winter

Triggers

- Pre-winter activities begin in late September

Surveillance

- The NWS determines the cold impact in the forecast. The Maryland Department of Emergency Management (MDEM) monitors data from the Sterling VA, Mt. Holly NJ and Wakefield VA NWS stations

MDH Actions

- MDH will conduct an annual review of the MDH Extreme Cold Emergency Plan to update as necessary
- MDH will provide guidance and recommend best practices to aid jurisdictions in revising their local Extreme Cold Emergency Plans as requested
- MDH will update its website to include accurate Local Health Department (LHD) contact information
- MDH will distribute the revised Extreme Cold Emergency Plan to LHDs and planning partners
- MDH will review planning and monitoring for seasonal respiratory illness, which may be impacted by Extreme Cold Events
- MDH will review Continuity of Operations planning in preparation for Extreme Cold Events

Local Jurisdiction Actions

- Verify LHD contact information on the MDH website is accurate
- Monitor the NWS for local temperature data
- Review planning activities and maintain situational awareness
- Identify and/or review locations to be utilized as shelters



Public Information

- MDH and LHDs should review and revise written and electronic public information materials

Phase 2: Pre-Event

Triggers

- MDH will begin conducting enhanced surveillance for cold-related morbidity and mortality on Sunday, October 27th

Surveillance

- MDH and local agencies should monitor weather forecasts for the possibility of predicted weather conditions consistent with extreme cold
- MDH will distribute weekly reports and analysis of the public health impact of cold-related illnesses. The weekly reports will be made available to the public at a predetermined time every week. These reports will include, but may not be limited to:
 - Emergency department visits for hypothermia, frostbite and CO poisoning through MDH's syndromic surveillance system
 - Emergency Medical Services (EMS) Patient Care Report Data
 - Number of cold-related deaths reported by the Office of the Chief Medical Examiner (OCME)
 - Cold advisory reference information
- MDEM will monitor power outages in the state
- MDEM will coordinate with local Emergency Management Agencies (EMAs) to monitor large public events which could have the potential of becoming a mass casualty incident
- The Maryland Institute for Emergency Medical Services Systems (MIEMSS) will monitor EMS incidents statewide and track the number of hypothermia, frostbite and CO poisoning emergency calls

MDH Actions

- MDH and jurisdictions should consider holding press conferences or issuing press releases on or prior to the first forecast extreme cold event - consider including information and connection to energy assistance programs and other community resources
- MDH and jurisdictions should launch cold plan activities by the first week of December, if no extreme cold events have occurred
- MDH will issue a press release or media alert on or prior to the first extreme cold event or by the third week in December, if no extreme cold events have occurred
- MDH will review and revise this plan following any extreme cold events as necessary
- MDH Office of Health Care Quality (OHCQ) will contact nursing homes to promote winter preparedness, reminding them to check their generators and heating, ventilation, and air conditioning (HVAC) systems and to report real or potential concerns and issues



Local Jurisdiction Actions

- Monitor the NWS for local temperature data
- Review planning activities and maintain situational awareness
- Ensure locations to be utilized as shelters are ready for use as needed
- Conduct Continuity of Operations / Tactical Planning

Demobilization

- MDH will proceed to Phase 6 of this plan in early April 2025

Phase 3: Cold Weather Advisory

Triggers

- The NWS has issued a Cold Weather Advisory, or;
 - Local agencies are responsible for monitoring any weather advisories that impact their jurisdictions
 - MDH, MDEM, and the Maryland Department of Human Services (DHS) will monitor any weather advisories that could impact state run facilities or state run sheltering operations
- Temperatures meeting the criteria for a Cold Weather Advisory are likely within the next 12 to 48 hours

Surveillance

- MDH will maintain passive situational awareness on vulnerable facilities. Vulnerable facilities include those designated in the Facility Tracking Protocol: dialysis centers, nursing homes, assisted living facilities and hospice
- MDH will continue to monitor syndromic surveillance systems and issue the weekly report outlined in Phase 2
- MDH and MDEM will monitor NWS forecasts for any indication of extreme cold
- MDEM will monitor power outages

MDH Actions

- MDH will notify the jurisdiction(s) expected to be impacted by an extreme cold event
 - The MDH Advisory will also be sent to other state agencies
 - MDH may alert the public via media outlets, websites and social media
- MDH will review extreme cold checklists and begin taking appropriate actions
- MDH will coordinate with MIEMSS to issue alerts when appropriate
- MDH and MDEM will maintain situational awareness and gauge the potential impact of the anticipated event



Local Jurisdiction Actions

- Notify local extreme cold planning partners
- Coordinate with EMAs for recommending heightened mitigation protections or discouraging outdoor public events
- Coordinate with relevant organizations to provide outreach to vulnerable populations as applicable
- Coordinate with existing volunteers and partners for responding to extreme cold
- Coordinate public messaging with public access numbers such as nonemergency dispatch, 211, 311, or reverse-911 systems, as well as preparedness messaging for pets / animals
- Local EMAs should post shelter openings to WebEOC
- Recommend that government and schools restrict outdoor activities
- Monitor Facility Tracking for power outage / facility call list

Public Information

- MDH will coordinate with each jurisdiction on extreme cold event communications
- MDH and LHDs should employ consistent messaging that urges individuals to check on elderly neighbors, family members, and individuals with behavioral, developmental delays, emotional and neurological health issues
- MDH and LHDs should include pet emergency preparedness for cold emergency prevention in messaging. Resources can be found at Ready.gov.³
- Jurisdictions may utilize existing digital signage (such as outside firehouses, other public buildings or on public buses) to display concise cold safety tips

Demobilization

- MDH will revert to Phase 2 when Wind Chill Advisory is lifted by NWS

Phase 4: Extreme Cold Warning

Triggers

- The NWS has issued an Extreme Cold Warning, or;
- Temperatures meeting the criteria for an Extreme Cold Warning are likely within the next 12 to 48 hours, or;
- Temperatures meeting the criteria for a Cold Weather Advisory are expected to continue for three or more days

MDH Actions

MDH will take all the actions outlined in Phase 3: Cold Weather Advisory and:

- MDH will engage 211 as a public access number for cold-related questions and provide 211 with up-to-date public messaging materials

³ <http://www.ready.gov/america/getakit/pets.html>



- MDH will coordinate with MDEM to conduct conference calls to discuss the potential impact of the event with stakeholders. The calls may include, but are not limited to:
 - Internal MDH staff
 - LHD/local agency staff
 - Other state agencies
- MDH will operate at an “Enhanced Readiness” level, in preparation for a Complex Cold Emergency
- MDH will supply LHDs with updated lists of licensed facilities for tracking

Local Jurisdiction Actions

- Provide MDEM with updated information on local shelters via WebEOC

Demobilization

- MDH will revert to Phase 2 when Wind Chill Warning is lifted by NWS

Phase 5: Complex Cold Emergency

Triggers

- MDH and MDEM will use discretion in deciding what conditions constitute a Complex Cold Emergency. These may include, but are not limited to:
 - Significant power outages, or;
 - Extended periods of low temperatures with a wind chill of minus 5 degrees Fahrenheit, or;
 - Hazardous precipitation during a cold event causing significant hail or snowfall, or;
 - Any other factors that would exacerbate a cold emergency

Surveillance

- MDH will begin issuing the Daily Cold-Related Illness Surveillance Report and will continue through the duration of the emergency
 - The final Daily Report will be issued the day following the final cold emergency day and will include surveillance data from the final cold emergency day
- MDH will release death information at the discretion of the Deputy Secretary for Public Health Services
 - The distribution of death data will follow a prescribed flow of information due to the overwhelming number of requests for information during these events
 - Current processes include, but are not limited to:
 - OCME death data will be routed internally to the Office of Preparedness and Response
 - Local Health officers or their designees will be notified of the details of deaths in their jurisdiction by MDH



- The Daily Report is sent to planning partners and posted to the MDH website

MDH & MDEM Actions

- MDH/MDEM will conduct regular conference calls to discuss the potential impact of the event with stakeholders. The calls may include, but are not limited to:
 - Internal MDH staff
 - LHD/local agency staff
 - Other state agencies
- MDH will activate the facility tracking protocol for the monitoring of vulnerable facilities if the health and safety of the residents of those facilities would be put at risk due to the emergency
- MDH will coordinate with MDEM, MDHS, the Maryland Department of Aging (MDoA) and local agencies to monitor, track and post the locations of shelters statewide
- MDEM will monitor the State Emergency Operations Center (SEOC)
- MDEM will request information from local EMAs on events that may be affected by the Complex Cold Emergency
- MDEM will assume incident command for the cold incident and begin coordinating State Coordinating Functions (SCFs) in support of a response
- MDH and the DHS will review shelter data in WebEOC and advise if there are any shelters not reported.

Local Jurisdiction Actions

- Local EMAs may notify each other of large-scale public events in the local jurisdiction that have the potential to result in a mass casualty incident
- Local EMAs may notify MDEM of the above events; MDEM will notify MDH and MIEMSS
- Recommend greater mitigation protections or cancellation of outdoor public events
- Connect to energy assistance / other assistance programs, as well as community resources, including homeless services

Power Outages

- In the event of a widespread or prolonged power outage, MDH will coordinate with MDEM, the Public Service Commission and power companies to ensure that facilities with vulnerable populations outlined above receive priority in power restoration due to the life-threatening nature of extreme cold in a powerless facility

Public Information

- MDEM may activate a Joint Information Center (JIC) to address public messaging
- MDEM and MDH, through the JIC, will use 211 or public access numbers to distribute cold emergency information
- The public will be notified through the JIC if Maryland Insurance Administration waives existing pharmacy restrictions on the ability to renew prescriptions due to the emergency



- Local jurisdictions with access to reverse-911 systems may use them to provide cold advisory warnings to identify vulnerable populations

Demobilization

- MDH will revert to a previous phase once the complicating factors have been resolved or MDEM stands down the SEOC:
 - MDH will revert to Phase 4 if a Extreme Cold Warning is in effect
 - MDH will revert to Phase 3 if a Cold Weather Advisory is in effect
 - MDH will revert to Phase 2 if neither a Cold Weather Advisory or Warning is in effect

Phase 6: Post-Winter

The post-winter activities typically begin in early April 2024 and include After Action Reporting and planning for the next operational period.

Triggers

- MDH will terminate enhanced surveillance for cold-related morbidity and mortality on March 29, 2025
- Post-winter activities begin in April 2025

MDH Actions

- MDH will cease conducting surveillance on March 29, 2025
- Where applicable, MDH will collect After Action Reports from the jurisdictions and determine best practices to be included in the following year's planning efforts
- MDH will collect, analyze, and release statewide surveillance data from the winter for use in future cold planing
- MDH will review and update the State Cold Plan, including a comprehensive review of local plans and resources

Local Jurisdiction Actions

- Cease cold-event monitoring
- Coordinate with MDH on an annual cold plan review
- Identify high-risk populations exposed to Infectious Disease
- Conduct an evaluation of interventions:
 - Review evaluation tools to monitor effectiveness
 - Shelter usage
 - Transportation program usage, if available
 - EMS system usage



Post Season

OP&R will issue a cumulative cold season surveillance summary report that will be posted to our website. For more information, resources, or how to stay safe during extreme cold weather, please visit the [OP&R website](#).

Appendix A: MDH Action Checklist

Completed	Action
PHASE I: Pre-Winter	
<input type="checkbox"/>	Conduct an annual review of the MDH Extreme Cold Emergency Plan and update as necessary
<input type="checkbox"/>	Provide guidance and recommend best practices to aid jurisdictions in revising their local Cold Emergency Plans as requested
<input type="checkbox"/>	Update website to include accurate LHD contact information
<input type="checkbox"/>	Distribute the revised Cold Emergency Plan to LHDs and planning partners
<input type="checkbox"/>	Review planning and monitoring for seasonal respiratory illness, which may be impacted by Extreme Cold Events
<input type="checkbox"/>	Review Continuity of Operations planning in preparation for Extreme Cold Events
PHASE II: Pre-Event	
<input type="checkbox"/>	Hold press conferences or issue press releases on or prior to the first forecast extreme cold event
<input type="checkbox"/>	Launch cold plan activities by the first week of December, if no extreme cold events have occurred
<input type="checkbox"/>	Issue a press release or media alert on or prior to the first extreme cold event or by the third week in December, if no extreme cold events have occurred
<input type="checkbox"/>	Review and revise this plan following any extreme cold events as necessary



<input type="checkbox"/>	Office of Health Care Quality (OHCQ) will contact nursing homes to promote winter preparedness, reminding them to check their generators and heating, ventilation, and air conditioning (HVAC) systems and to report real or potential concerns and issues
PHASE III: Cold Weather Advisory	
<input type="checkbox"/>	Notify jurisdiction(s) expected to be impacted by an extreme cold event <ul style="list-style-type: none"> o The MDH Advisory will also be sent to other state agencies o MDH may alert the public via media outlets, websites and social media
<input type="checkbox"/>	Review extreme cold checklists and begin taking appropriate actions
<input type="checkbox"/>	Coordinate with MIEMSS to issue alerts when appropriate
<input type="checkbox"/>	Maintain situational awareness and gauge the potential impact of the anticipated event
PHASE IV: Extreme Cold Warning <i>MDH will take all the actions outlined in Phase 3 and...</i>	
<input type="checkbox"/>	Engage 211 as a public access number for cold-related questions and provide 211 with up-to-date public messaging materials
<input type="checkbox"/>	Coordinate with MDEM to conduct conference calls to discuss the potential impact of the event with stakeholders. The calls may include, but are not limited to: <ul style="list-style-type: none"> ● Internal MDH staff ● LHD/local agency staff ● Other state agencies
<input type="checkbox"/>	Operate at an “Enhanced Readiness” level, in preparation for a Complex Cold Emergency
<input type="checkbox"/>	Supply LHDs with updated lists of licensed facilities for tracking
PHASE V: Complex Cold Emergency <i>MDH will take all the actions outlined in Phases 3 and 4 and...</i>	
<input type="checkbox"/>	Coordinate with MDEM to conduct regular conference calls to discuss the potential impact of the event with stakeholders. The calls may include, but are not limited to:



	<ul style="list-style-type: none"> o Internal MDH staff o LHD/local agency staff o Other state agencies
<input type="checkbox"/>	Activate the facility tracking protocol for the monitoring of vulnerable facilities if the health and safety of the residents of those facilities would be put at risk due to the emergency
<input type="checkbox"/>	Coordinate with MDEM, DHS, the Maryland Department of Aging (MDoA) and local agencies to monitor, track and post the locations of shelters statewide
PHASE VI: Post Winter	
<input type="checkbox"/>	Cease conducting surveillance on March 29, 2025
<input type="checkbox"/>	Where applicable, collect After Action Reports from the jurisdictions and determine best practices to be included in the following year's planning efforts
<input type="checkbox"/>	Collect, analyze, and release statewide surveillance data from the winter for use in future cold planning
<input type="checkbox"/>	Review and update the State Cold Plan, including a comprehensive review of local plans and resources