

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

The MI-CHAP Strategic Plan was developed in 2010 to prepare the Michigan Public Health System to address the health consequences of climate change in a coordinated manner. The System includes the state and local health departments, and parts of government, academia, health care, professional organizations, non-profits and others whose work relates to public health and/or the environment. This planning effort built a statewide vision with a diverse, large group representing multiple perspectives and expertise. The original Plan's goals and priorities remain relevant. However, the 2016-2021 Plan Update will specify which health outcomes, adaptations, and vulnerable people and places will be the focus of Program activities over this time period.

The Plan Goals are:

Goal #1: Climate change will be recognized as a public health issue and integrated into public health practice.

Goal #2: Public health agencies will have the resources, tools and activities for responding to climate change impacts integrated/included in their existing programs.

Goal #3: Vulnerable populations and their needs will be explicitly considered in programs and policies addressing health impacts associated with climate change.

The Priority Health Outcomes of concern are:

- 1) Heat-related illness (and mortality)
- 2) Respiratory disease exacerbation (esp. asthma) related to poor air quality and increased pollen
- 3) Water-borne diseases (esp. related to rain events and runoff)
- 4) Vector-borne diseases (Lyme and West Nile)
- 5) Carbon Monoxide poisoning and other injuries related to extreme weather events



The **MDHHS Climate and Health Program** has monitored the magnitude and distribution of these outcomes in Michigan, identified key vulnerabilities, and characterized the current and projected changes in climate across Michigan. See *Michigan Climate and Health Report* for details (Cameron et. Al, 2015). The Program constructed maps to guide its work with Michigan communities to understand the factors influencing their risk. These maps indicate where we may find the people and places that are most vulnerable, and can help identify risk factors that may be amenable to intervention. The Program has reviewed the literature to determine which interventions have been shown to be effective.

Why we need your input:

Over the next year, the Program will identify and design activities meant to reduce the top three priority health outcomes in vulnerable Michigan communities. These intervention activities will be carried out over the next five years, and evaluated for their effectiveness.

These activities can only succeed if they make sense and are acceptable to the community. We need your local knowledge and expertise to advise us as we choose the activities we will commit to for the next five years. We also need your help in identifying partners who would be willing to work with us to implement the interventions in your communities.

During the activity you will: 1. Review handouts summarizing the health outcomes of most concern, potential vulnerabilities, and examples of interventions. 2. Complete an exercise to identify which interventions are most needed, why they are important, who should be involved, and how they might be implemented.



The MI-CHAP strategic plan and additional Michigan related climate and health information can be found at www.michigan.gov/climateandhealth

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Proposed Adaptation Feedback Activity:

MICHAP needs your input to help determine their activities for the next five years. They must choose and implement interventions to reduce the harm to public health that can occur from the following climate-related environmental conditions: heat waves, poor air quality, and poor water quality.

Your working group will be assigned one of the health outcomes mentioned above to focus on for this exercise. **Choose one person to record your groups discussion in the spaces provided.**

For your group's Health Outcome, **consider the following and record the response from the different jurisdictions represented in your group (additional space on health outcome sheet):**

- 1. Is there a need for intervention in your community related to your assigned health outcome? Explain (Consider what vulnerabilities might exist or if there are any currently ongoing activities related to those health outcomes)*
- 2. If there is a need, which interventions would you support? (Indicate whether the intervention would be educational, emergency response, landscape changes, or policy **and** any specific intervention examples that you can think of related to that category)*
- 3. Are there partners willing and able to support the intervention(s)? Please list.*
- 4. Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)*

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1) Outcome: Heat illness

Background:

Extreme heat causes more deaths in the US than any other extreme weather event. Warmer temperatures and heat waves can lead to heat stress illness, especially in persons whose bodies are already impaired by other health conditions.

Vulnerable People: elderly, low income, with chronic diseases; outdoor workers

Vulnerable Places: urban areas with impervious surfaces, lack of trees or green space, older housing stock, low air conditioner prevalence

Key Partners: Aging services; Emergency planners; Weather media; Community planners

Examples of Potential Interventions:

a) *Educational:* messaging on heat stress recognition and personal protective behaviors; factsheets and handouts; trainings for public, neighborhood leaders, or local officials

b) *Emergency Response:* monitoring Emergency Departments for increasing cases, to trigger health alerts; opening and promoting the use of cooling centers; organizing neighborhood level warnings, neighbor check-ins, or transportation to cooling centers

c) *Landscape Actions:* reducing urban heat island by increasing tree canopy and green spaces

d) *Policy:* regulations or ordinances to guide infrastructure changes that reduce ambient and indoor heat, such as building codes requiring reflective roofs (zoning ordinance, building codes, health codes, etc.); include green infrastructure requirements to increase tree canopy, green space, other heat island-reducing strategies in master, recreation, or transportation plans

Additional Notes:

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2) Outcome: Respiratory Conditions

Background:

Particulate and ozone emissions can contribute to poor air quality that makes breathing more difficult, especially for people with asthma or other conditions. Pollen from ragweed and other plants can also trigger breathing problems in allergic individuals. Increasing temperatures are predicted to make both emissions and pollen concentrations worse.

Vulnerable People: young children, elderly, low income, those with cardiorespiratory diseases especially asthma

Vulnerable Places: urban areas, high ozone and particulate areas; areas with high ragweed density or heavy pollen production; high traffic density areas

Key partners: Asthma Program and Coalitions; Weather media; Community Planners; Local Public Health Departments

Examples of Potential Interventions:

a) *Educational:* messaging on protective personal behaviors during poor air quality days; factsheets and handouts; trainings for public, neighborhood leaders, or local officials

b) *Emergency Response:* Emergency Departments and Air Quality monitoring to trigger health alerts, organizing neighborhood level warnings, neighbor check-ins, or transportation to health care; school, athletic and daycare policies restricting outdoor activities during Air Quality Alert days (or should this be under Policy ?

c) *Landscape Actions:* Pollen/ragweed reduction by regular mowing of public areas; promotion of use of low-allergenic tree and ornamental plantings in public spaces (could these also be local policies)?

c) *Policy:* Clean energy initiatives, Complete Streets (reduction in vehicle traffic emissions by promoting non-motorized transportation); altering fleet management (reducing vehicle use, filling gas tanks during Alerts)

Additional Notes:

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3) Outcome: Water-borne diseases

Background:

Waterborne diseases (WBD) include illnesses caused by pathogens in untreated sewage such as giardiasis, cryptosporidiosis, salmonellosis, etc. Exposure can occur by drinking contaminated water or by exposure via swimming. Also included are Legionellosis, caused by inhalation of mists from contaminated water; and toxicosis from ingesting water containing cyanotoxins produced by Harmful Algal Blooms.

Vulnerable People: very young, elderly, low income, with chronic diseases

Vulnerable Places: high private well & septic use; flood plain; old urban areas w. combined and/or inadequate sewer systems; high livestock density nearby

Key partners: Local Health Department Environmental Health Officers and sanitarians; Watershed Councils; Environmental groups; Community Planners

Examples of Potential Interventions:

- a) *Educational:* messaging to promote individual well testing, wellhead protection and septic system maintenance; avoidance of Harmful Algal Blooms; factsheets and handouts; trainings for public, neighborhood leaders, or local officials
- b) *Emergency Response:* Monitoring extreme rain events and flooding, Combined Sewer Overflows, and Harmful Algal Blooms to trigger health alerts; monitoring of cases of WBD reported to local health departments
- c) *Landscape actions:* Building rain gardens and bioswales to reduce runoff; install vegetation buffers around agricultural, recreational (golf courses), or residences to reduce runoff
- d) *Policy:* Requiring regular inspection/testing of private wells and septic systems; connecting residential areas to community drinking water systems and storm sewer systems; codify green infrastructure (zoning ordinance, building codes, health codes, etc.); include green infrastructure requirements run-off reducing strategies in master, recreation, or transportation plans.

Additional Notes: