

Activity 1: Climate Impacts at the Local Level

Climate Health Adaptation Planning in Michigan

Instructions

Work with your table to answer the following questions. In the sidebar, jot down the key themes of your group discussion.

1. What climate impacts have you seen in your community? Has there been an impact to public health?

Flooding Detroit
raw sewage rising
trash pile ups from floods
summer heat 2012
2013 Ice Storm
Power outage ice storm
2014 Polar Vortex winter
Feb 2015 return of the cold
2013 Grand Rapids Flooding
Las Vegas Lake Mead draining
Great Lakes water level was down
Phoenix Heat waves
wildfires out west

2. Has your community had meaningful conversations about climate change? Are these issues difficult to bring up in your community? Why or why not?

Hazard Mitigation Plan
got citizens to realize impacts
PDA in Detroit for floods
PDA in Grand Rapids for floods



Your Key Themes:



Flooding in the Grand River (below), 2013.



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Flooding - Power Plant Infrastructure
rusts/financ. ✓
2012 Heat
2013 Polar Vortex
Fiscal constraints
Carbon Monoxide
Mold
Local impacts
Floods Bottom up
Emergency relief
Urban heat island effect
not wanting to go outside

2. Has your community had meaningful conversations about climate change? Are these issues difficult to bring up in your community? Why or why not?

vector Diseases
tick Lyme Disease
Malaria



Your Key Themes:

- Infrastructure challenges
- Poor follow up to crisis insufficient Deke
- Insurance for families in crisis
- Crisis Response Team warning system & strategies
- Urban effect cause for special task force regarding more populations



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Minimal impacts due to rising water levels and temperature. Sewer systems are impacted as are the agricultural community. Lower income communities cannot afford a new septic system.

Dense residential communities have flooding issues and need a new drainage systems.

2. Has your community had meaningful conversations about climate change? Are these issues difficult to bring up in your community? Why or why not?

Difficult.
Lack of understanding about the topic and relating it to climate change.

It comes up in conversation and people are starting to better understand the effects of climate change.

Stay away from coined phrases.

Small committees do have these conversations.



Your Key Themes:

- ↳ Rising Water Levels
 - Flooding
 - Sewer Infrastructure
- ↳ Hotter Temps
- ↳ Resources
 - Funding



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Freeze-thaw on infrastructure

- drought
- extreme heat waves

wet basements in particular neighborhood

Andrea

concerns over who to blame

had 3 100-year storms in 50-years - climate change much more believable

new engineering work

2. Has your community had meaningful conversations about climate change? Are these issues difficult to bring up in your community? Why or why not?

walkable communities too much detail can be overwhelming

tie it back to economy and jobs

place-making as a good selling point

community organizing to coordinate new financing ask commissioners / reassessments mechanisms to fund the adaptation!

gta and transportation planning

gap between health and local communities

getting data



Your Key Themes:

• Transportation is mostly mitigation focused

• Transportation working on big parking

Defend the great lakes ^{LOTS of rainwater}

Remove giant parking requirements

The word is polarizing actions of no-regret depending on your audience

"my view point has been acknowledged."

Flooding in the Grand River (below), 2013.



Climate Health Adaptation Planning in Michigan

Climate change will likely impact all corners of the globe. However, each community and population within that community may experience these impacts differently. Impacts of climate change vary based on time of year, relative geography, resilience of the community, public infrastructure, demographics, and emergency response measures in place. Some of these factors cannot be changed, however, many of them can.

The **GOAL** of this exercise is to develop solutions to a series of potential climate future scenarios, which include (a) an Extreme Heat Scenario, (b) a Heavy Rain and Flooding Scenario, (c) a Drought and Wildfire Scenario, and (d) a Winter Storm Scenario. As a group, please discuss short-term and long-term resilience solutions as they relate to your scenario.

Discussion Questions

1.) Identify short-term concerns and solutions. Please consider the following:

1a) What are the most immediate needs to address?

- What are the primary public health concerns?
- Who are the most vulnerable populations?
- Is there critical infrastructure at risk?

power outage
 increased hospitalization
 most vulnerable populations:
 homeless, elderly, children,
 pets, ppl who work outside
 ppl will sit in Air conditioned cars
 hospitals will be overwhelmed

1b) Are there overlapping areas of responsibility? How can resources, personnel, and communications be maximized to avoid duplication of services and maximize their effectiveness?

Utilizing more water
 shortage on gas
 know your audiences

2. Identify strategies for increasing resilience and long-term recovery. Please consider the following:

2a) What key infrastructure investments are necessary to reduce vulnerabilities?

Sewers
 reduced added pavement
 power wires
 add more greenspaces

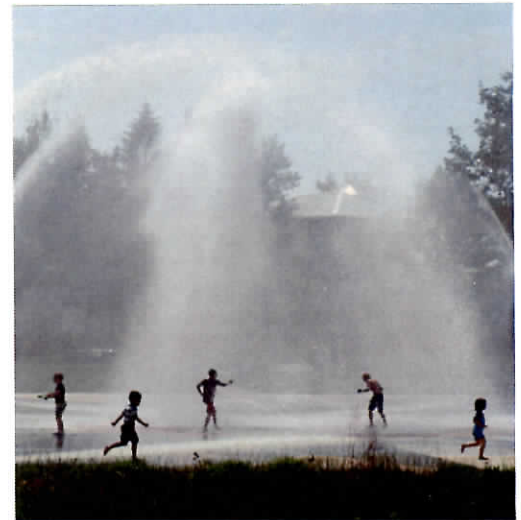
2b) What community initiatives are already addressing these types of issues?

- How can these efforts be expanded?
- Who else should be included?

cooling centers

2c) Are there opportunities for new efforts? Consider a range of options, such as natural resources, economic impacts, health, energy, and infrastructure opportunities.

2d) How can our hazard mitigation planning and land use planning be better integrated?



3. Report Out!

Select one team member to:

- Read your group's scenario.
- Quickly summarize key strategies for increasing resilience and long-term recovery.
- List the top 3-5 projects based on your group's prioritization.



Activity 2: Using Scenarios to Develop Solutions

Climate Health Adaptation Planning in Michigan

extreme heat

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1b) Are there overlapping areas of responsibility? How can resources, personnel, and communications be maximized to avoid duplication of services and maximize their effectiveness?

*water lines
identifying other tapping*

2. Identify strategies for increasing resilience and long-term recovery. Please consider the following:

2a) What key infrastructure investments are necessary to reduce vulnerabilities?

*• water system
• green space / splash pad*

2b) What community initiatives are already addressing these types of issues?

- How can these efforts be expanded?
- Who else should be included?

community garden

2c) Are there opportunities for new efforts? Consider a range of options, such as natural resources, economic impacts, health, energy, and infrastructure opportunities.

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Discussion Questions

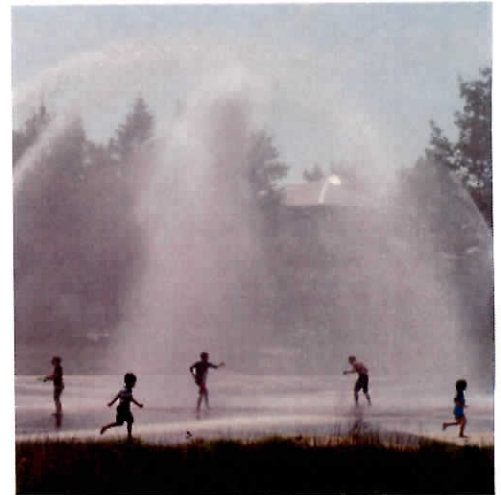
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1a) What are the most immediate needs to address?

- What are the primary public health concerns?
- Who are the most vulnerable populations?
- Is there critical infrastructure at risk?

*• Infrastructure / Power
• Heat stroke - increased health
• Elderly, children, Homeless, Cubicle
• Pets
• Violence
• Fine & water / logs*

Highway wave diving



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1b) Are there overlapping areas of responsibility? How can resources, personnel, and communications be maximized to avoid duplication of services and maximize their effectiveness?

- wildfire risk - needing more water
- a/c
- gas shortage
- duplication isn't bad
- amish population - equity concern

2. Identify strategies for increasing resilience and long-term recovery. Please consider the following:

2a) What key infrastructure investments are necessary to reduce vulnerabilities?

- improving power, power grid, smart plant more trees, recreation
- green spaces
- blue spaces & water quality

2b) What community initiatives are already addressing these types of issues?

- How can these efforts be expanded?
- Who else should be included?

2c) Are there opportunities for new efforts? Consider a range of options, such as natural resources, economic impacts, health, energy, and infrastructure opportunities.

2d) How can our hazard mitigation planning and land use planning be better integrated?



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Discussion Questions

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1a) What are the most immediate needs to address?

- What are the primary public health concerns?
- Who are the most vulnerable populations?
- Is there critical infrastructure at risk?

Blank lines for writing answers to discussion questions.



many strategies needed besides cooling centers

Activity 2: Using Scenarios to Develop Solutions

Climate Health Adaptation Planning in Michigan

Flooding

Climate change will likely impact all corners of the globe. However, each community and population within that community may experience these impacts differently. Impacts of climate change vary based on time of year, relative geography, resilience of the community, public infrastructure, demographics, and emergency response measures in place. Some of these factors cannot be changed, however, many of them can.

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Discussion Questions

1.) Identify short-term concerns and solutions. Please consider the following:

1a) What are the most immediate needs to address?

- What are the primary public health concerns?
- Who are the most vulnerable populations?
- Is there critical infrastructure at risk?

↳ Clean drinking water/food
↳ Mold/Disease
↳ Limited Access

↳ Low-Income Areas
↳ Senior Communities
↳ Physical Disabilities

↳ Transportation
↳ Public Facilities
↳ Hospitals, etc.

1b) Are there overlapping areas of responsibility? How can resources, personnel, and communications be maximized to avoid duplication of services and maximize their effectiveness?

Lack of communication and coordination. Is there an emergency response plan? Need regional response training

2. Identify strategies for increasing resilience and long-term recovery. Please consider the following:

2a) What key infrastructure investments are necessary to reduce vulnerabilities?

Alternative routes designated

2b) What community initiatives are already addressing these types of issues?

- How can these efforts be expanded?
- Who else should be included?

Emergency management plan shared between multiple counties

2c) Are there opportunities for new efforts? Consider a range of options, such as natural resources, economic impacts, health, energy, and infrastructure opportunities.

Spread the word!
Information on websites and newspapers.

2d) How can our hazard mitigation planning and land use planning be better integrated?

Planning Commission



3. Report Out!

Select one team member to:

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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.

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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.



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Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

Proposed Adaptation Feedback Activity:

heat

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)*

community meetings/organizations have a presentation coming from a community member. media, schools, local businesses, food distribution centers, emergency providers and clinics

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)*

Adding greenspace would help the landscape changes
community organizations can be educational interventions.

3. *Are there partners willing and able to support the intervention(s)? Please list.*

community organizations, church, schools, local organizations

4. *Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)*

Have buses drive to the cooling centers.

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Climate Health Adaptation Planning in Michigan

Heat-
related

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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)*

• Educational outreach - non-otbe / community meetings

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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Climate Health Adaptation Planning in Michigan

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:

Primary

Community Partnership Meeting (Volunteer Recruitment)
Brown out
parts

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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:

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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:

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Climate Health Adaptation Planning in Michigan

Respiratory

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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)*

Yes - Power plant exceeds admissions for sulphur dioxide - BWL is in process of replacing plant.
Reducing emissions from vehicles - no ability to walk in community
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)*

 - INCREASE public transportation, buses
 - car pooling
 - TAXI (Uber)
 - Educate people about things they can do personally - ie combining trips in car.
 - Neighborhood organizations
 - Farmers Markets
 - P.T.A. organizations.
 - Smaller trees
 - USE of Natural Fertilizers and bug killers.
3. *Are there partners willing and able to support the intervention(s)? Please list.*

Neighborhood org.
Farmers markets
PTA organizations
4. *Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)*

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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



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Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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)*
 - work with community organizations, churches and schools to help provide education.
 - Local businesses.
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.*

- community organization, churches, schools, local organizations
 - community engaged monitoring
- provide them support training, resources

4. *Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)*

- policy and infrastructure is expensive.
↳ who is going to pay, who is responsible

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

Respiratory

Proposed Adaptation Feedback Activity:

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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)*

- Power plants exceed sulfur dioxide. EPA controlled
~~Some~~ Regulate fertilization - phosphates
Communities. Create a sustainable communities.

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)*

Carpooling, bus system, transportation
systems islands - plant trees list ~~MSU~~
by MSU to help respiratory issues

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.)*

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

Proposed Adaptation Feedback Activity: Respiratory

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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)

- yes! - Transportation + public health

- demand is going up

- unsure - planning commissioner

yes, but no funding to understand more
no assessment funding

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)

→ custom assessment for asthma

- road diets and ~~the~~ transportation changes

- TRAILS + parks and recreation

3. Are there partners willing and able to support the intervention(s)? Please list.

~~trans~~ insurance ← medical experts - hospital systems

- Transportation planners / other agencies

local govt projects
data-driven feedback

4. Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)

- Transparency is an obstacle → ~~trans~~

- ~~comp~~ complete ~~trans~~ - timeframes are an obstacle

community input

people don't agree with health

challenge - public not always engaged

money + resources

come to public sessions

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

RESPIRATORY

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.

invasive; outcompetes many plants

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:

1. Power plant (Sulfides), transportation congestion (pollution), gas station coverings
2. Transit options, less sprawl, urban design/planning, personal planning for efficiency of errands, tree planting, green infrastructure (non-allergen trees), neighborhood gardening, bike + hike paths
3. Transit, neighborhood orgs, utility companies - more renewable energy + methane capture
4. "Room temperature" should vary with the season. Everything should feel warmer in the summer and cooler during winter - thus saving on cooling/heating when people are dressed for such weather already. Ever go shopping in shorts on a hot summer day, only to freeze in the grocery store? What sense does that make? People shouldn't be too cold in summer or too warm in winter!

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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:

Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

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Activity 3: Guidance on the MI-CHAP Adaptation Plan

Climate Health Adaptation Planning in Michigan

Respiratory

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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)*

Yes! There are no resources available for those with respiratory issues.

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)*

Assessments
- Complete streets

3. *Are there partners willing and able to support the intervention(s)? Please list.*

Community partners
Medical facilities

4. *Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)*

Activity 3: Guidance on the MI-CHAP Adaptation Plan

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water borne

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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)

Yes. anyone in the floodplain is vulnerable, particularly poorer neighborhoods with older houses
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)

point of sale inspections, e.coli testing, education on how septic systems work & the impacts
a water event would have any
wetland protection ordinances
green infrastructure requirements
signage for floodplains, wetlands
3. Are there partners willing and able to support the intervention(s)? Please list.

county health department, county drain commissioner, county sheriff, local police/fire
DEQ, FEMA, Developers,
4. Are the selected interventions feasible? (Consider political, resource, mandate, or technical capacity realities.)

~~NO~~ ☺ Only if the elected bodies turned over.
finances are difficult.
The knowledge + details there if your office has the support to do it

Please give us your feedback!

1. Describe your interest in the training:

- Planning Commissioner Community planner Student Local Official
 Public Health official Other (Please Describe): _____

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

Discussion + Alternative Discussion Techniques

4. How could we have made this training more effective?

- Discussion of integrating Master Planning / Hazard Mitigation /
Emergency Mgt Plans - Best Practices

5. How did you hear about this training? Email

Please give us your feedback!

1. Describe your interest in the training:

- Planning Commissioner Community planner Student Local Official
 Public Health official Other (Please Describe): Activist

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

Yes - increased focus, information + finding out what's
happening in climate change on local level

4. How could we have made this training more effective?

liked writing thru activities. enjoyed program -

5. How did you hear about this training? sent by an organization

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- Planning Commissioner Community planner Student Local Official
 Public Health official Other (Please Describe): _____

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

I liked the urban heat island effect and how they should increase the use of greenspace

4. How could we have made this training more effective?

N/A

5. How did you hear about this training?

My coworker

Please give us your feedback!

1. Describe your interest in the training:

Planning Commissioner

Community planner

Student

Local Official

Public Health official

Other (Please Describe): _____

2. Did you gain any new information or ideas during the session?

Yes No

3. What information was most useful to you?

- Tips for talking about Climate Change
- Connection between Public Health & City Planning
- Health Impact Assessment

4. How could we have made this training more effective?

- Wanted to learn more about strategies & implementation on state & local levels
- More on Environmental Justice to communities affected by

5. How did you hear about this training? Magazine

1. Describe your interest in the training:

Planning Commissioner

Community planner

Student

Local Official

Public Health official

Other (Please Describe): _____

2. Did you gain any new information or ideas during the session?

Yes

No

3. What information was most useful to you?

The activities and data sources were great! Material that can be shared is always useful.

4. How could we have made this training more effective?

Have more interactive activities; perhaps a computer simulation that gives a visual.

5. How did you hear about this training? Co-worker

Please give us your feedback!

1. Describe your interest in the training:

Planning Commissioner

Community planner

Student

Local Official

Public Health official

Other (Please Describe): _____

2. Did you gain any new information or ideas during the session?

Yes No

3. What information was most useful to you?

*Info about how/where to get specific resources
Clarity in showing the overall climate change theme and how different agencies can and should work together*

4. How could we have made this training more effective?

I'd be interested in a more in-depth training on specifics of climate change and hazard mitigation/adaptation. I think this topic could be a good choice for further presentations at other conferences - for example MML, MTA, MAP, local Govt. Managers, stormwater groups, etc.

5. How did you hear about this training? *email*

Climate Health Adaptation Planning in Michigan
Training for Local Planners and Decision Makers



Climate Health
Adaptation Planning
in Michigan

Please give us your feedback!

1. Describe your interest in the training:

Planning Commissioner

Community planner

Student

Local Official

Public Health official

Other (Please Describe): _____

2. Did you gain any new information or ideas during the session?

Yes No

3. What information was most useful to you?

The local examples, the links to data, & the activities were all very helpful.

4. How could we have made this training more effective?

no, but I would love a video of this training to play for
fellow staff & officials back home.

5. How did you hear about this training?

Michigan Association of Planning.

Climate Health Adaptation Planning in Michigan

Training for Local Planners and Decision Makers



Climate Health
Adaptation Planning
in Michigan

P.S. Please avoid
water bottles at your
events. Pitchers of local ice water are much more
sustainable.

Please give us your feedback!

1. Describe your interest in the training:

- Planning Commissioner Community planner Student Local Official
 Public Health official Other (Please Describe): _____

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

- Correlation between natural disasters + public health issues.
- Opportunity to reflect on how our municipality is doing + how we can do better.

4. How could we have made this training more effective?

- It was great. - Thanks!

5. How did you hear about this training? Forwarded e-mail from a co-worker.

Please give us your feedback!

1. Describe your interest in the training:

Planning Commissioner

Community planner

Student

Local Official

Public Health official

Other (Please Describe): Retired

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

Pollen problems - attention to ^{RAGWEED} ~~ragweed~~ and
handscaping my to help air quality

4. How could we have made this training more effective?

good session

5. How did you hear about this training? e-mail

Climate Health Adaptation Planning in Michigan

Training for Local Planners and Decision Makers



Climate Health
Adaptation Planning
in Michigan

1. Describe your interest in the training:

- Planning Commissioner Community planner Student Local Official
 Public Health official Other (Please Describe): State hazard mitigation planning specialist

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

Certain slides had a lot of info that was really good (too much to be presented in the time allotted, but great references for data use).

4. How could we have made this training more effective?

For me: It's okay to spend more time on the slides, and less on the activities.

5. How did you hear about this training? Email notice and announcements at meetings, web site

Please give us your feedback!

1. Describe your interest in the training:

Planning Commissioner

Community planner

Student

Local Official

Public Health official

Other (Please Describe): Developer

2. Did you gain any new information or ideas during the session?

Yes No

3. What information was most useful to you?

All the information was useful. Grants

4. How could we have made this training more effective?

Go more in detail about options of better types of infrastructures

5. How did you hear about this training?

Website

1. Describe your interest in the training:

- Planning Commissioner
- Community planner
- Student
- Local Official
- Public Health official
- Other (Please Describe): Community organization

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

Impacts of Climate on health, difference between mitigation and adaptation.

4. How could we have made this training more effective?

more health organizations - clinics, hospital systems } attendance
more community organizations

5. How did you hear about this training? CUBES - wayne state

Please give us your feedback!

1. Describe your interest in the training:

- Planning Commissioner Community planner Student Local Official
 Public Health official Other (Please Describe): _____

2. Did you gain any new information or ideas during the session? Yes No

3. What information was most useful to you?

I was happy to learn about how climate change can directly impact myself & my community. I also am looking forward to taking this information back to my community.

4. How could we have made this training more effective?

I really liked hearing about the data and the communities that are doing a good job. A larger focus on this would be beneficial.

5. How did you hear about this training? My health officer sent it to me through an email.

Climate Health Adaptation Planning in Michigan
Training for Local Planners and Decision Makers



Climate Health
Adaptation Planning
in Michigan

Please give us your feedback!

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Other (Please Describe): _____

2. Did you gain any new information or ideas during the session?

Yes No

3. What information was most useful to you?

The need to reconnect planning and public health at many levels.

4. How could we have made this training more effective?

The group activities were very helpful, keep them as a major part of the program.

5. How did you hear about this training?

Email from Tri-County Regional Planning Commission

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