EWR Low Income Workgroup

December 5th, 2019

MPSC
Michigan Public Service Commission

Agenda

9:00 – 9:15	Welcome and Introductions Brad Banks, EWR Section, MPSC
9:15 – 9:30	Health and Safety Statistics, CAA Study Maddy Kamalay, MDHHS, Bureau of Community Action and Economic Opportunity
9:30 – 10:15	Healthy Homes Program Jennifer Shutts, MDHHS
10:15 – 10:30	Break
10:30 – 11:15	Michigan Climate and Health Adaptation Program Gillian Capper, MDHHS Aaron Ferguson, MDHHS
11:15 – 11:55	Habitat for Humanity of Michigan Priority Home Repair and Health and Safety Issues Capturing NEB's Jessica Halstead, Habitat for Humanity of Michigan Breakout Discussion: How to capture NEB's What questions to ask
11:55 – 12:00	Open Floor, Questions Closing and Adjourn

Health and Safety Statistics, CAA Study

BUREAU
Community Action and Economic Opportunity

BCAEO Weatherization Deferrals Summary

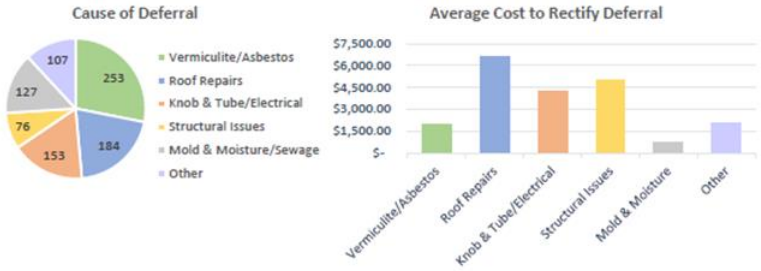
The Weatherization Assistance Program reduces energy costs for low-income households by increasing the energy efficiency of their homes, while ensuring their health and safety.

The Bureau of Community Action and Economic Opportunity (BCAEO) administered a survey to the Community Action Agencies who perform weatherization services to identify the quantity and cause of applicant deferrals. Agencies identified the top reasons potential weatherization clients' applications were being deferred and estimated an approximate cost to address the deferral cause. If a deferral is rectified, weatherization measures can be performed for these clients.

Agencies cited the following reasons as the top causes of deferrals:

- Presence of Vermiculite / Asbestos
- Roof Repairs or Replacements needed
- Knob & Tube Wiring / Electrical issues
- Mold & Moisture / Sewage
- Structural / Foundation issues

With all funding sources, the BCAEO anticipates expending $23,480,895 weatherizing 2,465 homes this year. Agencies reported deferring 836 applicants annually and believe that with additional funding, they would be able to correct the issues with at least 469 or 56% of the homes being deferred. BCAEO estimates that an additional $3-$3.5 million, an additional 13-15% of the budget, would meet the funding required.

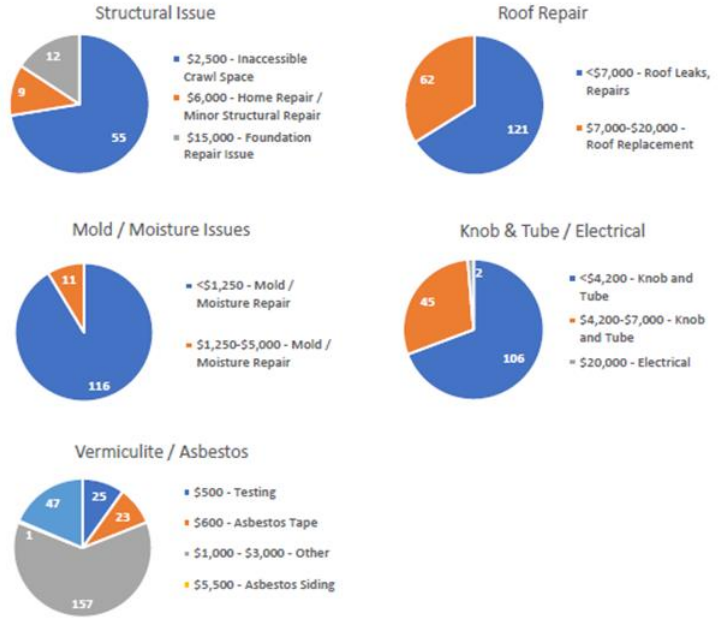


Weatherized homes are expected to save an average of $283 annually on utility bills. In addition to the monetary savings for the low-income client, the BCAEO anticipates the following benefits:

- Weatherization measures are performed, addressing issues of low-quality housing stock
- Non-energy benefits including improving health outcomes for clients
- Agencies would save on intake costs by converting a larger number of applications to completed projects
- Deferred clients tend to be the most vulnerable within the low-income segment; these individuals would now be eligible for service
- Anticipated utility savings after most deferral causes are rectified are expected to exceed the national average

Bureau of Community Action and Economic Opportunity
Michigan Department of Health and Human Services
235 SOUTH GRAND AVENUE PO BOX 30037 LANSING, MICHIGAN 48909
www.michigan.gov/mdhhs 517-241-4871

The following charts break down the deferral categories in further detail. Please note, agencies identified the largest quantity of deferrals in each category can be addressed with the lowest estimated costs. Homes may have multiple causes for deferral. Based on estimates provided, 85% of the deferral issues could be corrected with $5,000 or less.



BCAEO has sought partnerships with groups who provide associated services in attempt to reduce deferrals. These partners have identified similar causes of deferrals in their programs including:

Lead Safe Home Program

- Roof Integrity- Dollars needed for full roof replacement
- Missing or dysfunctional furnace/no heat
- Missing electricity/water/utilities
- Major Foundation Problems

Energy Waste Reduction – Low-Income work group

- Roof Repair and Replacement
- Knob and Tube / Electrical

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MDHHS-Healthy Homes Section

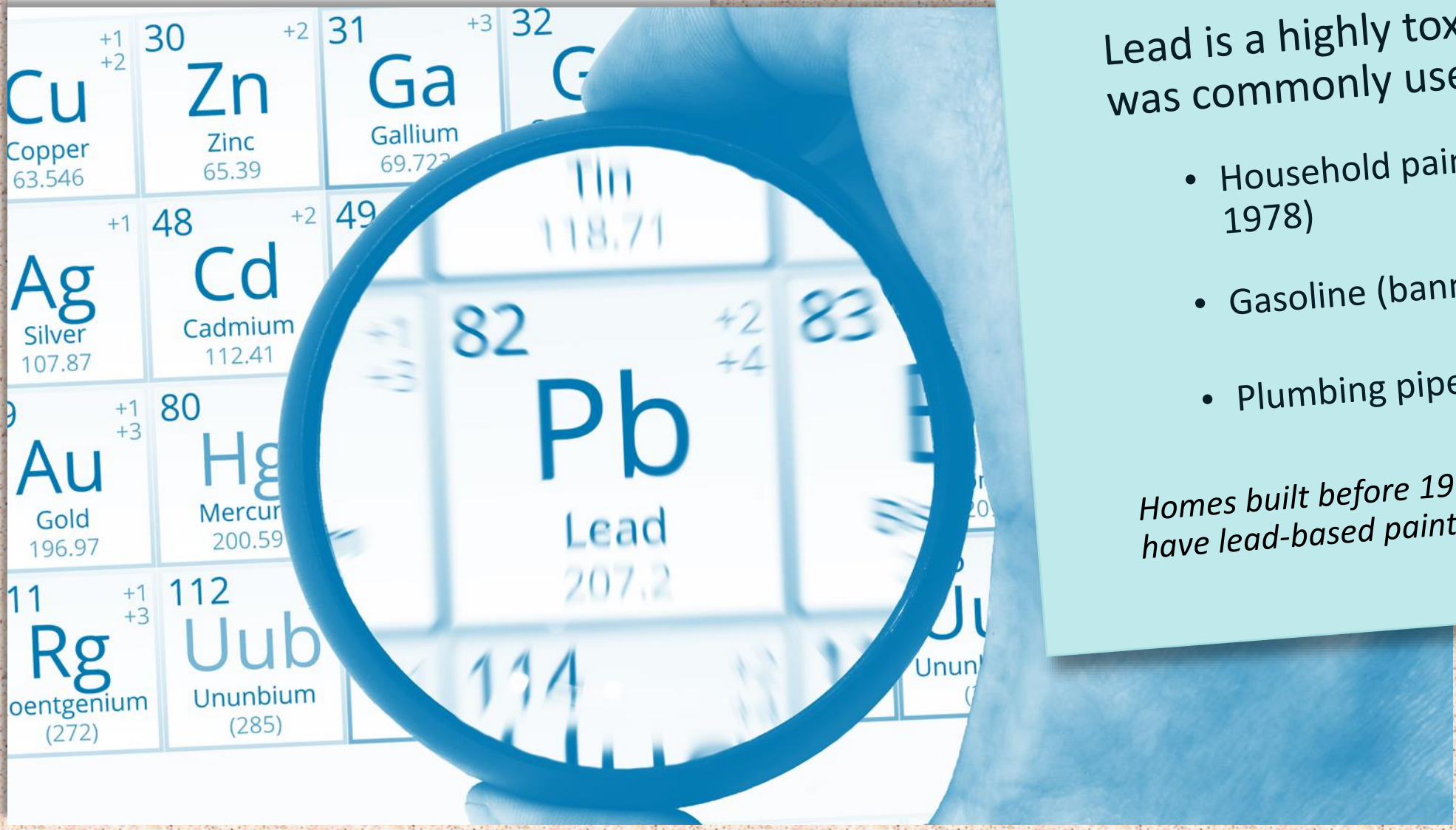
Jennifer Shutts, Certification and Enforcement Unit Manager
Courtney Wisinski, Community Development Unit Manager

Overview

- Creating Lead-Safe Environments
- Healthy Homes Section
- Future Opportunities

Creating lead-safe environments is the goal

What is lead?



Lead is a highly toxic metal. It was commonly used in:

- Household paint (banned in 1978)
- Gasoline (banned in 1995)
- Plumbing pipes and fixtures

Homes built before 1978 are more likely to have lead-based paint.

Why should I be concerned?

Too much lead can cause problems with:

- Learning
- Hearing
- Behavior
- Growth
- Speech
- Development of nervous system

Why should I be concerned?

Most people who have lead in their blood do not look or act sick. However, there is no safe level of lead in the blood.

How do we know?

Find out if you have been exposed to lead by:

Testing the house for lead

Testing the blood for lead

How does this relate to your work?

How does this relate to your work?

The work can expose others to lead

Construction activities disturb lead-based paint (LBP).

Construction activities disturb lead-based paint (LBP).

…creating LBP hazards

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…creating LBP hazards

…leaving hazards behind for families

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…creating LBP hazards

…leaving hazards behind for families

…exposing workers to lead

Construction activities disturb lead-based paint (LBP).

…creating LBP hazards

…leaving hazards behind for families

…exposing workers to lead

…who take it home to their families…

Lead Tips

For lead workers

Tips to protect yourself and others from lead.

Wash hands before eating, drinking or touching your face

Change clothes before entering home

Wear protective equipment on the job, including a respirator

Wash work clothes separately from other laundry. Run a rinse cycle after removing clothes from washer.

Lead Tips

For everyone

Tips to protect yourself and others from lead.

- Take shoes off before entering home to avoid tracking lead containing soil indoors
- Keep paint in good repair; fix chipping, cracking, peeling paint right away
- Grow fruits and vegetables in raised beds
- Vacuum with a High Efficiency Particulate Air (HEPA) filtered vacuum

Lead Tips

For everyone

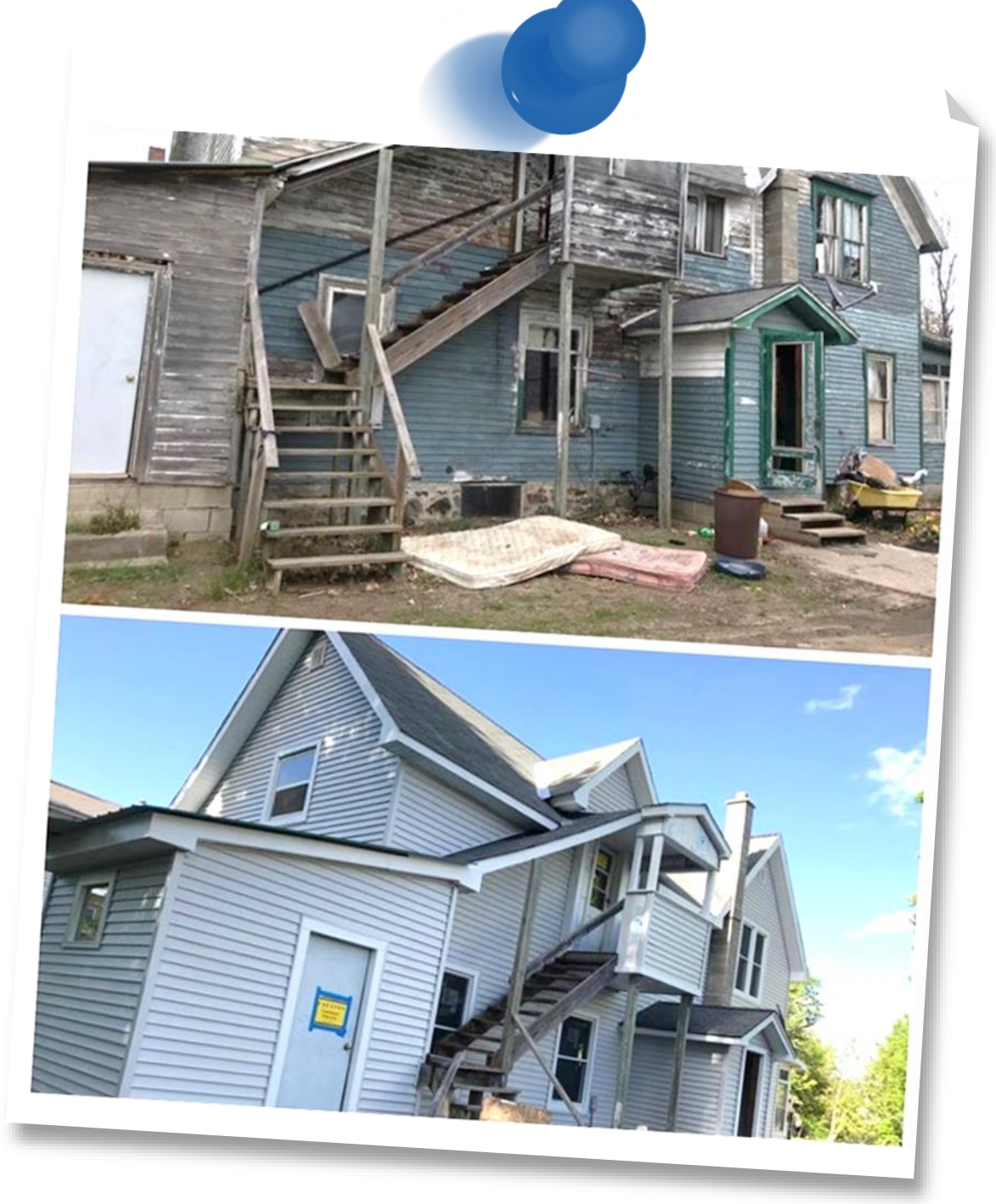
Tips to protect yourself and others from lead.

Take sho… …aint in good entering … fix chipping, avoid tra… …g, peeling paint containin… …way

Hire a lead professional to test your home for lead

Grow frui… … with a High vegetable… …cy Particulate Air beds … …iltered vacuum

Healthy Homes Section



Healthy Homes

Compliance	Certification and Enforcement Unit
Response	Lead Safe Home Unit
Expansion	Community Development Unit

Certification and Enforcement

Certification Overview

Promote lead safe work practices

Disciplines for certification

- Supervisor
- Worker
- Firm
- Inspector/Risk Assessor

Submit application, training certificate and payment

Pass the State examination

Certification card will be mailed within approximately 2 weeks

Certification Prerequisites

Worker and Supervisors perform the lead hazard control work

Worker and Supervisors perform the lead hazard control work

Workers

Worker and Supervisors perform the lead hazard control work

Workers

no education or experience needed

Worker and Supervisors perform the lead hazard control work

Supervisors

Workers

no education or experience needed

Worker and Supervisors perform the lead hazard control work

Supervisors

One-year experience as a worker

Workers

no education or experience needed

Worker and Supervisors perform the lead hazard control work

Supervisors

One-year experience as a worker

Workers

no education or experience needed

Or two years experience in related construction field

Certification Prerequisites Cont.

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Inspectors

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Inspectors

Need high school diploma or equivalent

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Risk Assessors

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Risk Assessors

Bachelors degree and one year experience

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Risk Assessors

Bachelors degree an one year experience

Associates degree and two years experience


Lead Inspectors and Risk Assessors Provide the Environmental Investigations
H.S. diploma and three years experience
Risk Assessors
Bachelors degree an one year experience
Associates degree and two years experience

Lead Inspectors and Risk Assessors Provide the Environmental Investigations

Risk Assessors

Bachelors degree an one year experience

Associates degree and two years experience

H.S. diploma and three years experience

Or certified Industrial Hygienist, Professional Engineer or other

Training and Scholarships

Provide funding to increase firms

Increase certified EBL Investigators throughout local health departments

Scholarship Process

- Complete application w/ work history
- Submit application and payment
- Wait for approval letter
- Register with training provider

Regulations

- Michigan Lead Abatement Act
- Michigan Lead Abatement Rules
- Landlord Penalty Law

Regulations

Has authority to enter lead hazard control sites unannounced.

If deficiencies are identified, the following could happen:

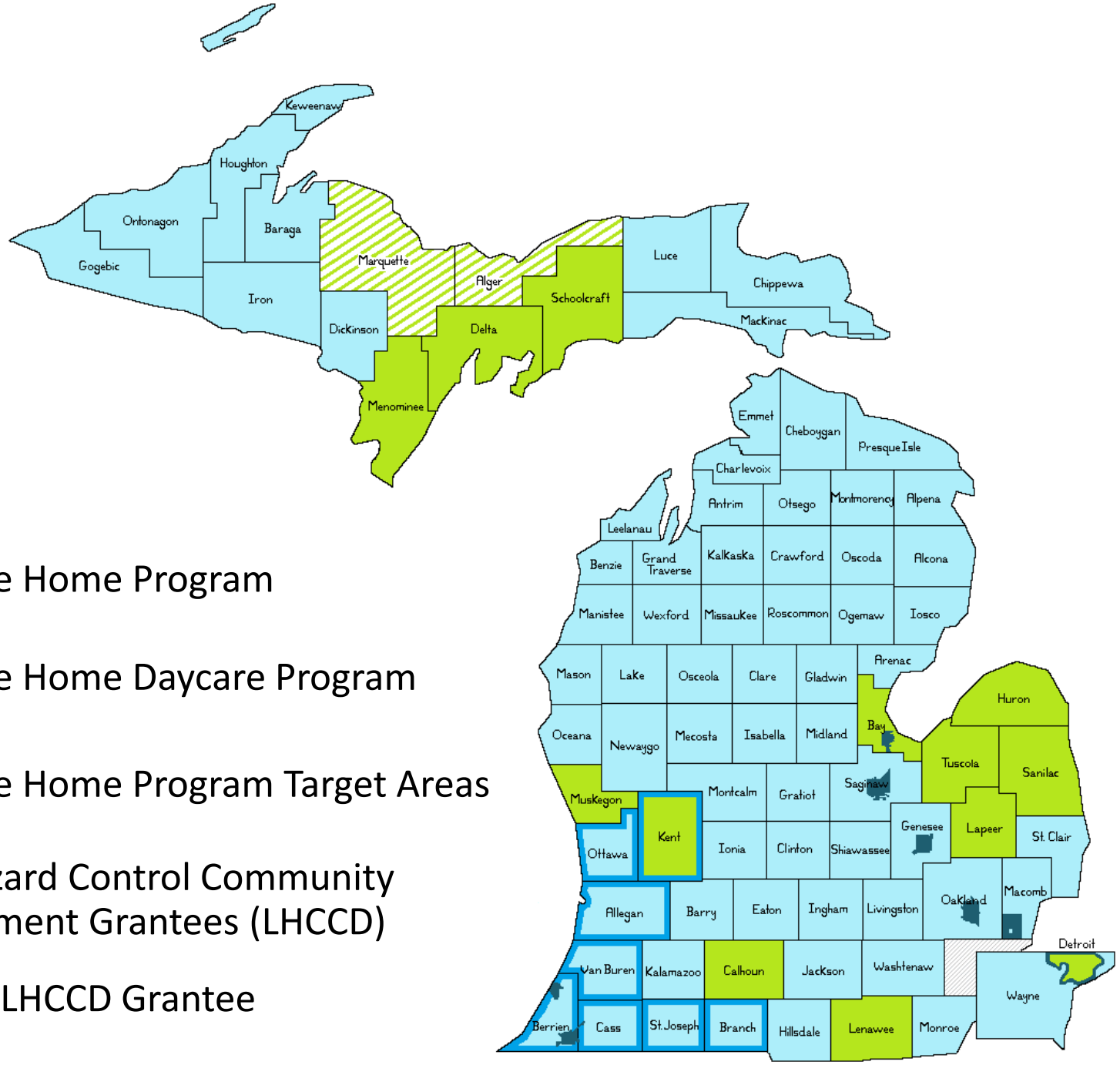
- Advisory letter issued
- Notice of non-compliance
- Citation

If necessary, professionals can request:

- Informal compliance conference
- Formal administrative appeal

Lead Hazard Control Programs

- Lead Safe Home Program
- Lead Safe Home Daycare Program
- Lead Safe Home Program Target Areas
- Lead Hazard Control Community Development Grantees (LHCCD)
- Pending LHCCD Grantee



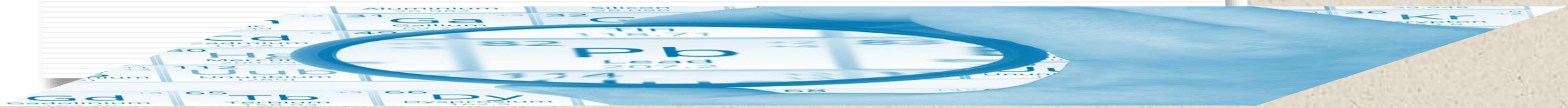
Lead Safe Home Program

Lead Safe Home Program

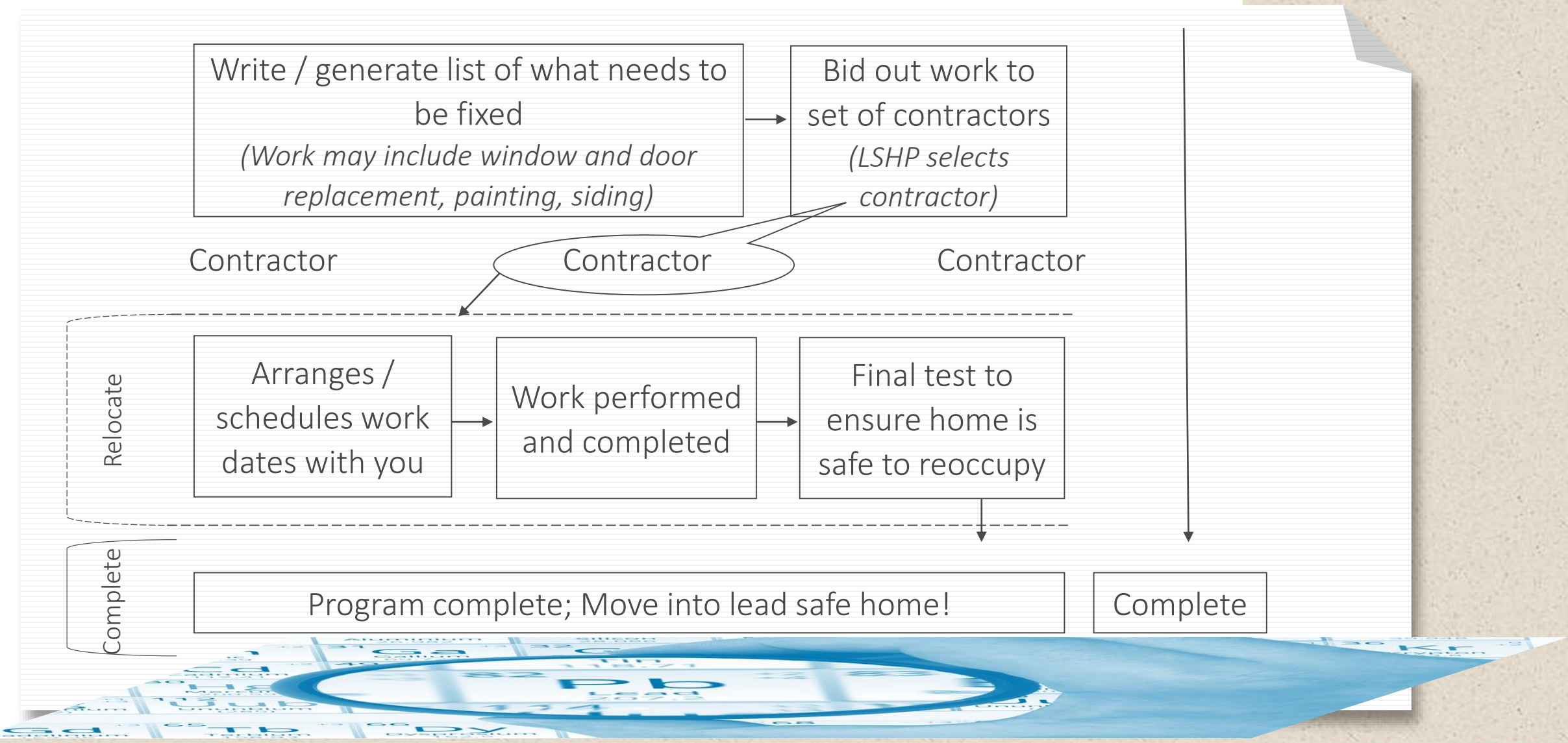
Make	Make homes healthier and safer
Identify	Identify lead-based paint and lead hazards in residential homes and child occupied facilities
Have	Have funding available to abate lead hazards found in the home

Intake to Abatement

- ✓ New focus on Medicaid enrolled residents
- ✓ All work is based on environmental investigation
- ✓ Regional Field Consultants provide:
  - ✓ Work specification development
  - ✓ Contractor pre-bid walkthroughs
  - ✓ Contractor oversight
  - ✓ Clearance



Workflow


Write / generate list of what needs to be fixed
(Work may include window and door replacement, painting, siding)
Bid out work to set of contractors
(LSHP selects contractor)
Contractor
Contractor
Contractor
Relocate
Arranges / schedules work dates with you
Work performed and completed
Final test to ensure home is safe to reoccupy
Complete
Program complete; Move into lead safe home!
Complete

Before and after

Healthy Homes Supplemental

HUD funded projects ONLY

Up to $5,000 in non-lead related repairs, including:

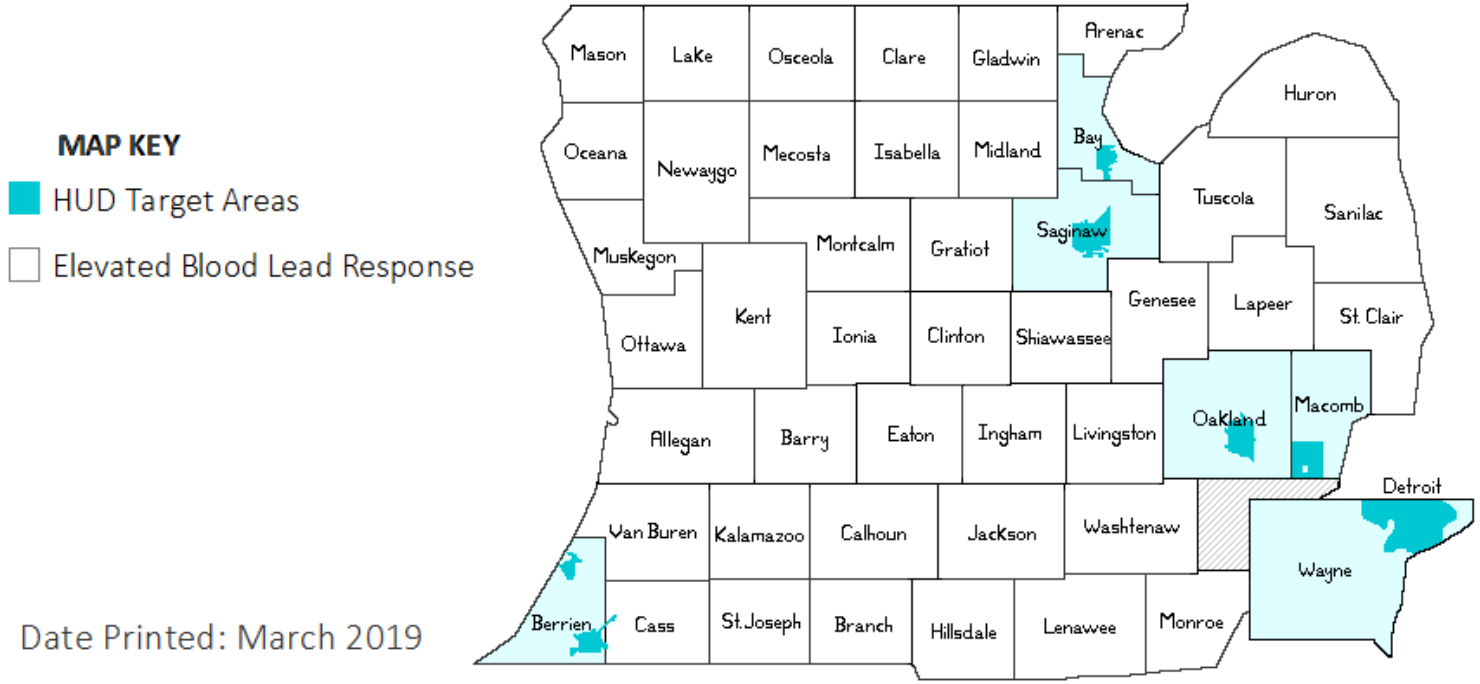
- ✓ Asbestos testing and removal
- ✓ Roof repair
- ✓ Electrical Repair
- ✓ Furnace maintenance/replacement
- ✓ Water intrusion

We can address other housing needs using HHS

Healthy Homes Supplemental

Only use HUD funds in target areas

Healthy Homes Section-Lead Safe Home Program's U.S. Department of Housing and Urban Development (HUD) Target Areas



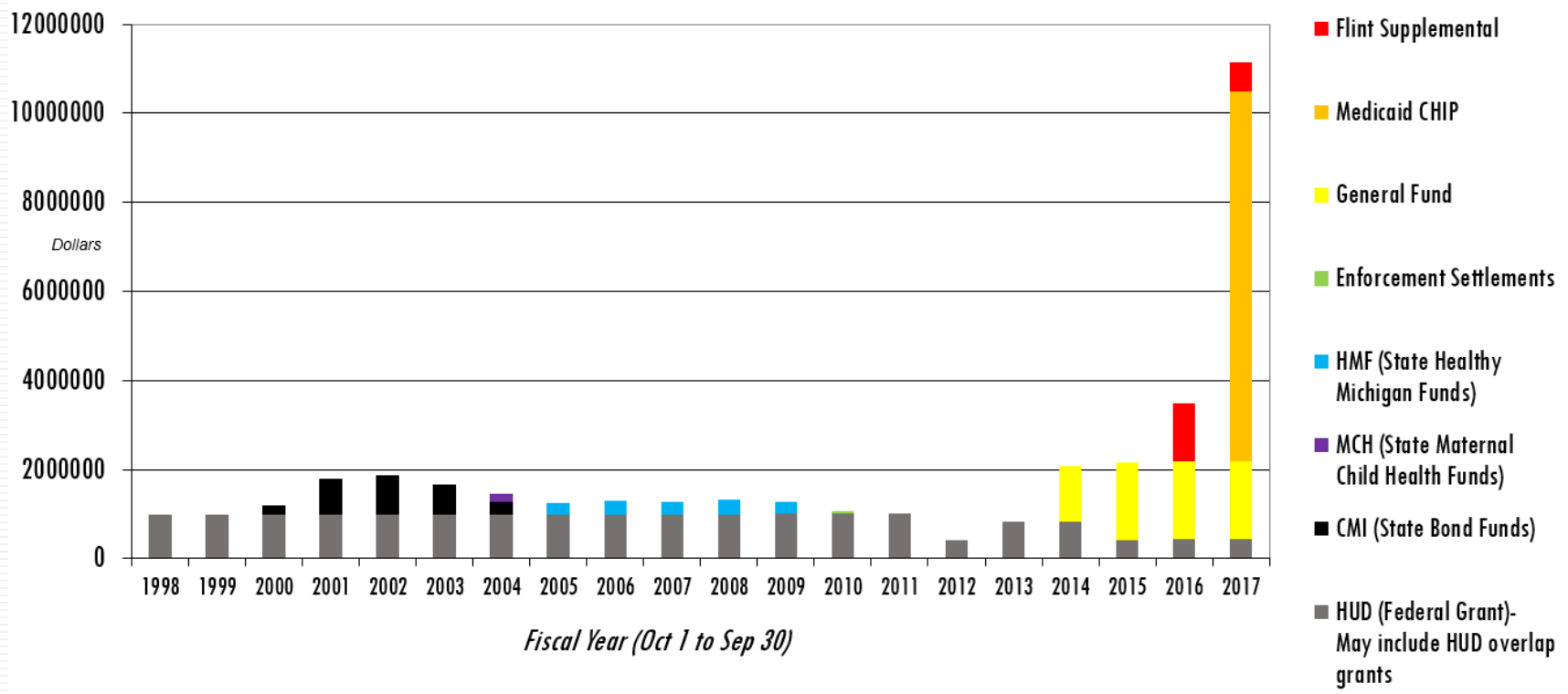
Date Printed: March 2019

Community Development Unit

Provides	Provides lead hazard control community development grant funds
Offers	Offers technical assistance and oversight of lead hazard control services to local communities
Expands	Expands lead hazard control in Michigan through community development model

Community Development Unit

How? Medicaid funding

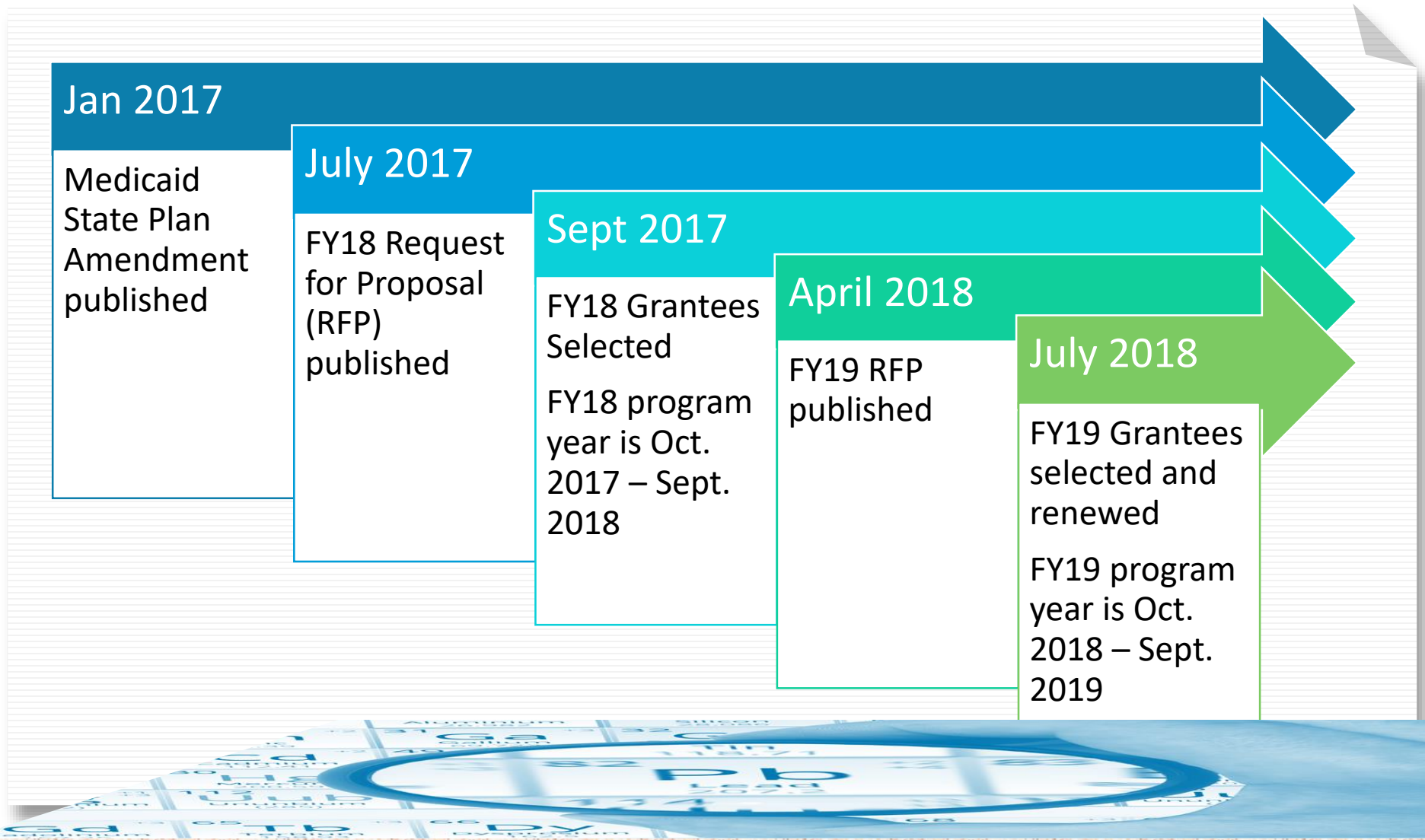


Primary Prevention

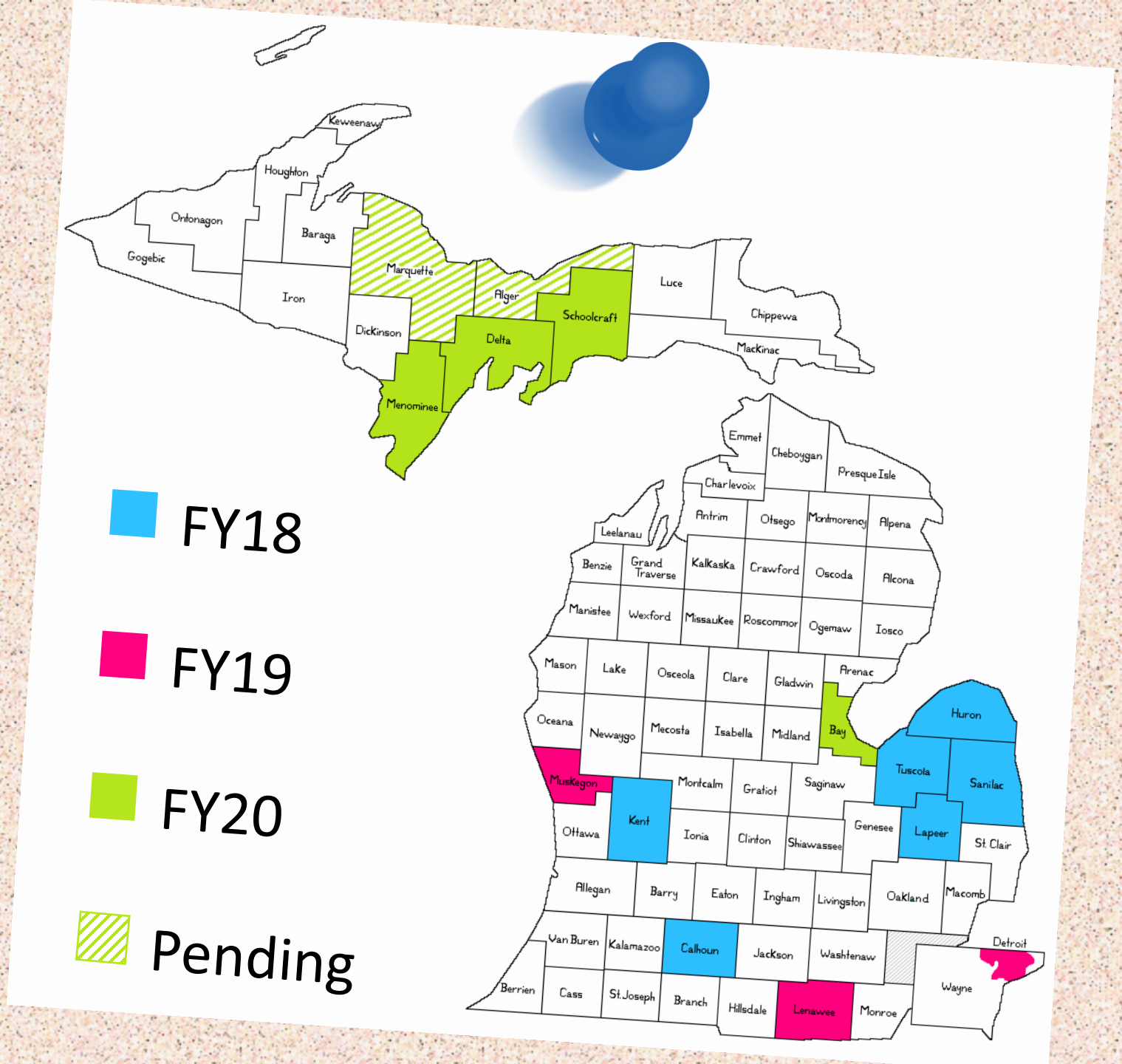
Medicaid provides an innovative investment to address lead under a primary prevention model

LHCCD Timeline

Lead Hazard Control Community Development (LHCCD)

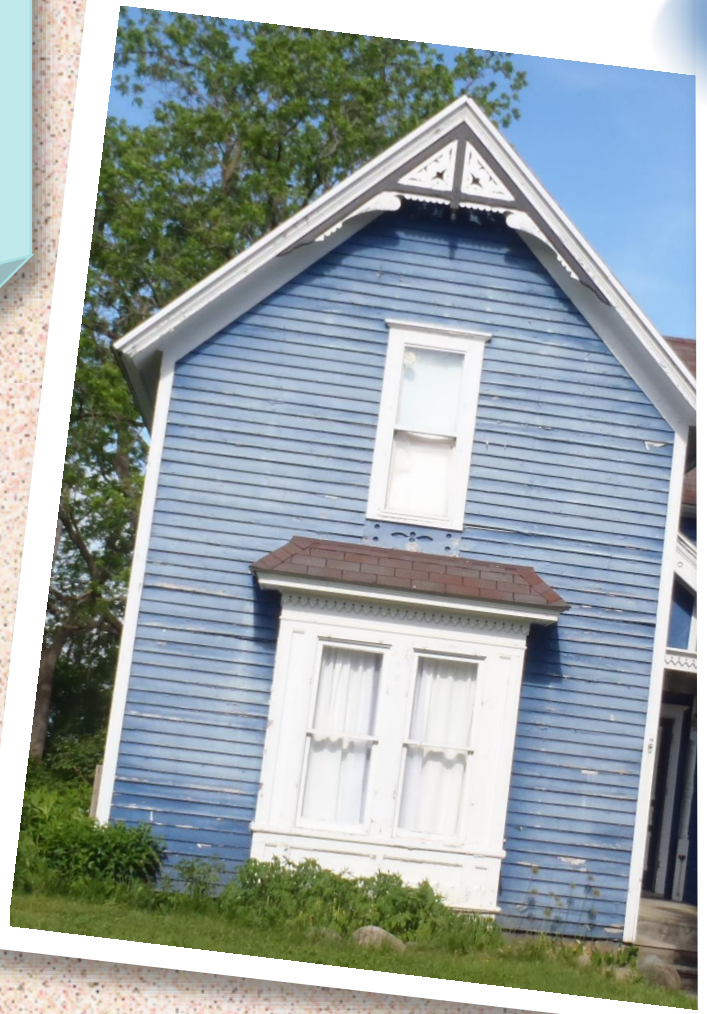


Lead Hazard Control Community Development (LHCCD) Grantees



Human Development Commission

Before and after



Calhoun County Community Action Agency

Before and after

Community Action Agency Models

Lead Hazard Control Community Development (LHCCD) Grantees

Internal Contractors

External Contractors

Community Action Agency Models

Lead Hazard Control Community Development (LHCCD) Grantees

Internal Contractors

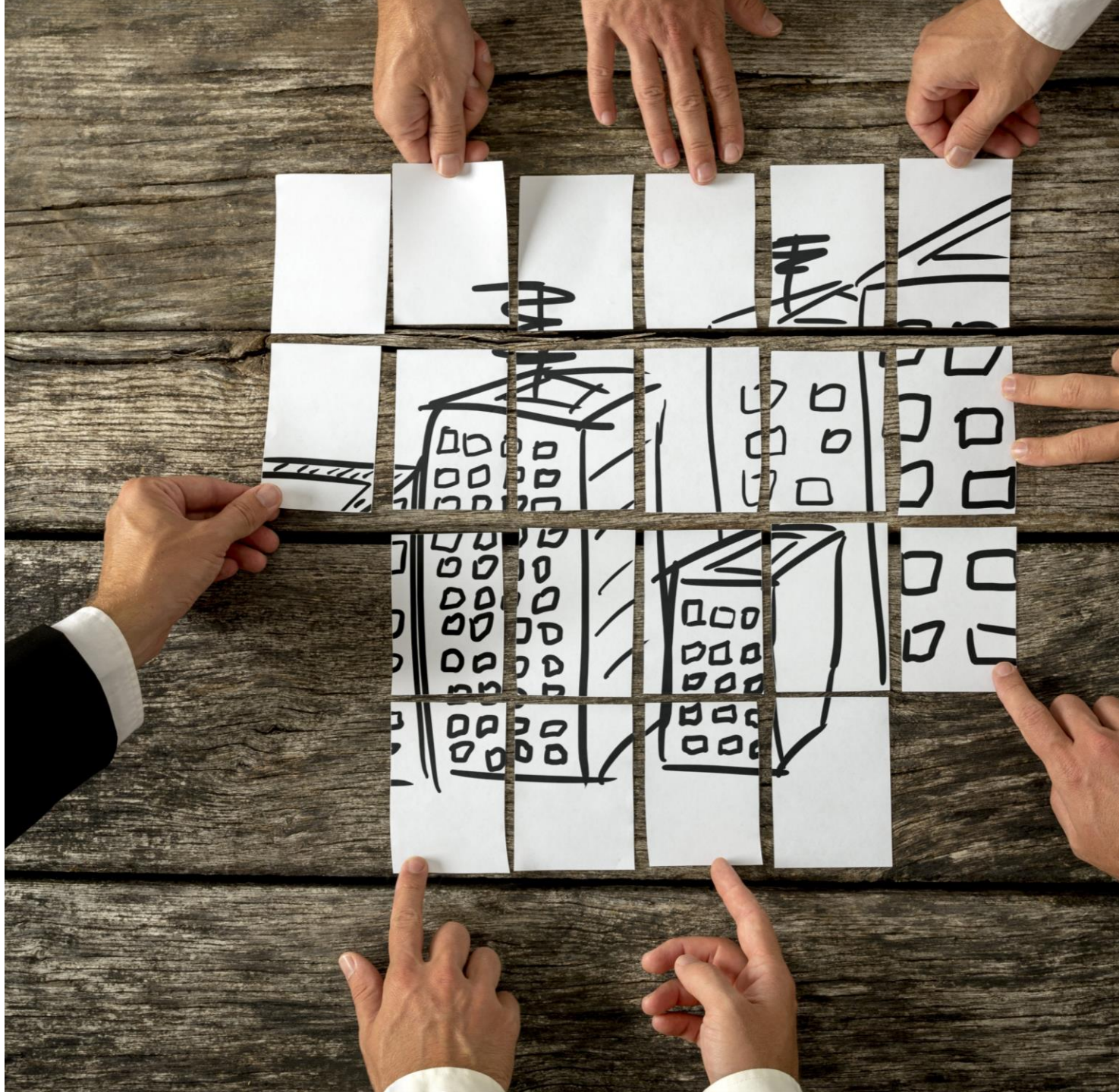
- Builds capacity
- Regional
- Staff lead certified

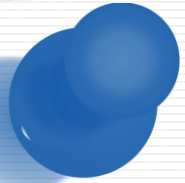
External Contractors

- Multiple projects at one time
- Less start-up time
- Salaries

Future opportunities to collaborate between programs

Current gaps?





Questions?

Michigan Climate and Health Adaptation Program

Energy Waste Reduction Low Income Workgroup

December 5, 2019

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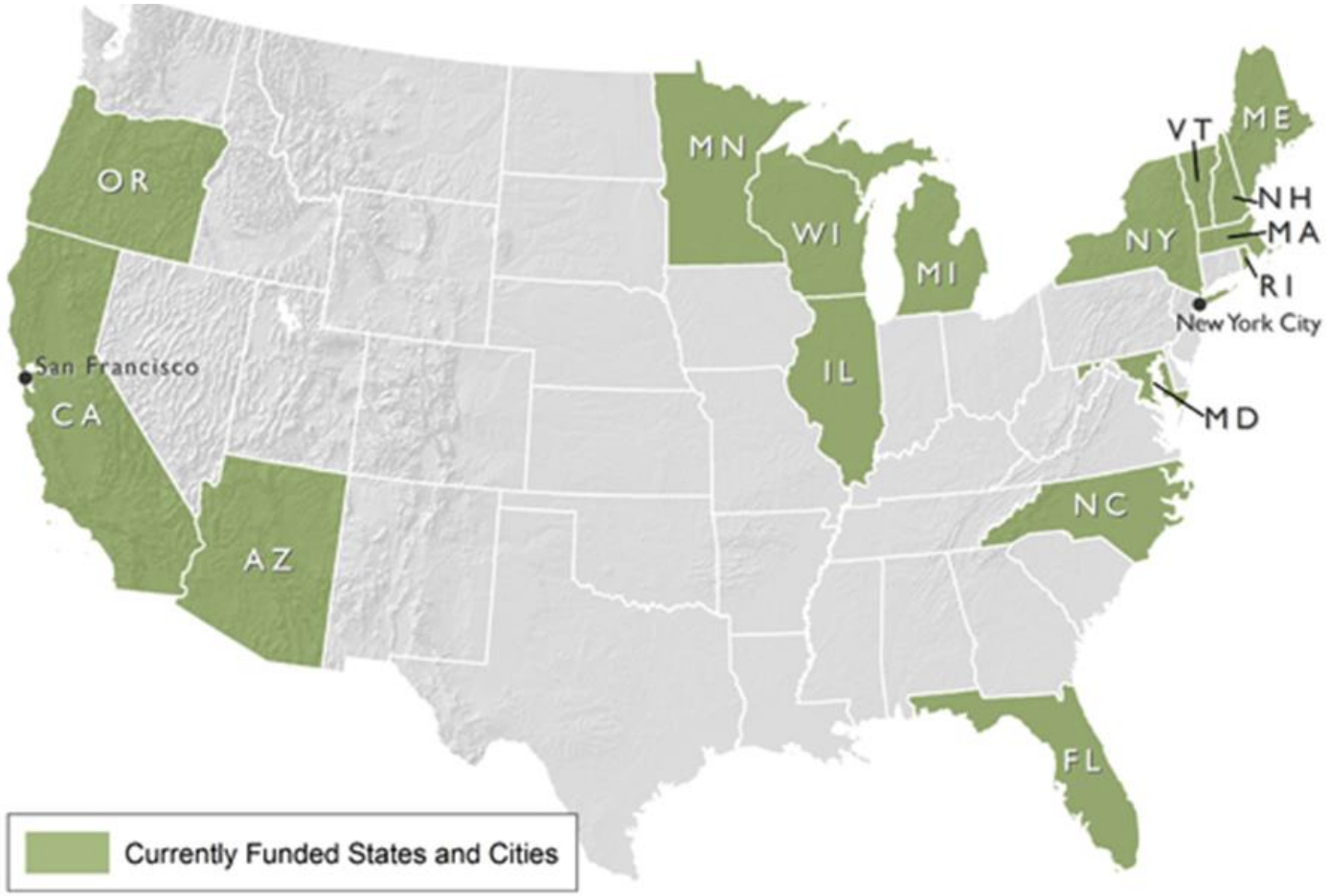
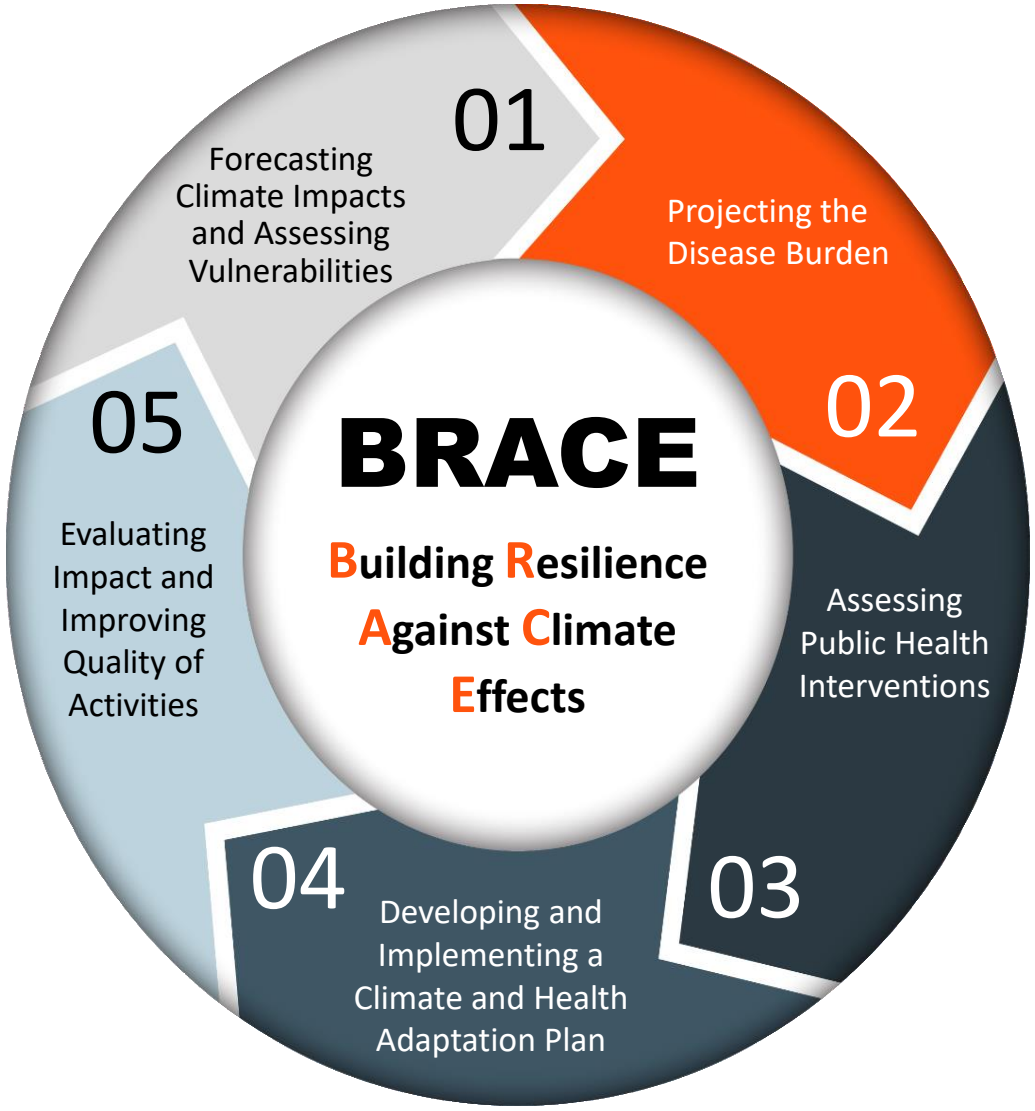
Discussion Outline

- MICHAP Overview
- Climate Change and Health Impacts
- Response Strategies
- Connection to weatherization
- Proposal: Evaluating weatherization as a climate intervention

CDC Climate-Ready States and Cities Initiative



Framework for Climate and Health Adaptation

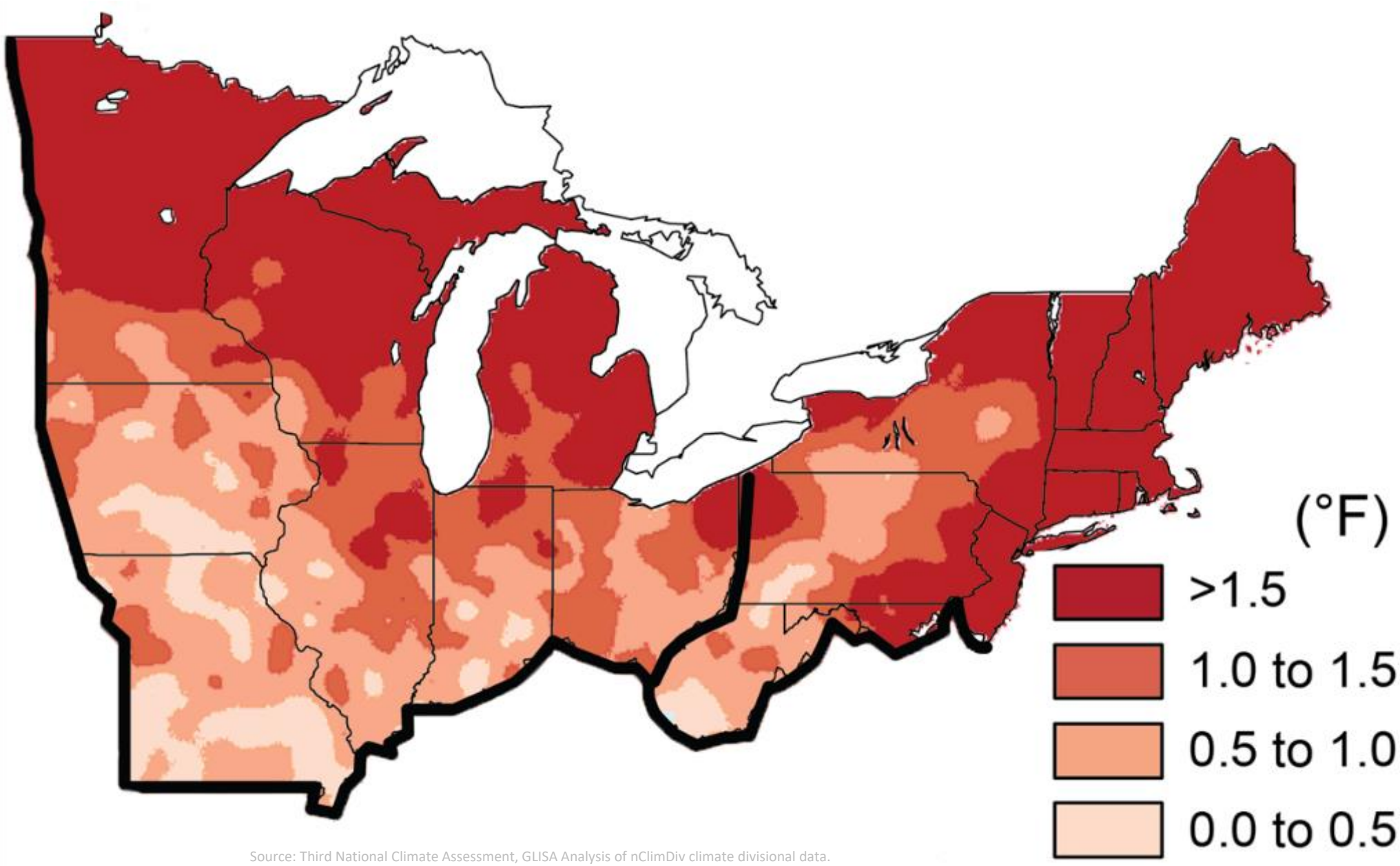


Climate and Health Program, CDC 2017

Step 1

Anticipate Climate Impacts and Assess Vulnerabilities

Observed Temperature Change



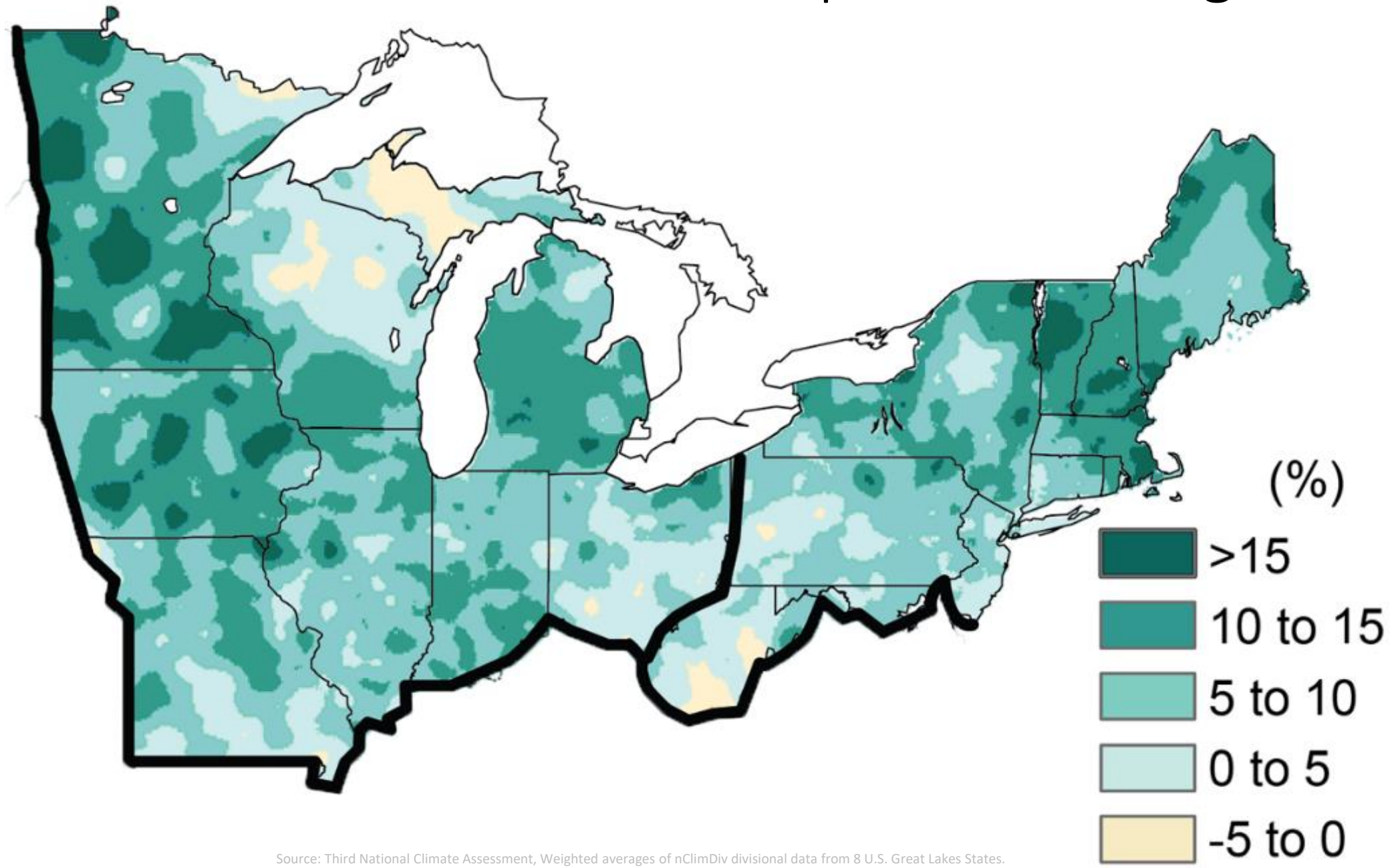
2.9°F

1960-2012

Michigan

Source: Third National Climate Assessment, GLISA Analysis of nClimDiv climate divisional data.

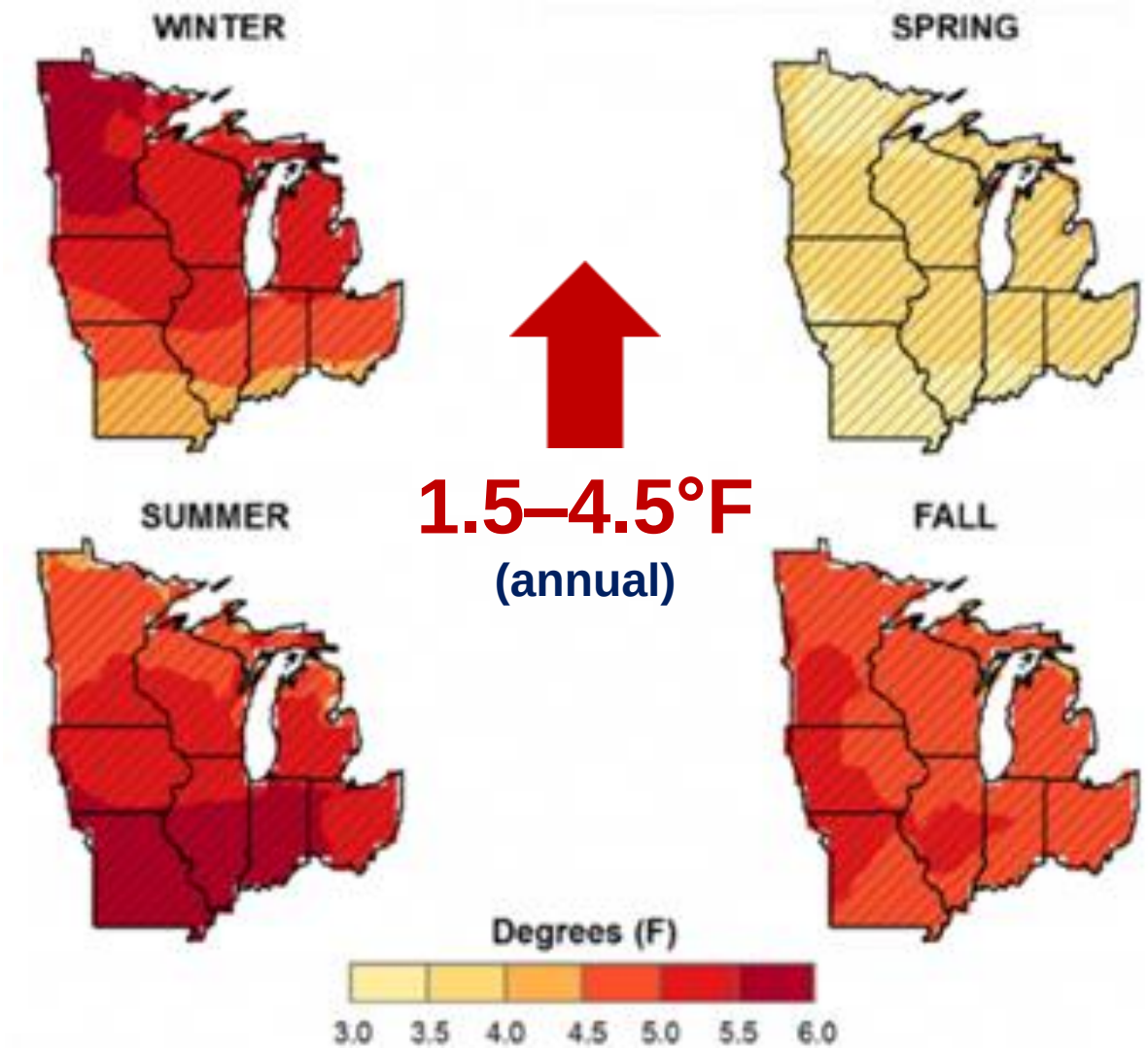
Observed Precipitation Change



4.5%
(1.4 in)
1960-2012
Michigan

Source: Third National Climate Assessment, Weighted averages of nClimDiv divisional data from 8 U.S. Great Lakes States.

Projected Temperature Changes: 1971-2000 to 2041-2070



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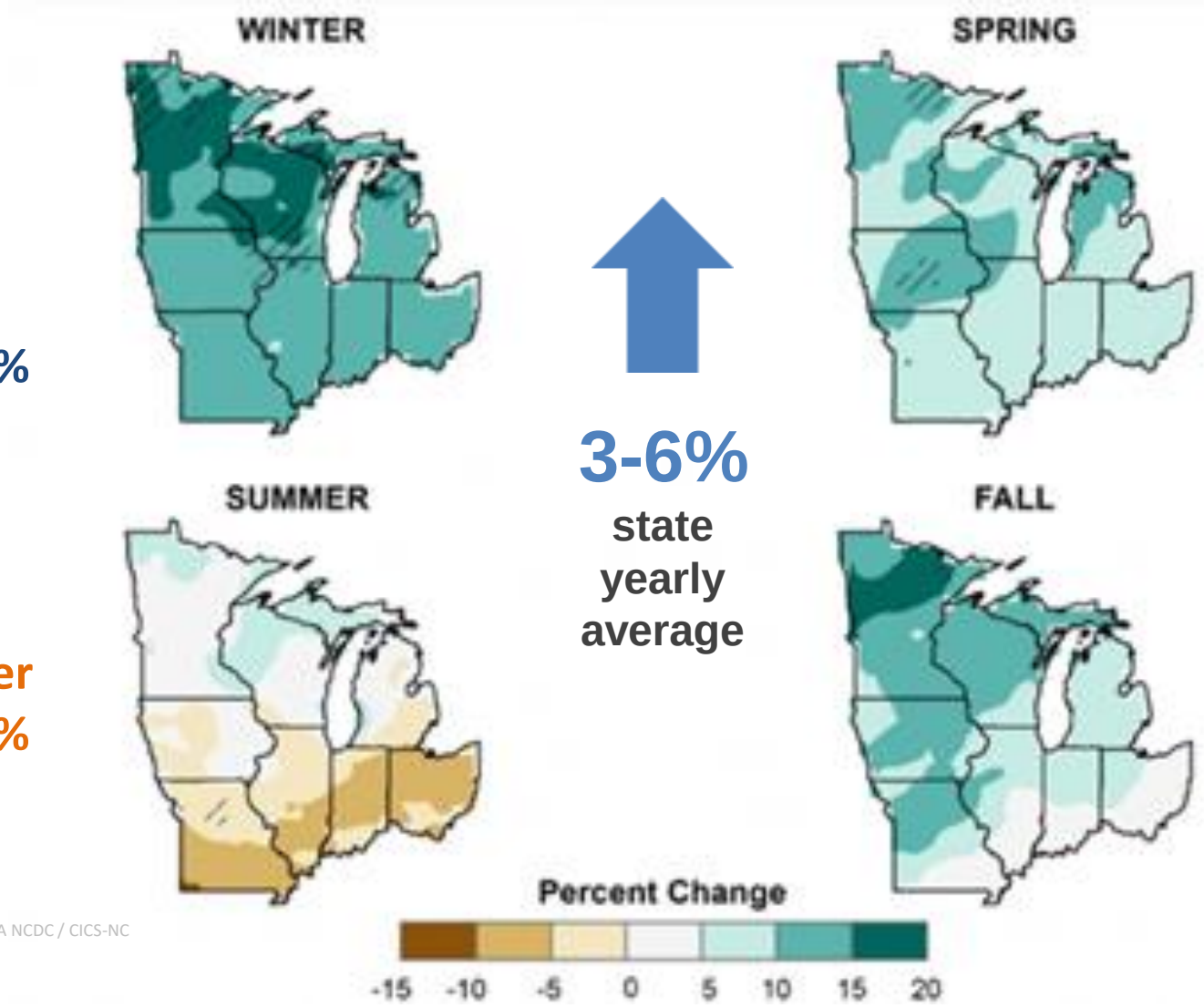


Winter
+10 to 20%

Spring
+0 to +15%

3-6%
state yearly average

Summer
-5 to 0%

Fall
+0 to +15%

Area impacted by climate hazards

Household & community characteristics

Exposure

Sensitivity

Severity of climate impacts

Housing and physical infrastructure

Climate Vulnerability

Frequency of climate impacts

Access to and quality of services

Available response resources

Information, skills & communication

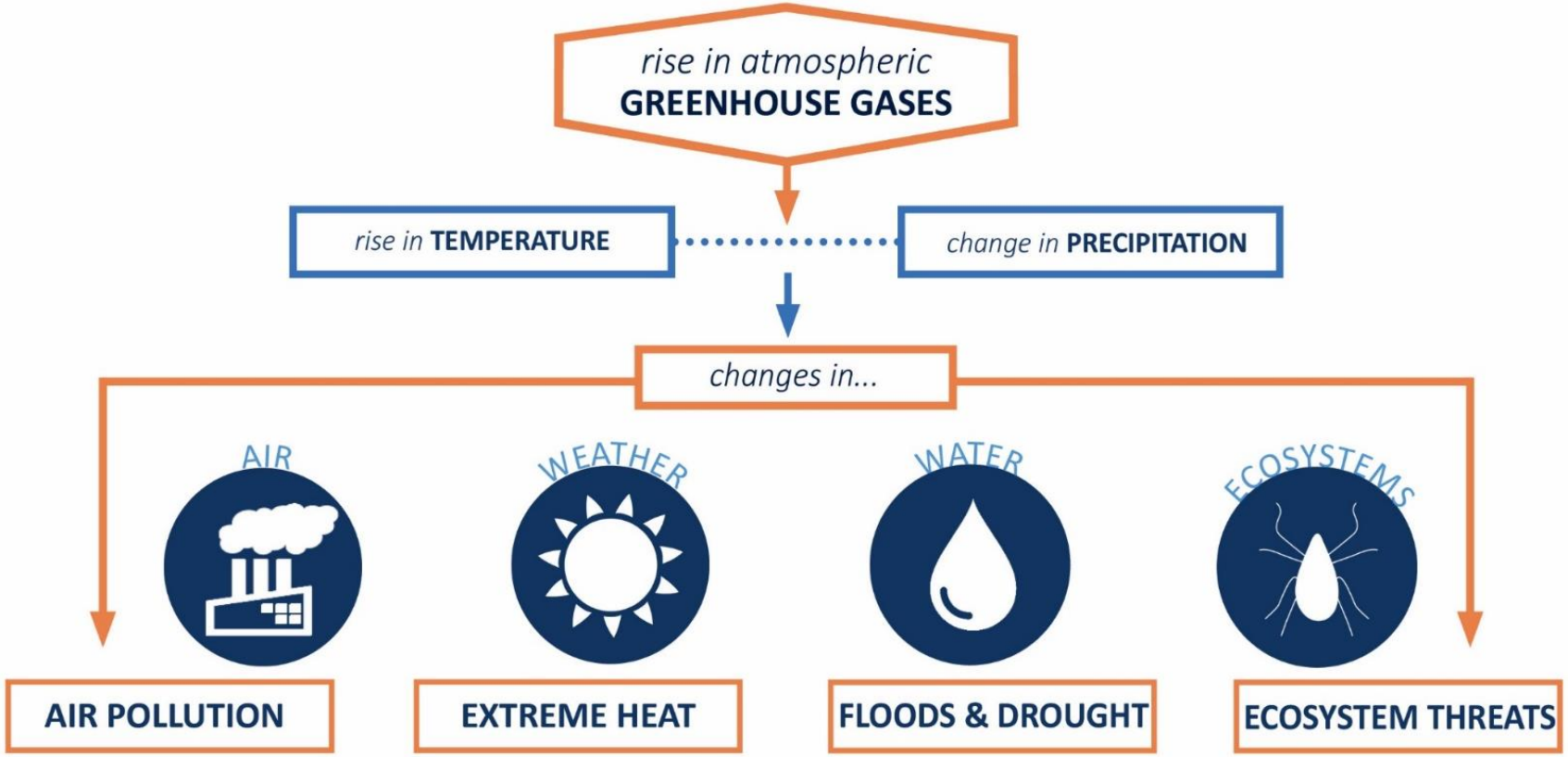
Institutional and social capital

Adaptive Capacity

Step 2

Project the Disease Burden

Impacts from Climate Change



AIR POLLUTION

Direct effects
- » Initiate or worsen respiratory, cardiovascular and other diseases

Indirect effects
- » Reduced visibility
- » Reduced productivity at work or school
- » Degradation of crops and water bodies

EXTREME HEAT

Direct effects
- » Heat stress and illness
- » Worsening of pre-existing conditions
- » Heat-related mortality

Indirect effects
- » Infrastructure failures
- » Strain on essential services
- » Disruption to key social networks

FLOODS & DROUGHT

Direct effects
- » Mental stress
- » Waterborne disease
- » Drowning and injuries

Indirect effects
- » Respiratory ailments
- » Disruption to economic and social networks
- » Strain on essential services
- » Wildfires

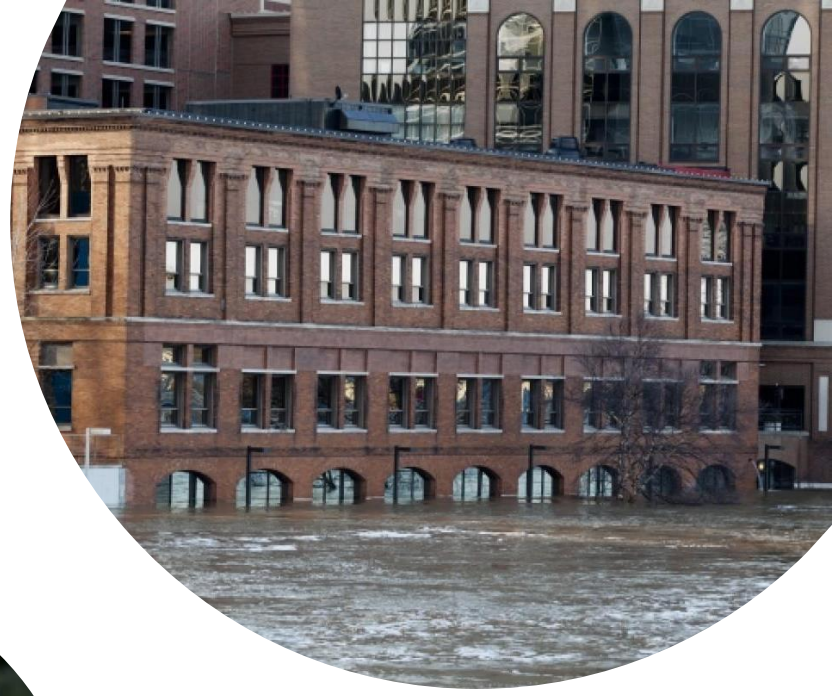
ECOSYSTEM THREATS

Direct effects
- » West Nile virus
- » Lyme disease
- » Liver, respiratory, nervous, skin disorders (from harmful algal blooms)

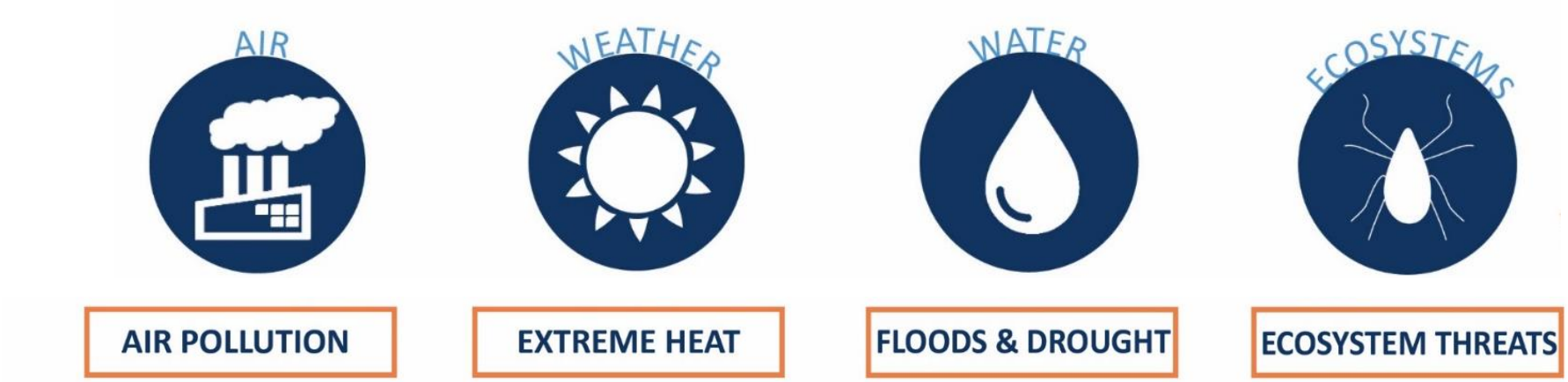
Indirect effects
- » Threats to livelihood
- » Financial strains

Priority Climate-Related Health Impacts

1. Respiratory conditions
2. Heat Illness
3. Storm-related Injury, CO poisoning
4. Waterborne diseases
5. Vector-borne diseases



Costs of Climate Change



10.9% of adults and 13.2% of kids have asthma. One estimate of annual cost = $2,514 per patient and $92.4 M cumulative impact.

EH currently causes an estimated 33 additional deaths at a cost of $42 M annually. By end of century that could be 240 additional deaths at cost of $280 M

Flood damages:
- 2013 Kent County, $12 M
- 2014 Detroit area, $1.2 B
- 2018 Houghton, $100 M
- 2019 $15 M to farms

In 2012, 157 cases of Lyme disease-related hospitalizations and 11 ED visits were estimated to have resulted in $8M in health costs.

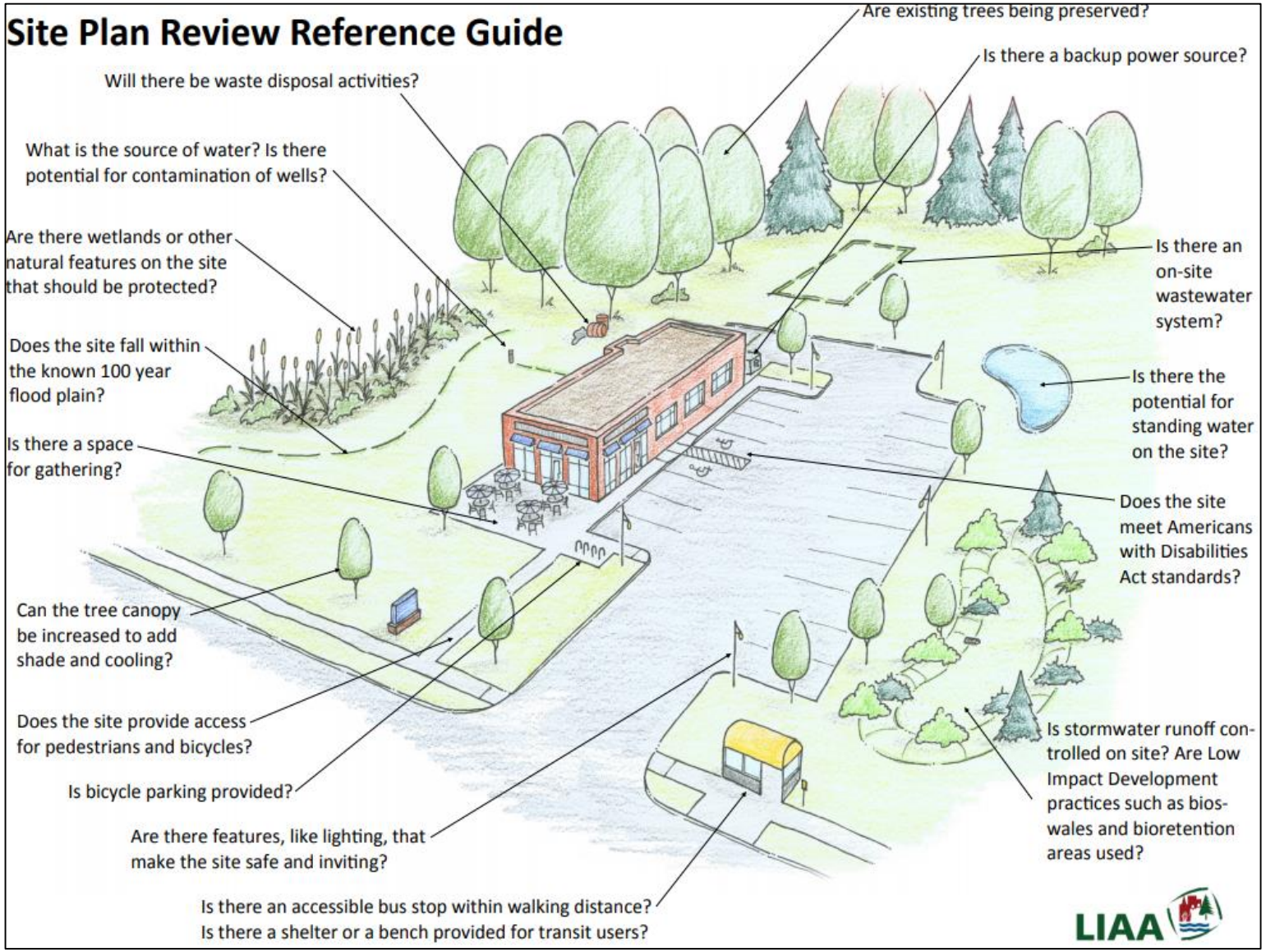
Step 3

Assess Public Health Interventions

Public Health Intervention Strategies: Secondary and Tertiary Prevention

Adaptation: Actions that Moderate Harm

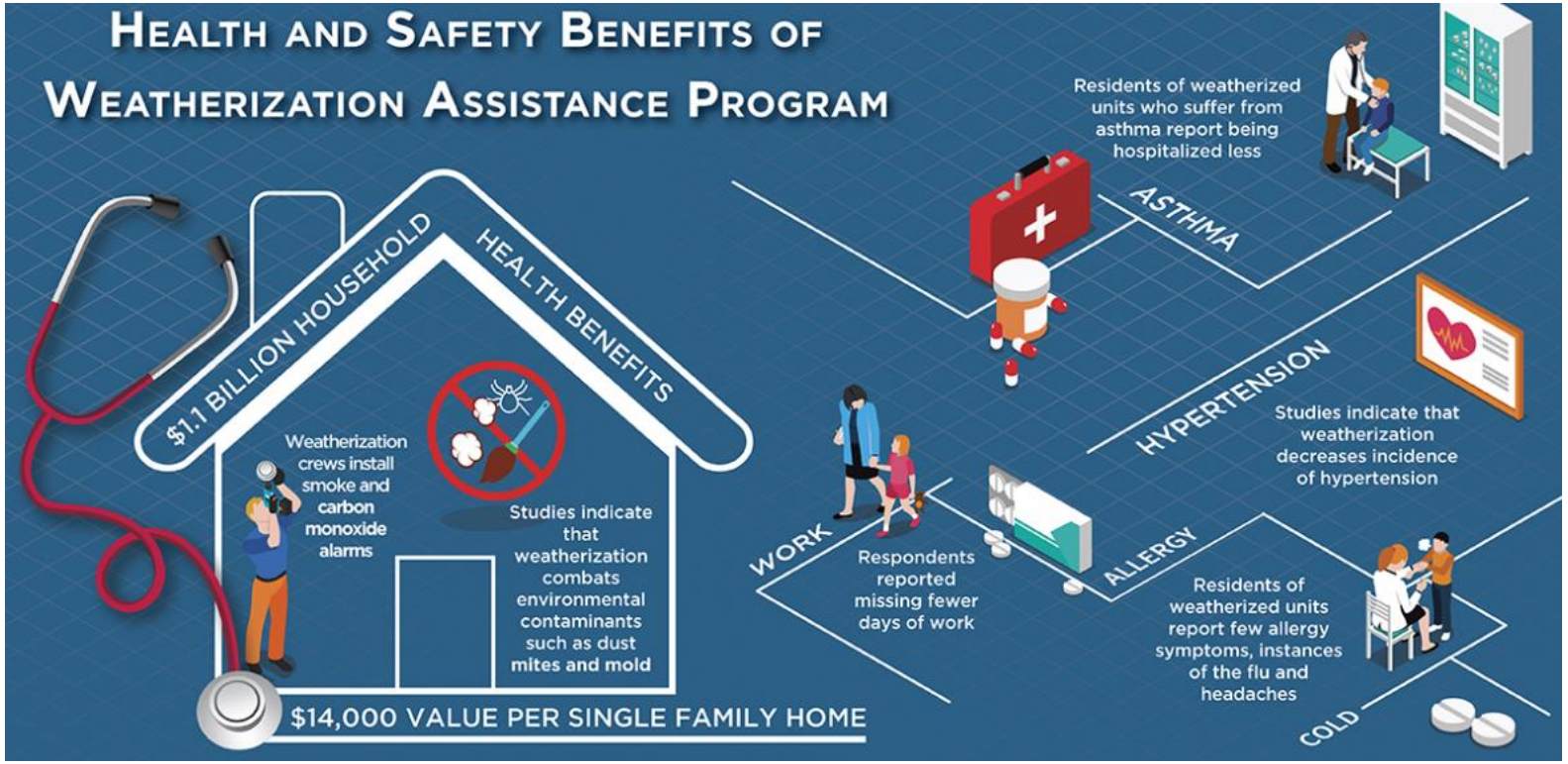
- Surveillance & Tracking
- Education & Engagement
- Inform Planning & Policy
- Emergency Preparedness



Public Health Intervention Strategies: Primary Prevention

Mitigation: Reduce, Prevent GHG Emissions

- Improving energy efficiency
- Reducing energy consumption
- Using alternatives to fossil fuels

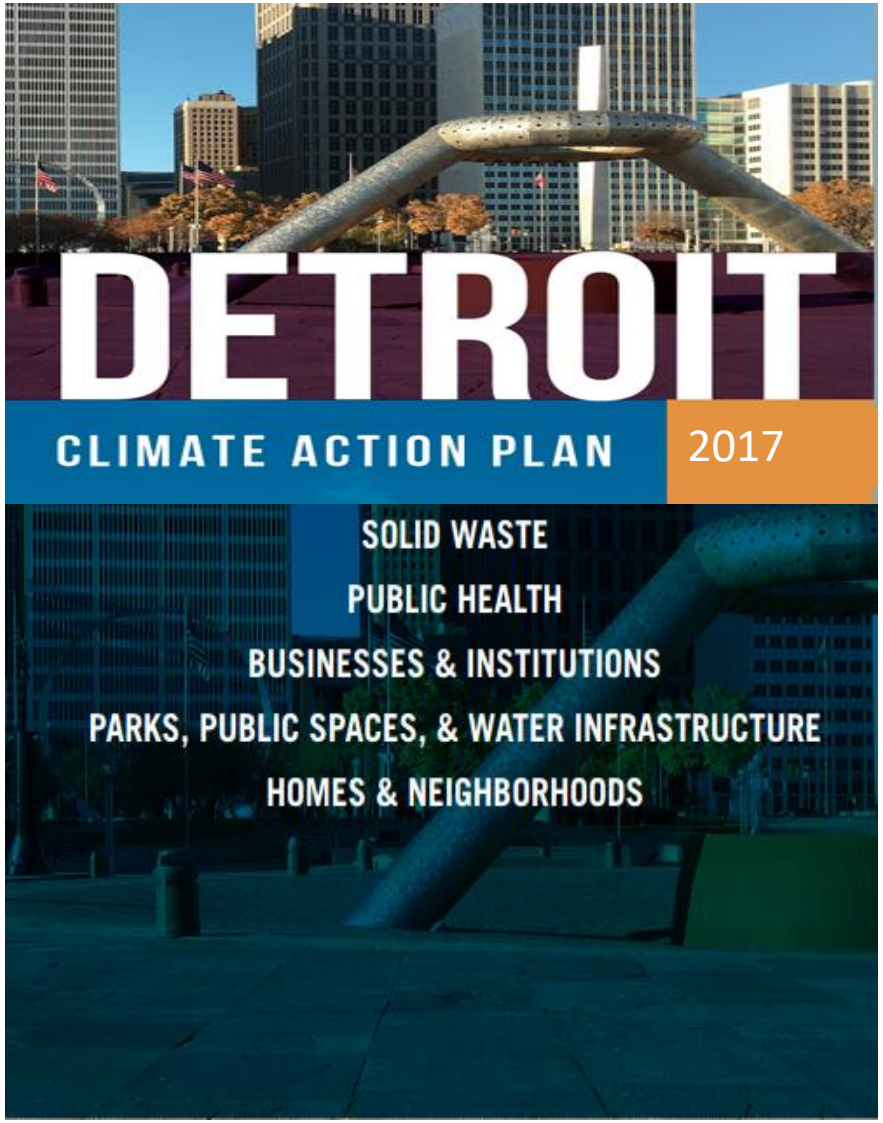


Steps 4 & 5

Develop and Implement Climate and Health Adaptation Plan

Evaluate Impact and Improve Quality of Activities

Implement Projects: Urban
Detroit Climate Action Collaborative



PUBLIC HEALTH

GOAL 1 Inform decision makers and residents of Detroit about climate change health risks and evidence-based responses. (mitigation and adaptation)

GOAL 2 Ensure that citywide and agency emergency response plans address public health risks of climate change. (adaptation)

GOAL 3 Assess health impacts of land use decisions affecting urban heat islands, air quality, and stormwater management. (adaptation)

GOAL 4 Increase monitoring of climate-related health outcomes, such as heat-related hospitalizations, injury or death from extreme weather events, and asthma-related outcomes. (mitigation and adaptation)

Implement Projects: Rural
Marquette Climate and Health Adaptation Guidebook

Physical Interventions:

1. Trail
2. Vegetated swale
3. Pervious pavement
4. New trees

Sample Policies:

- Limit tall grasses near trails to create a "buffer zone" between recreational areas and tick habitats.
- Implement natural infiltration systems in municipal development to filter runoff before reaching the lake.
- Identify coastal areas at risk for flooding and protect them as greenspace that can withstand temporary flooding.
- Create a county wide Shoreline Protection Zone to require enhanced building standards and further setbacks in coastal areas, including for roads to ensure accessibility of roadways.

Sample Health Measures:

- Miles of established tick buffer zones in county
- % of low-impact-development stormwater management techniques used in municipal upgrades and development
- % of publicly owned coastal land cover dedicated to green spaces
- % of waterfront covered by a Shoreline Protection or Beach Overlay Zone

Ticks **Flooding** **Road Access** **Water Quantity**

Weatherization as Climate and Health Intervention

How does climate change affect your home and your health?

Climate drivers such as **temperature** and **extreme weather**

Extreme heat and **humidity** can lead to…

- Worsening droughts
- Wildfires
- Air pollution risks

- Increase indoor moisture
- Heat illness

Extreme cold can lead to…

- CO poisonings
- Respiratory conditions

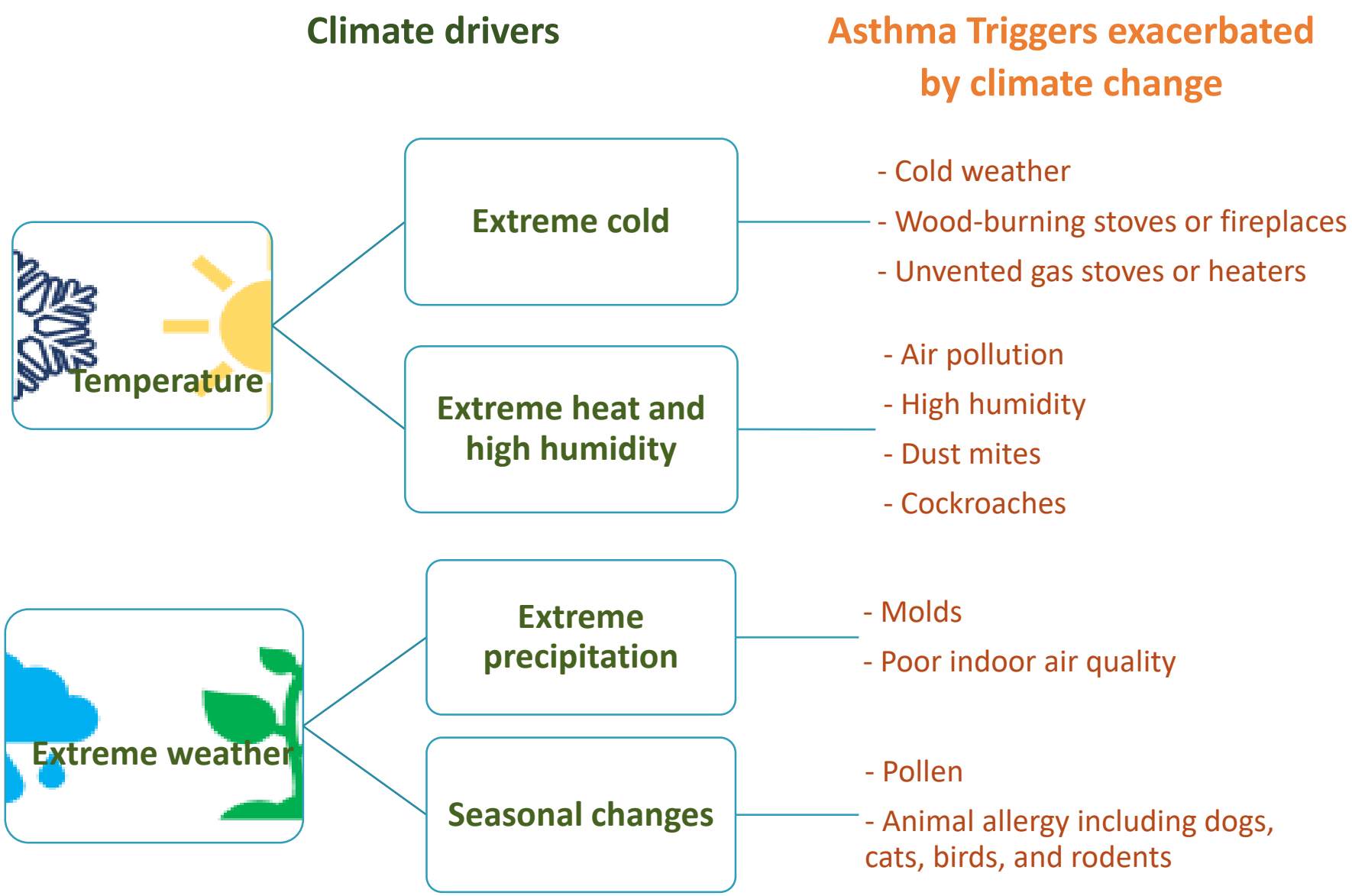
Extreme precipitation can lead to…

- Increases in severe flooding
  - Immediate health hazards include injuries or exposure to waterborne diseases
  - Long term health conditions include depression and anxiety
- Mold contamination
- Poor indoor air quality

Seasonal changes can lead to…

- Pollen producing plants and longer growing seasons
- Animal allergies

Climate drivers and asthma triggers pathway



Can weatherization (home improvements) also improve health?

Wx improves the home

- Reduced energy bills
- Improved temperature control
- Improved indoor air quality
- Enhanced safety
- Reduced humidity
- Reduced mold
- Reduced pest intrusion

Wx benefits health in many ways

Health benefits…	…are associated with these improvements to home conditions.	Strength of evidence*
General Health	$ 🌡 🏠 ⊕ 💧 ✺ 🐜	High
Productivity	🌡 🏠 ⊕ 💧 ✺ 🐜	High
Social Health	🌡 🏠 💧 ✺ 🐜	High
Upper Respiratory	🌡 🏠 💧 ✺ 🐜	High
Asthma	🌡 🏠 💧 ✺ 🐜	Medium
Cardiovascular	🌡 🏠	Medium
Financial Stress	$ 🌡 🏠 ⊕ 💧 ✺ 🐜	Medium
Mental Health	$ 🌡 🏠 ⊕ 💧 ✺ 🐜	Medium
Health Care Utilization & Costs	🌡 🏠 ⊕ 💧 ✺ 🐜	Medium
Accidental Injury	⊕	Low
Infectious Disease	🌡 🐜	Low
Neurological	💧 ✺	Low

Source: Vermont Department of Health. 2018. *Weatherization and Health, Health and Climate Change Co-Benefits of Home Weatherization in Vermont*. Retrieved from https://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_CH_WxHealthReport.pdf

Studies have found that…

- Weatherizing 2,000 homes in Vermont would prevent an estimated 223 emergency department visits, 13 hospitalizations, and 0.5 deaths over a 10-year period, associated with reduced health impacts caused by asthma, cold, and heat.
- Also helps reducing fine particulate emissions from heating systems with an estimated 10-year value of energy and health benefits of at least $24,757 per household or 3X the initial cost

Oak Ridge National Laboratory Reports (1)

- Looked at describing and monetizing numerous health and household related benefits attributable to the weatherization of low-income homes by the US DOE Weatherization Assistance Program using the **national occupant survey**.
- **Descriptive statistics suggest the following post-weatherization benefits:**
  - Homes are more livable;
  - The physical condition of homes is improved;
  - These and other improvements lead to improved general health;
  - Respondents experience fewer ‘bad’ physical and mental health days;
  - Respondents and other household members suffer fewer persistent colds and headaches;
  - There are fewer instances of doctor and emergency room visits, and hospitalizations;
  - Households are better able to pay energy and medical bills;
  - Households are better able to pay for food; and
  - Households use of two kinds of short-term, high interest loans (tax refunds and pawn shops) decreases.

Oak Ridge National Laboratory Reports (2)

- **Monetizing heath-related non-energy benefits:**
  - Reduced Carbon Monoxide Poisonings
  - Reduced Home Fires
  - Reduced Thermal Stress on Occupants
  - Reduced Asthma-Related Medical Care and Costs
  - Increased Productivity at Work Due to Improvements in Sleep
  - Increased Productivity at Home Due to Improvements in Sleep
  - Fewer Missed Days at Work
  - Reduced Use of High Interest, Short-Term Loans Increased Ability to Afford Prescriptions
  - Reduced Heat or Eat Choice Dilemma Faced by Pregnant Women
  - Reduced Need for Food Assistance

Average weatherization cost per unit in 2008 for a single-built single-family home was **~$4000**

The PV per unit of **health-related benefits** is estimated to be **$14,148**

Oak Ridge National Laboratory Reports (3)

- 2015: Looked at **asthma-related health impacts of weatherization** and **healthy homes interventions** using data from 49 households in NW Washington State from 2006-2013.
- **Results**: found that all interventions including Wx Plus Health, Healthy Homes, and WAP all reduced asthma-related health effects.
  - Found a statistically **significant decrease of $421** in annualized asthma related Medicaid costs for all study groups combined.

- But additional research is required to better attribute these observed reductions in Medicaid claims and costs to these programs.
- Sample sizes were too small to detect differences

What does **MDHHS MICHAP** and **WAP** plan to do?

Michigan study that will evaluate if weatherization services can reduce asthma hospitalizations and emergency department visits among the Michigan Medicaid population with asthma.

- Step 1: Which weatherization services might prevent indoor/outdoor asthma triggers related to climate change?

Which weatherization services might prevent indoor/outdoor asthma triggers related to climate change?

Asthma triggers related to climate change	Weatherization measure installed for impact
Cold weather	Insulation Air sealing
Wood-burning stoves or fireplaces	Heating system replacement – fuel switch
Unvented gas stoves or heaters	
Air pollution	Filtration
High humidity	ASHRAE fan Ground moisture barrier
Dust mites	ASHRAE fan Reduced Humidity
Cockroaches	Air sealing
Molds	ASHRAE fan Ground moisture barrier Insulation
Indoor air quality	ASHRAE fan
Pollen	Air sealing Insulation

MDHHS MICHAP and WAP- Wx and Asthma Study

- Step 2: What is our study design?
  - **Treatment and control group**

12 months prior ---------- | Intervention (Wx) | ---------- 12 months after

Continuous enrollment

|----------|

- Step 3: How do we match weatherization data to Medicaid data?
  - By address
  - Ever lived at weatherized address 12 months before and after start date

Resources and Contact Information

Health Data Sources

- CDC – National Environmental Public Health Tracking Network
- EPA – Environmental Justice (EJ) Screen
- CDC - 500 Cities: Local Data for Better Health
- Robert Wood Johnson Foundation – County Health Rankings

Climate and Health Adaptation Planning References:

- Michigan Climate and Health Adaptation Program
- CDC Climate and Health Program
- Fourth National Climate Assessment
- Marquette Climate and Health Adaptation Guidebook
- Managing Water For Health In a Changing Climate
- Resilience Hub Website

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PRIORITY HOME REPAIR PROGRAM

HABITAT FOR HUMANITY – FOCUSING ON HEALTH AND SAFETY REPAIRS

OVERVIEW

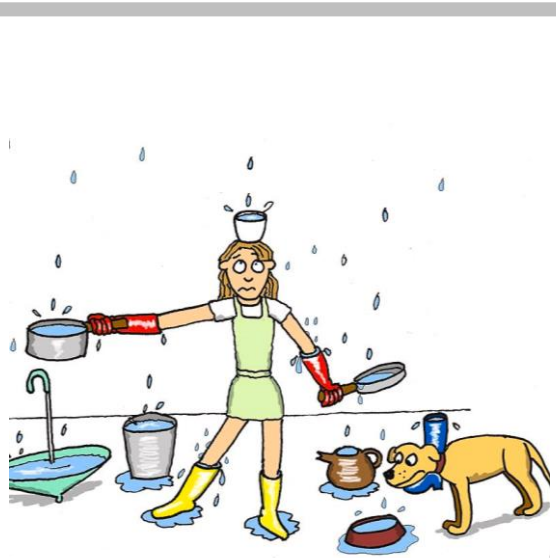
About the Program

Prioritized Repairs – data capture

How to capture Non-Energy Benefits

About the Program

- Program history
- Prioritizing health and safety
- Knowing the homeowner



Grant Requirements

Yearly grant term – projects are completed during the grant cycle.

Serves families at 60% AMI & lower

All projects must be performed to code by licensed and insured contractors

Funding per project

$7000 per project
+ additional $500 for roof repairs
+ additional $$ for energy waste reduction measures

PARTNERSHIP OPPORTUNITIES

- Community Action Agency
- DTE Energy (rebates)
- Consumers Energy (rebates)

Prioritized repairs – data capturing

HIGHEST PRIORITY REPAIRS

roof

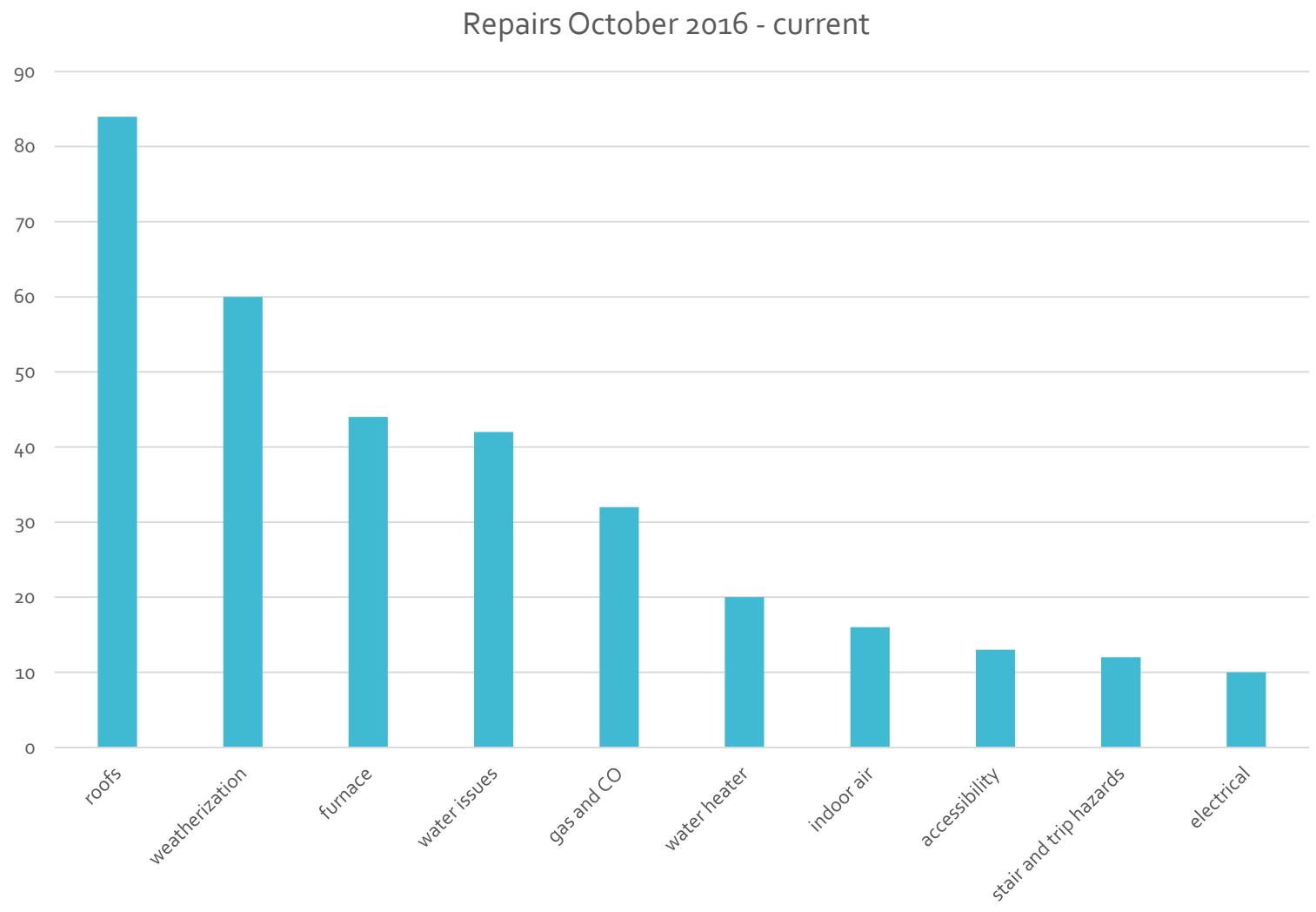
weatherization

water issues

Furnace replacement

CO/gas leaks

Repair statistics



Demographics

Families served = **197** | Adults **161**, children **34**

Average AMI = **42%**

31 households with a veteran member

52 households with member with disabilities

2018-19 statistic only – average age **57.9**

person	report water in home	symptom types	behavior characteristics
A	dampness and mold	allergies, sinus, eye irritation, ear infection, nausea	no pets, no one smoke in home, no pests, cleans weekly, no ventilation, changes filter yearly
B	dampness and mold	asthma and allergies	pests - bugs, cleans daily, no ventilation, changes filter bi yearly, 3 pets, no one smokes in the home
C	visible mold	frequent headaches	2 pets, smokes in home
D	dampness during heavy rain, musty odor	no symptoms	1 pet, no one smokes in home, no pests, cleans weekly
E	mold, dampness	asthma, allergies, frequent headaches/ daughter has frequent headaches	4 pets, no one smokes in home, furnace filter yearly, mice, no ventilation, uses air fresheners and candles, cleans weekly

Health reporting sample

before repairs

NON-ENERGY BENEFITS

- Collecting information
- Struggles
- What's next

BREAK OUTS – *Capturing NEB / Group Discussion*

What information needs to be collected at beginning of project?

How do we make that data show NEB results?

Other thoughts on how to capture NEB

Closing and Adjourn