Legislative Service Commission social determinants of infant mortality

Project update for Commission on Infant Mortality
October 11, 2017

HPIO mission

To provide the independent and nonpartisan analysis needed to create evidence-informed state health policy.

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Timeline and deliverables

Deliverable/activity	May	June	July	Aug	Sept	Oct	Nov	Dec
Recruit and convene stakeholder groups		6/28 AG meeting		8/17 AG meeting 8/23 HS meeting	9/14 AG meeting 9/21 HS meeting	10/17 AG meeting		
Most improved state research and *Dashboard* analysis								
Literature review and environmental scan: Housing, transportation, employment, education — including focus on rental assistance program								
Inventory of evidence-informed SDOH strategies								
Development and prioritization of recommendations								
Final report							Draft	Final report due Dec. 1

AG= Advisory Group   HS= Housing Subcommittee

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Health Policy Institute of Ohio > Social Determinants of Infant Mortality Advisory Group

Social Determinants of Infant Mortality Advisory Group

After a competitive selection process, the Legislative Service Commission (LSC) contracted with the Health Policy Institute of Ohio to study the social determinants of health and infant mortality. As a part of this project, HPIO is convening an advisory group that will contribute content expertise, provide feedback on preliminary findings and make recommendations for policy changes to improve the social, economic and physical environments that impact maternal and infant health.

The requirement for LSC to contract with a nonprofit entity to study and make recommendations related to the social determinants of infant mortality was included in **Senate Bill 332** (sponsored by Senators Jones and Tavares). SB 332 was enacted by the Ohio General Assembly in late 2016 and signed by Governor Kasich in early 2017.

HPIO will complete a report for this project by Dec. 1, 2017.

Click here to see advisory group members

Advisory group meetings

All meeting material will be posted as it becomes available

Objectives

- Background and purpose
- Stakeholder engagement and key concepts
- Progress on timeline and deliverables
  - Most-improved states (case studies)
  - Literature reviews and environmental scans
  - Policy recommendation development process

Objectives

- **Background and purpose**
- Stakeholder engagement and key concepts
- Progress on timeline and deliverables

OHIO COMMISSION ON INFANT MORTALITY

Committee Report, Recommendations, and Data Inventory
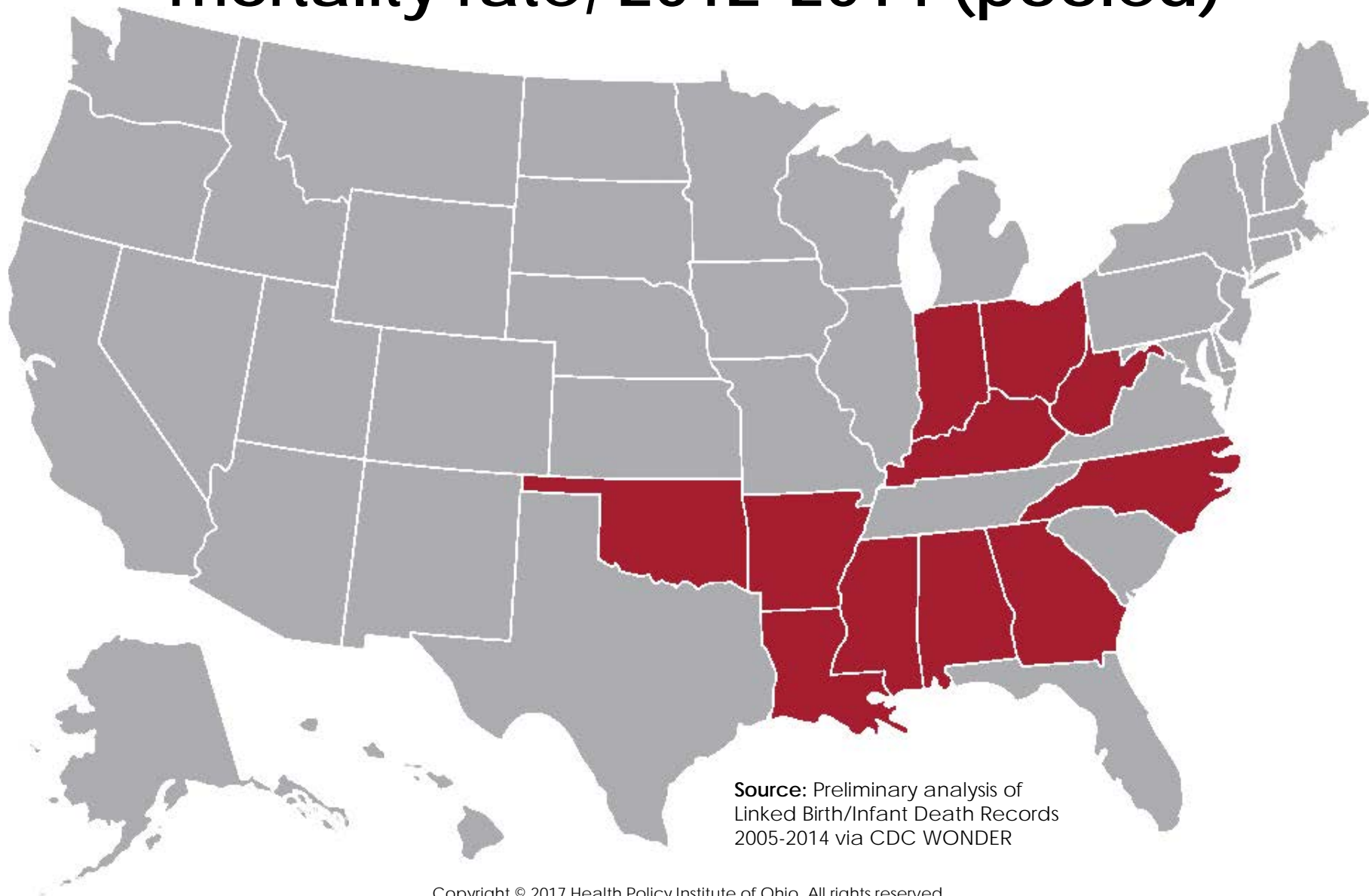
March 2016

Senate Bill 332

SB 332 requirements

1. Review of policies and programs: housing, transportation, education, employment
2. Identify opportunities to improve policies and programs
3. Study impact of state-funded rental assistance program
4. Evaluate best practices from other states

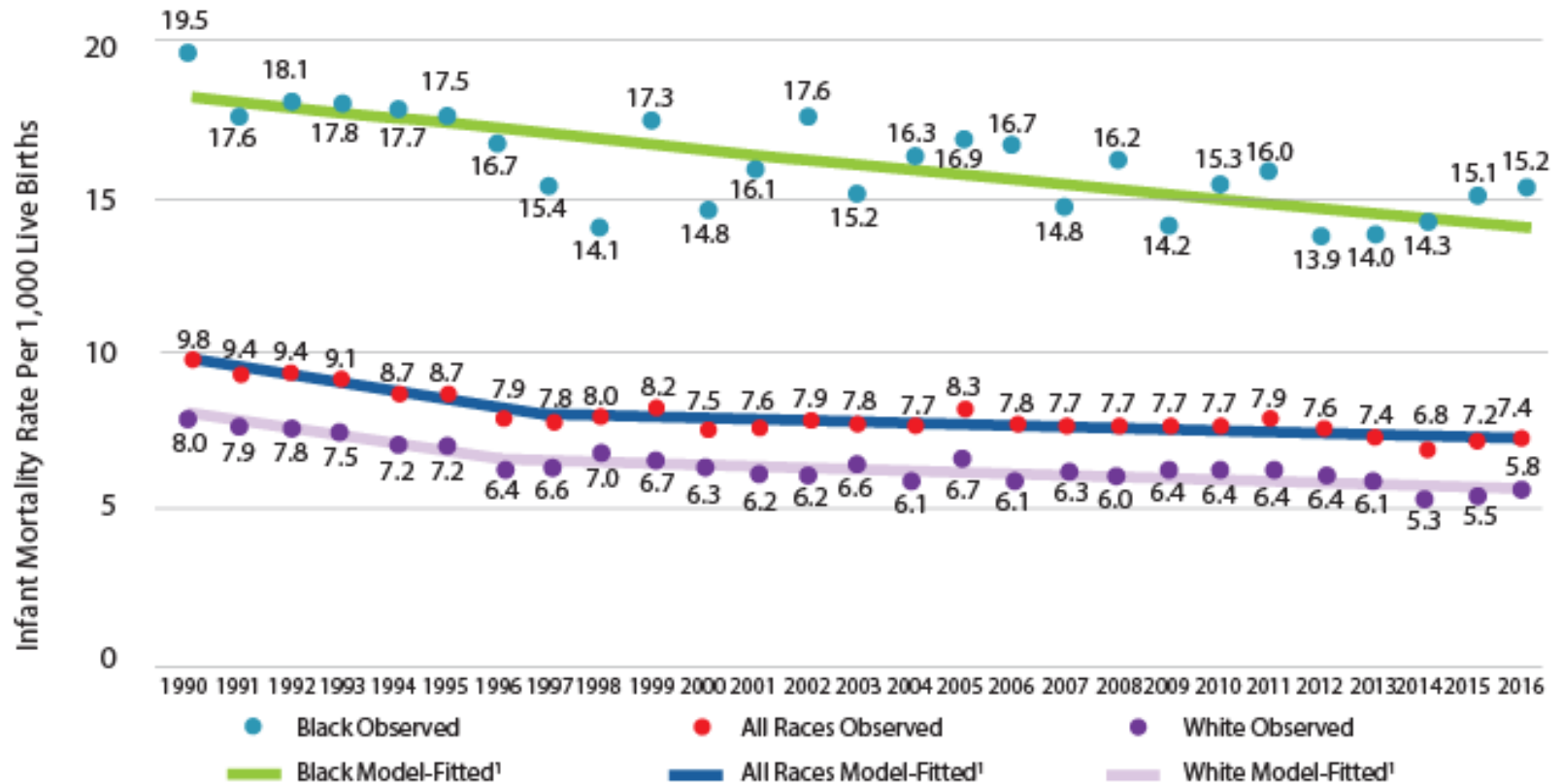# States with highest <u>overall</u> infant mortality rate, 2012-2014 (pooled)

Source: Preliminary analysis of Linked Birth/Infant Death Records 2005-2014 via CDC WONDER

States with highest <u>Non-Hispanic black</u> infant mortality rate, 2012-2014 (pooled)
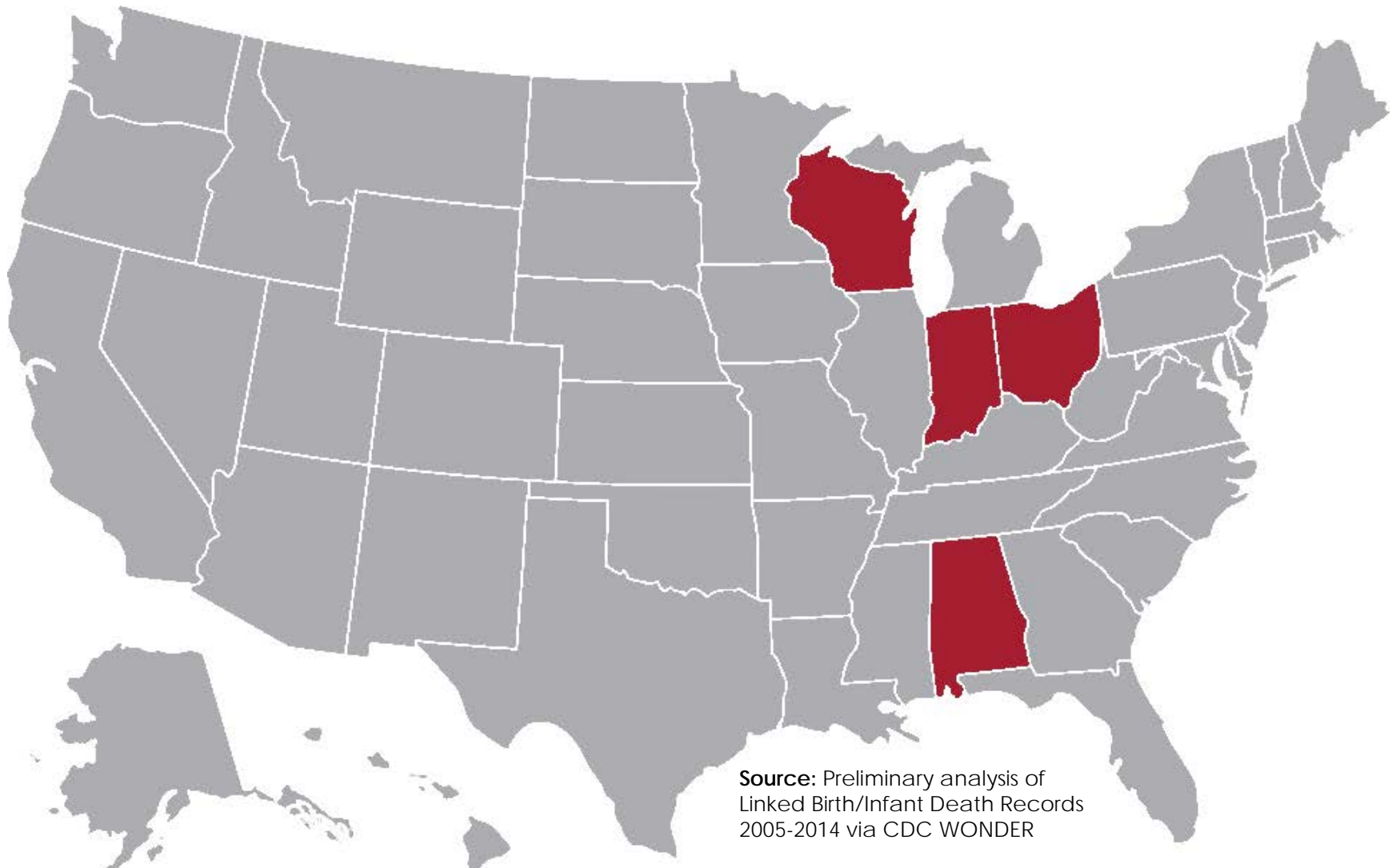
Trends in Ohio infant mortality rates, by race (1990-2016)

Source: Ohio Department Of Health, Bureau Of Vital Statistics.

[1] "Model-Fitted" Definition – Joinpoint software models were used to test the statistical significance of changes in trends. For each group the best fitting trend lines are presented. A change in trend was observed for all races infant mortality in 1996 and for white mortality in 1997. No change in trend was detected for black infant mortality.

"The Commission recognized that improving the social determinants of health is critical to improving birth outcomes but did not have enough time to delve into these multi-system issues."

-Ohio Commission in Infant Mortality, March 2016

Objectives

- Background and purpose

- **Stakeholder engagement and key concepts**

- Progress on timeline and deliverables

Stakeholder engagement

Steering Committee
(~ 10 participants)

Social Determinants of Infant Mortality Advisory Group
(~100 participants)

Housing Subcommittee
(~ 12 participants)

Advisory Group: Sectors
As of 8/11/17

Advocacy (22)	Local health department (17)	State agency (14)	Housing (16)
Provider/clinician (12)	Hospital/health system (13)	Researcher/ academic (11)	Social service provider (10)
Community/ economic development (12)	Health plan/private insurer/managed care (6)	Grassroots/ consumer group (5)	Transportation/ regional planning (6)
Education/job training (4)	Child care (4)	Employment services/income (2)	Business (2)

Advisory Group: Involvement with infant mortality initiatives As of 6/22/17

Initiative	Value
Local infant mortality collaborative/coalition	55
Ohio Collaborative to Prevention Infant Mortality (OCPIM)	46
Ohio Equity Institute	36
Pathways Community HUB	29
Ohio Infant Mortality Reduction Initiative (OIMRI)	13
The Collaborative Improvement and Innovation Network (COIIN) to Reduce Infant Mortality	13
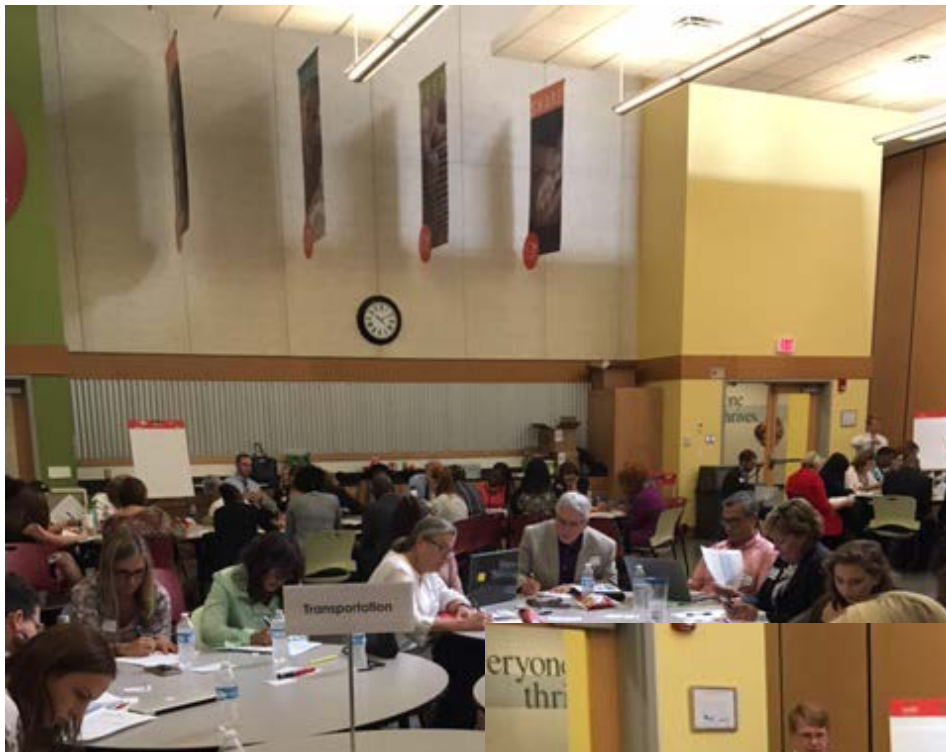
Meetings:
- Advisory Group: 4
- Housing Subcommittee: 2
- Steering Committee: 3

Key concepts

1. Beyond medical care
2. Health equity and priority populations
3. Life course perspective
4. Social ecological model
5. Policy relevance

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Factors that impact health

Pie chart showing: 40% Social and economic environment; 20% Clinical care; 30% Health behaviors; 10% Physical environment

Source: County Health Rankings and Roadmaps

Systems and environments that affect infant mortality

Healthcare system
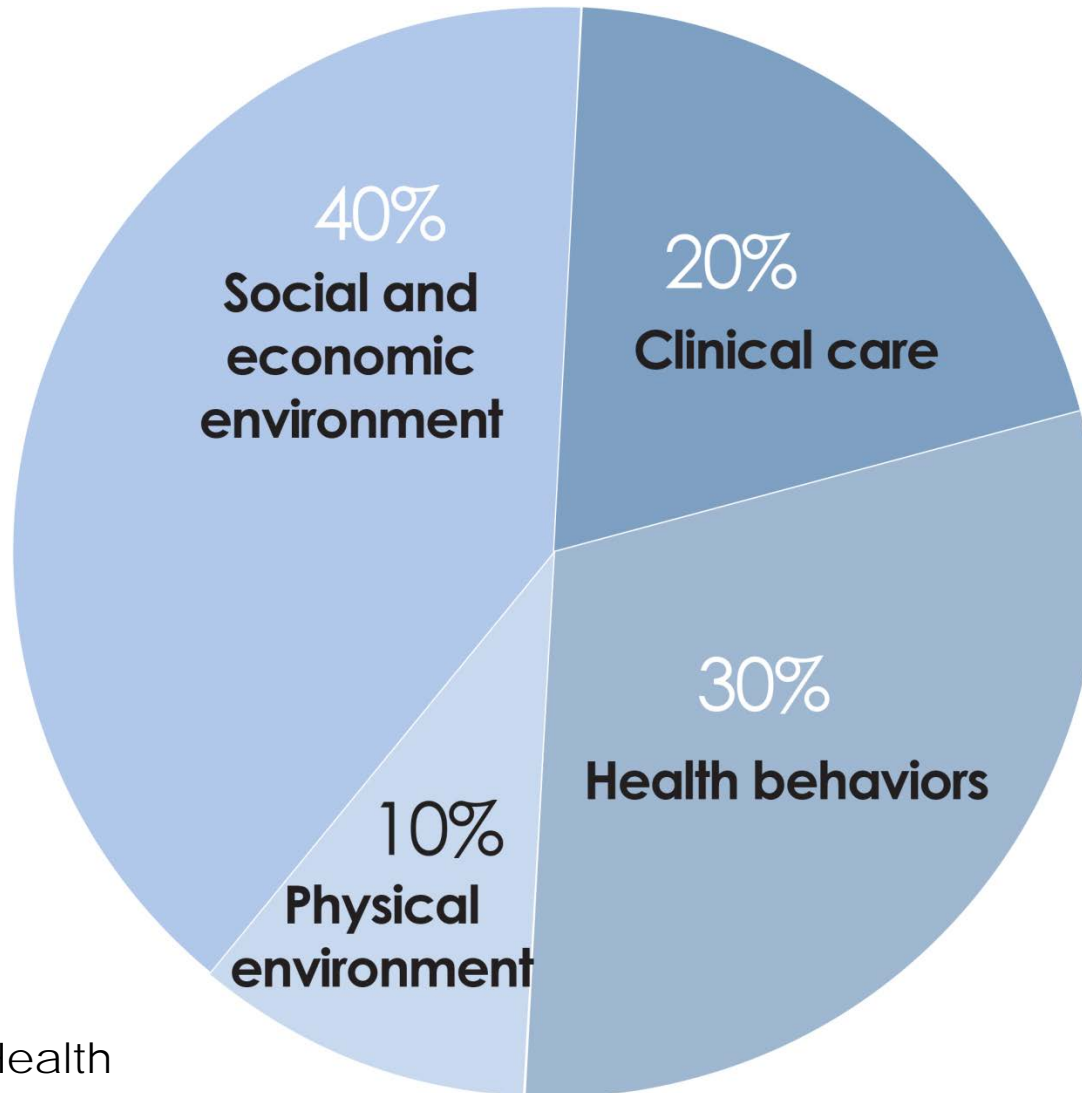
Access

Public health and prevention

Social and economic environment
- Employment
- Education

Physical environment
- Housing
- Transportation

Pre-conception | Pregnancy | Child/adult | Infancy

Leading causes of infant mortality
- Preterm birth
- Low birth weight
- Birth defects
- Sudden unexplained infant death (including Sudden Infant Death Syndrome and sleep-related deaths)
- Accidents and injuries (including abusive head trauma)
- Maternal complications of pregnancy

Infant mortality
- Neonatal mortality
- Postneonatal mortality

Goals
- Reduce infant mortality
- Reduce and eliminate disparities and achieve equity

"Health is about more than health care, and the same is true for health equity."

-Steven H. Woolf
Health Affairs, June 2017

Health inequities, disparities and equity

Health inequities
Disparities in rates due to **differences in the distribution of social, economic, environmental or healthcare resources***
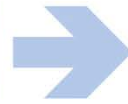
Health disparities
differences in health status among segments of the population such as by race or ethnicity, education, income or disability status

Health equity

*Working definition from the CDC Health Equity Working Group, October 2007

Priority populations

Groups of Ohioans most at risk for infant mortality:
- African Americans
- People with low levels of educational attainment
- People with low income
- Residents of infant mortality "hot spot" communities

- Pregnant women and parents of infants
- People of childbearing age

Life course perspective

Social ecological model

Public policy

Community

Organizational

Interpersonal
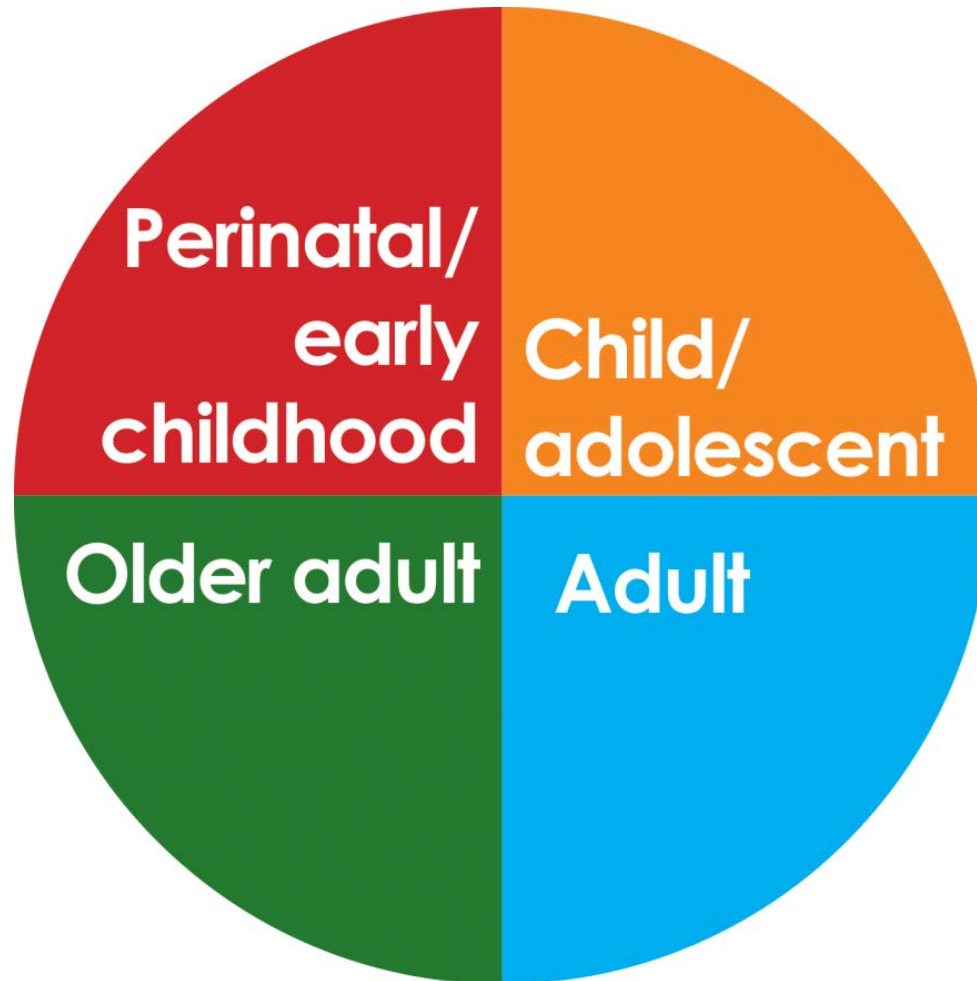
Individual
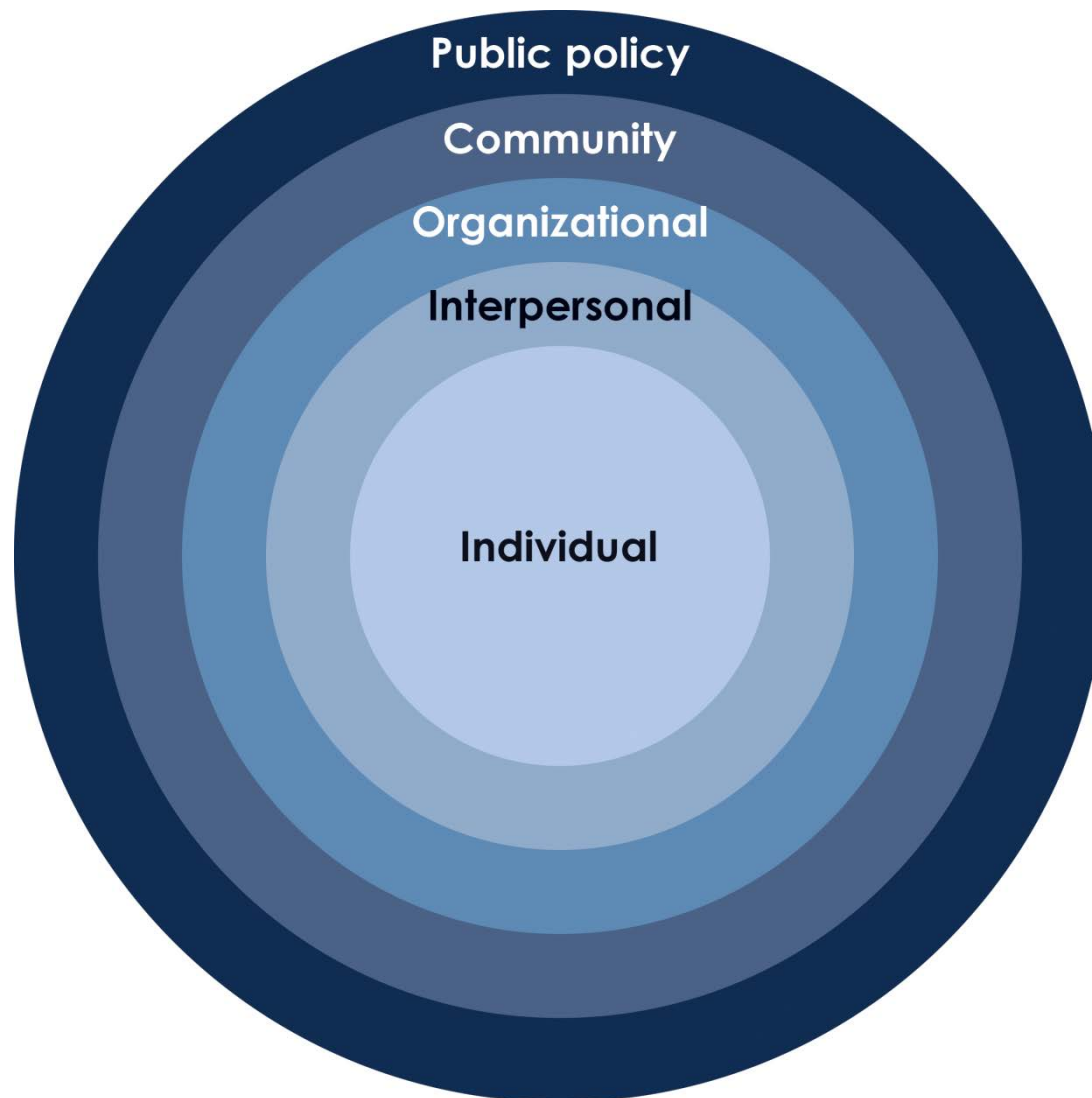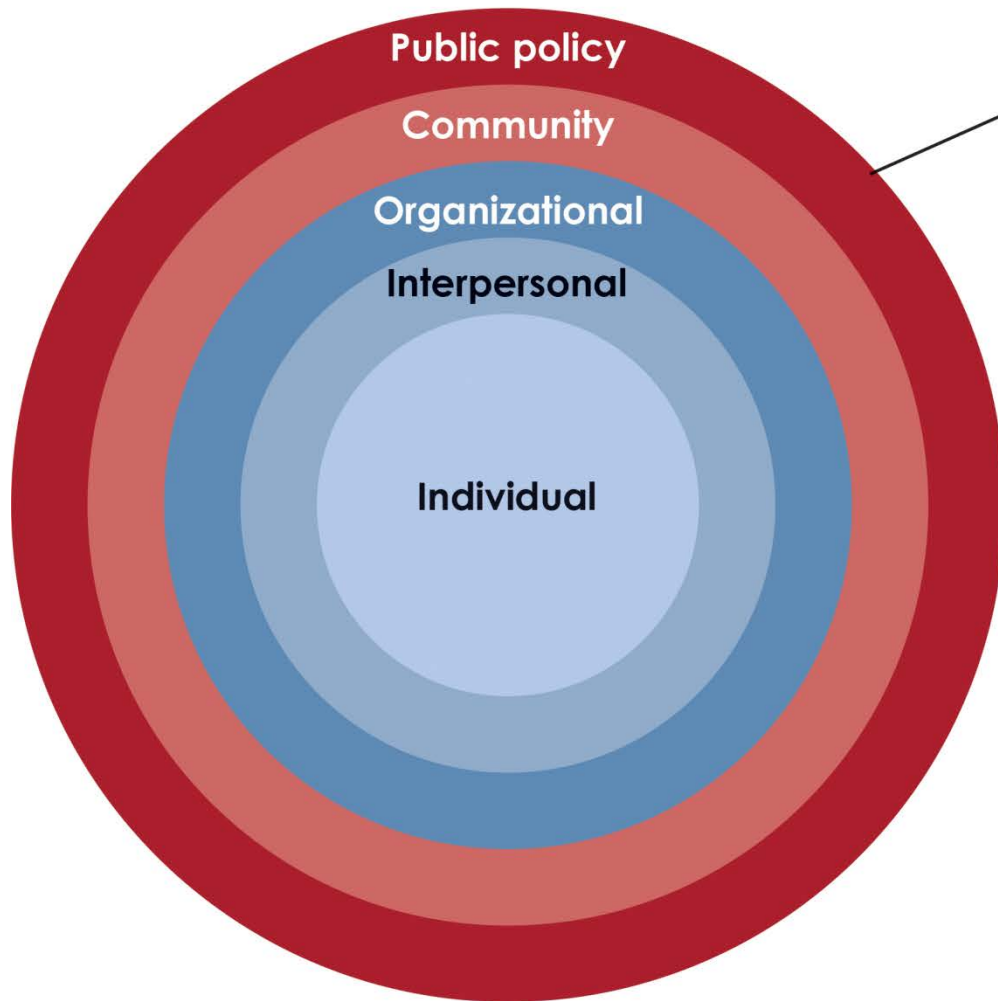
Focus on state-level policy

Relevance to state policymakers

Objectives

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- **Progress on timeline and deliverables**

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Sources of information

Most improved state research
✓ State-level trend data analysis to identify most-improved states, including most improved for black infant mortality
✓ Literature review, document review and key-informant interviews to identify how other states improved

Literature review and environmental scan
✓ Summarize research literature
✓ Focus on housing, transportation, employment, education
  ✓ Describe existing programs and policies in Ohio

Stakeholder input

Health Value Dashboard data
✓ Analysis to identify strongest drivers of infant mortality from social, economic and physical environment

Inventory of evidence-informed SDOH strategies
✓ Systematic reviews, evidence registries and expert consensus reports
✓ Examples from other states

Most-improved states research

- 8 states
- Key-informant interviews
- Lessons learned and potential opportunities for Ohio

Selection criteria

1. States with data available for Black infant mortality (34 states including DC)

And at least one of the following:
Most improvement from 2005-07 to 2012-2014
(top 10).....

2. Overall infant mortality rate reduction	3. Non-Hispanic Black infant mortality rate reduction	4. Black-White disparity reduction
Statistically significant	Statistically significant	Among states with significant reductions for all groups

Selection criteria

Available data

Biggest improvements in IM, Black IM, disparity

Indication of SDOH policies or programs; geographic balance
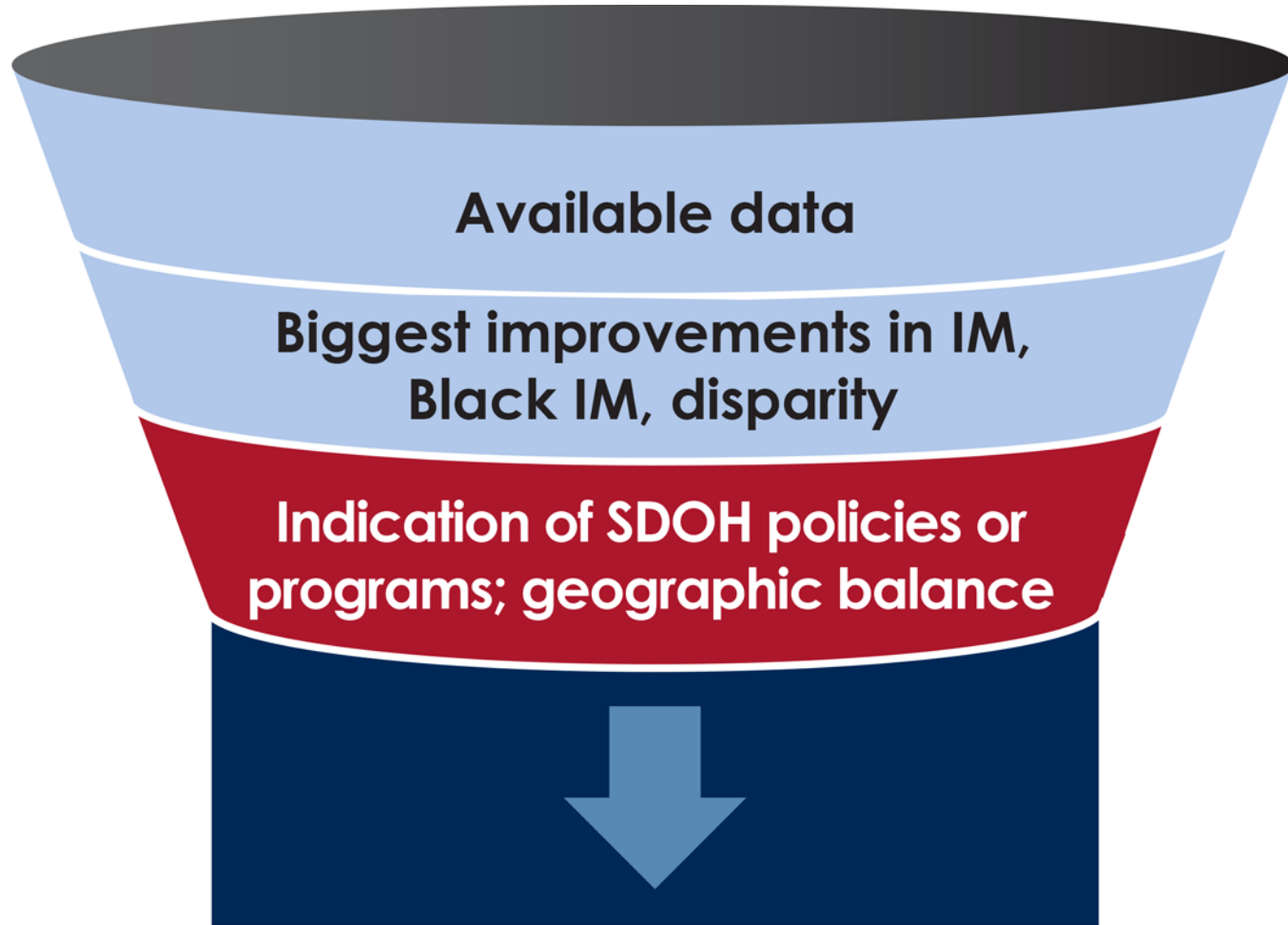
8 states for in-depth study

Top 10 states for each criteria

Reduction in overall IM rate

Virginia

Maryland

Delaware

Louisiana

Reduction in non-Hispanic black IM rate

Reduction in black-white disparity

D.C.

Mississippi

Colorado

South Carolina

Connecticut

Tennessee

Florida

Nevada

Ohio

Missouri

Arkansas

Massachusetts

New York

New Jersey

Michigan

States selected for in-depth study

Updated 7.10.17
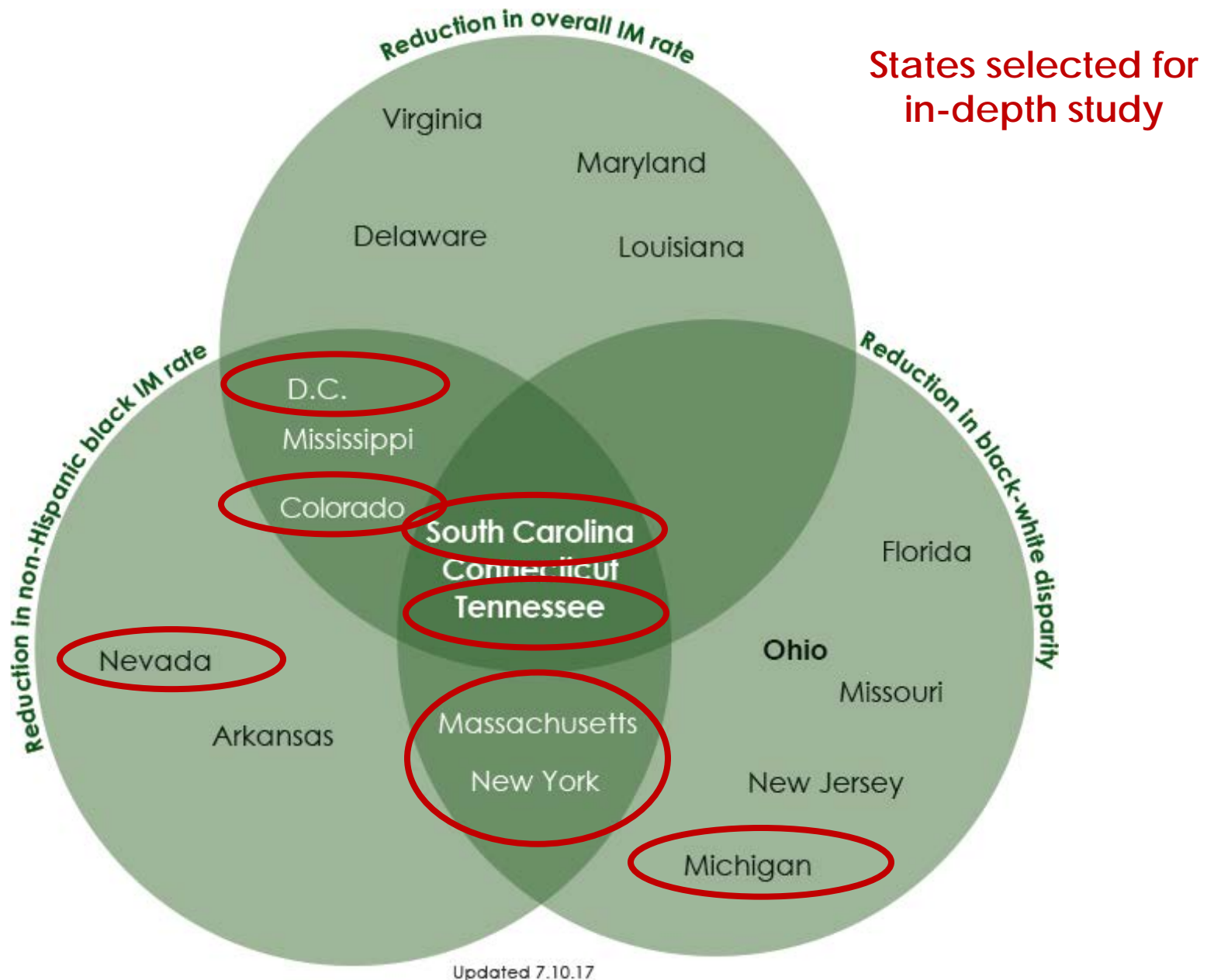
Case study states
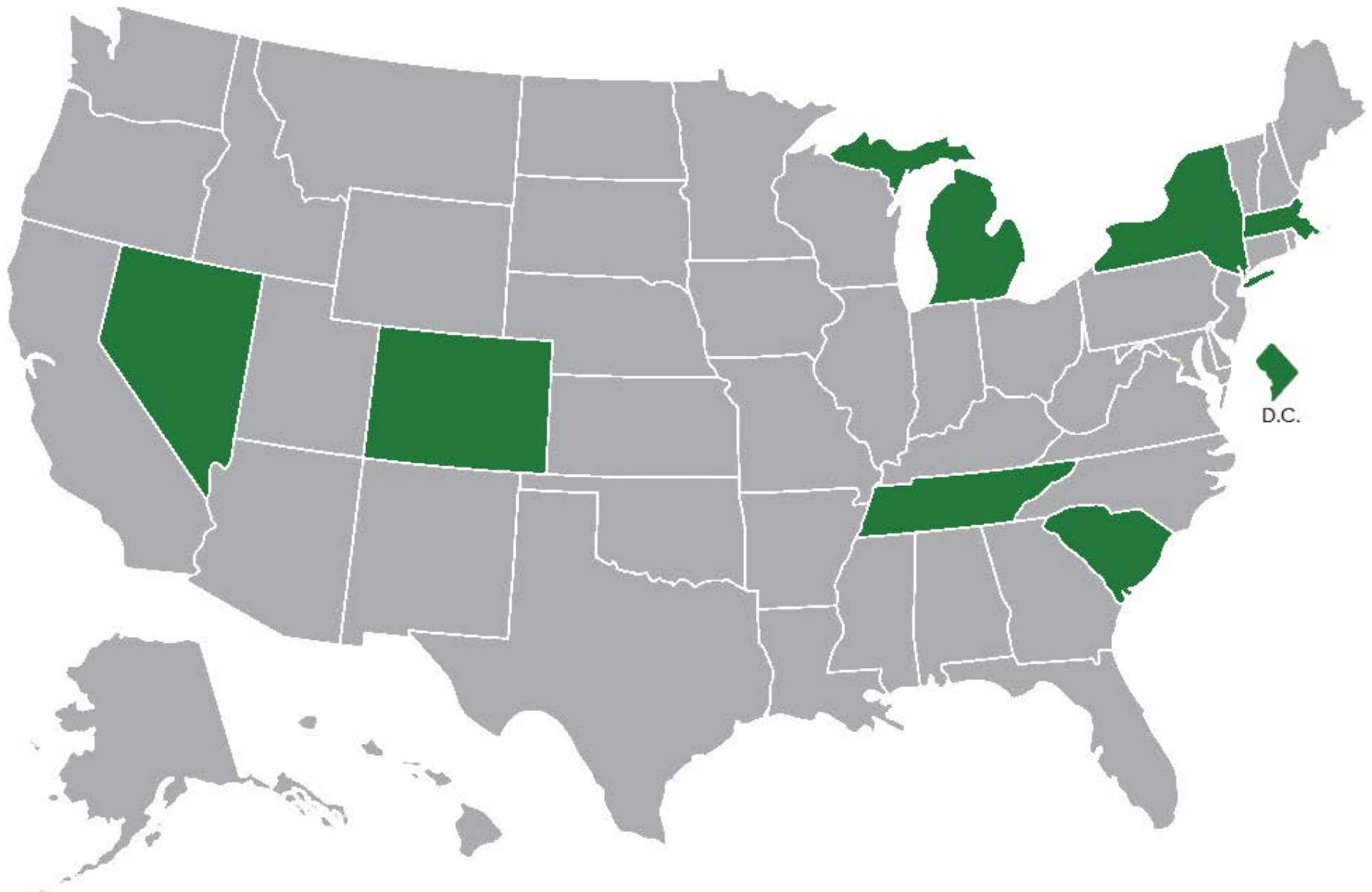
Literature reviews and environmental scans

IM risk and protective factors	SDOH and equity	Housing
Transportation	Education	Employment

For each topic:

1. How does this affect infant mortality?
2. Scope of problem in Ohio
3. Policy landscape
4. Opportunities for improvement

Housing
Challenges and inequities

Infant mortality

Relationship between housing and infant mortality

Housing challenges and inequities

Negative effects on health and equity

Leading causes of infant mortality

Affordability
- Lack of affordable housing stock
- Lack of income and livable wage jobs to afford available housing
- Limited availability of rental assistance
- Lack of savings for emergencies

Discriminatory housing policy and practice
- Structural racism
- Historically racist housing policy and segregation
- Discriminatory rental, lending and eviction practices

Neighborhood conditions
- Low opportunity (education, jobs, etc.)
- High crime and violence
- Limited access to resources (healthy food, medical care, etc.)

Stability
- Forced moves and evictions
- Lack of renter protections and predatory rental practices
- Abusive/violent living situations

Quality
- Poor house maintenance or construction
- Lack of safe sleeping areas
- Involuntary doubling and tripling up

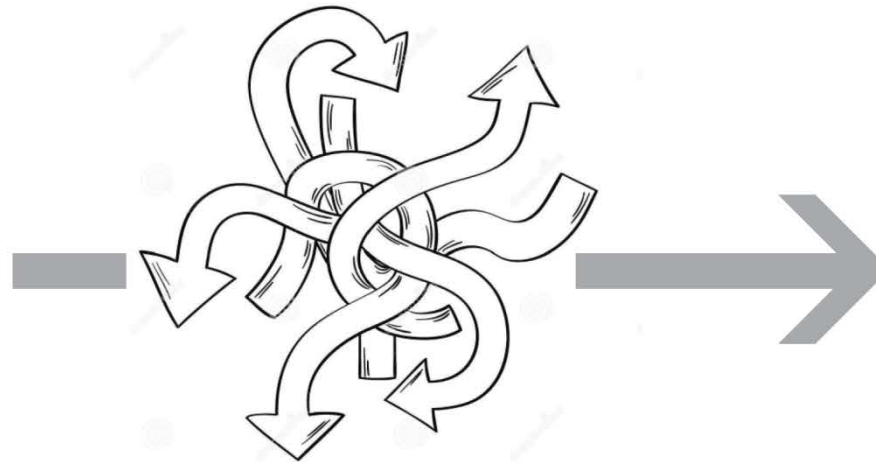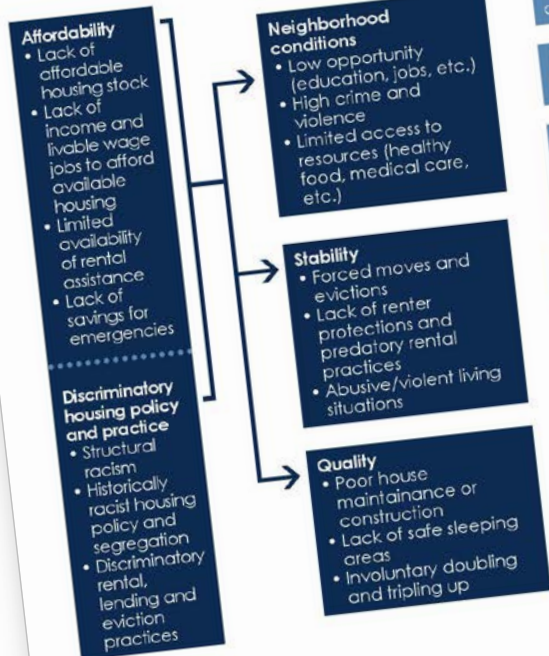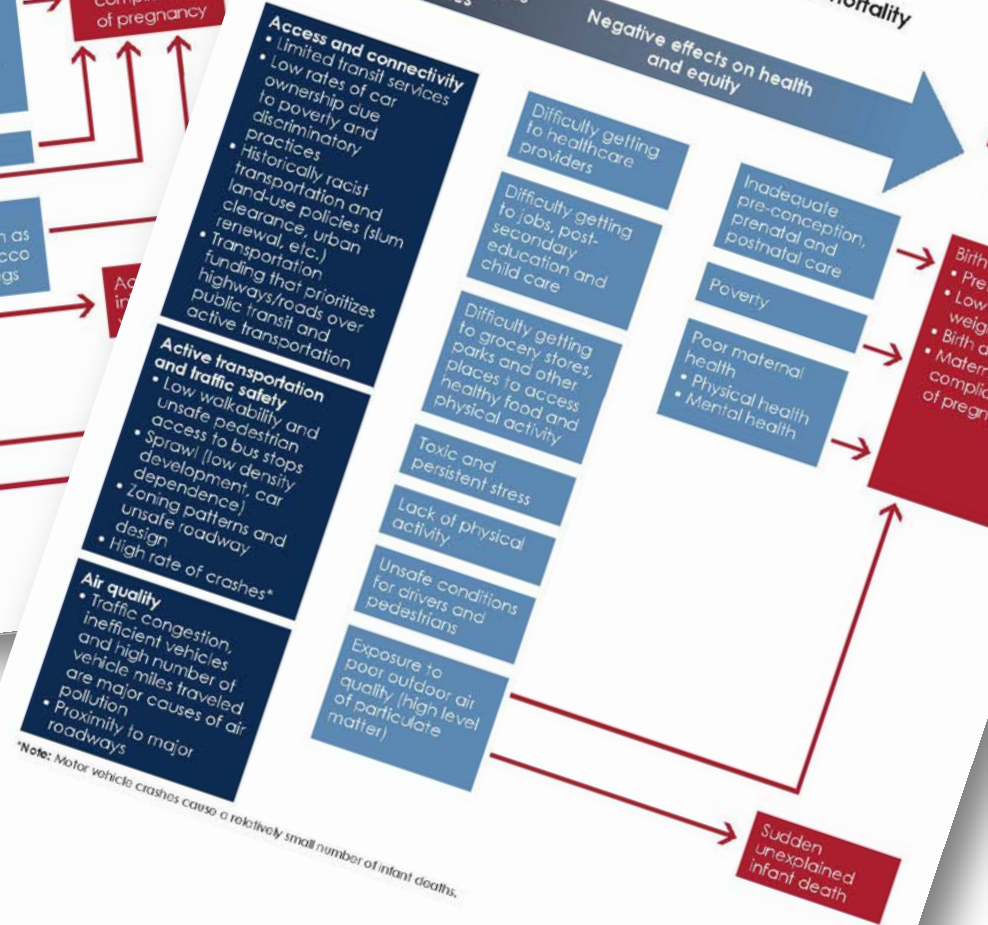Food insecurity and poor nutrition

Difficulty paying for medical care

Difficulty getting to jobs, education, child care and medical providers

Toxic and persistent stress

Homelessness

Intimate partner violence

Exposure to toxins and pests (lead, environmental tobacco smoke, etc.)

Unsafe sleep

Poor maternal health
- Physical health
- Mental health

Disrupted, uncoordinated or inadequate pre-conception, prenatal and post-natal care

Poverty

Unhealthy behaviors such as alcohol, tobacco and other drugs

Ac... in...

Birth outcomes:
- Preterm birth
- Low birth weight
- Birth defects
- Maternal complications of pregnancy

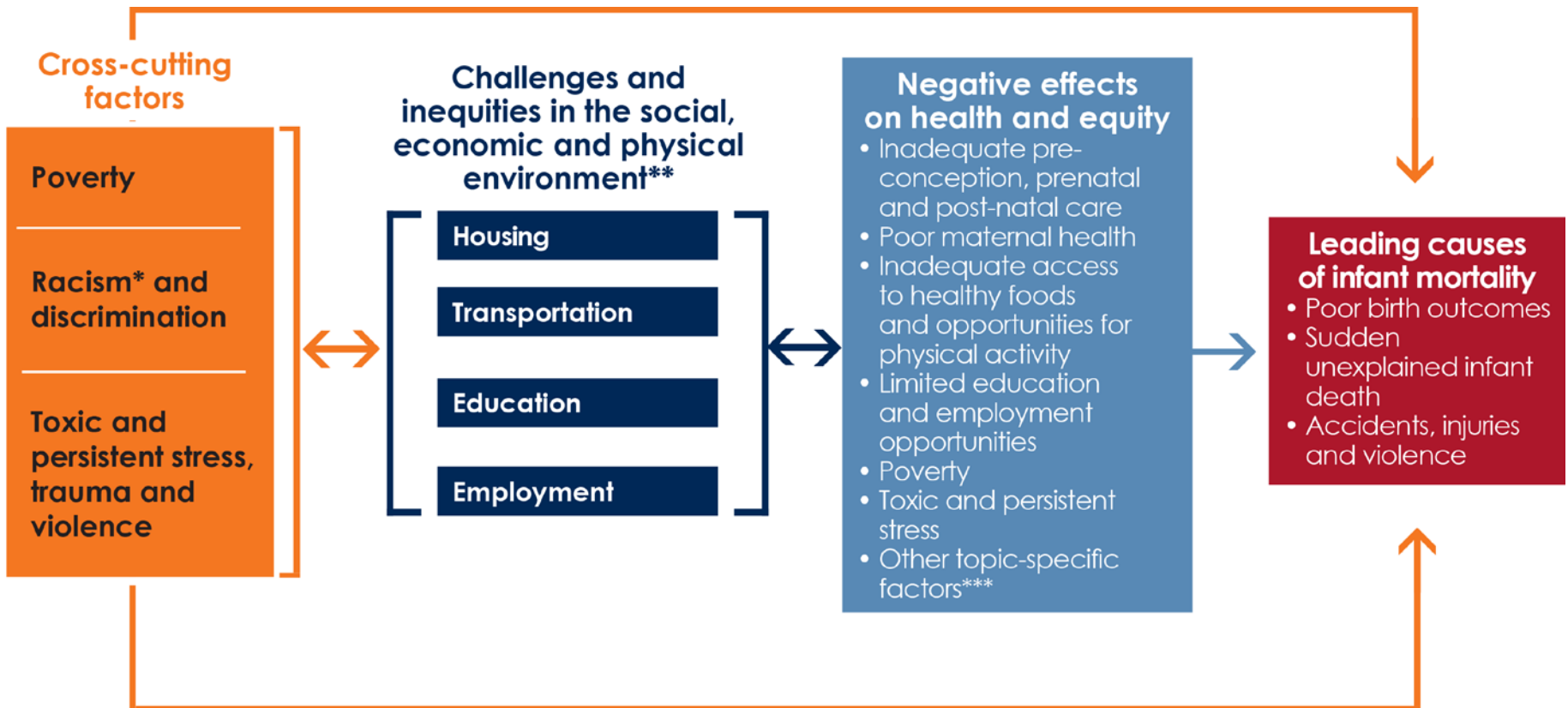## ❷ Relationship between transportation and infant mortality

Transportation challenges and inequities

Negative effects on health and equity

Access and connectivity
- Limited transit services
- Low rates of car ownership due to poverty and discriminatory practices
- Historically racist transportation and land-use policies (slum clearance, urban renewal, etc.)
- Transportation funding that prioritizes highways/roads over public transit and active transportation

Active transportation and traffic safety
- Low walkability and unsafe pedestrian access to bus stops
- Sprawl (low density development, car dependence)
- Zoning patterns and unsafe roadway design
- High rate of crashes*

Air quality
- Traffic congestion, inefficient vehicles and high number of vehicle miles traveled are major causes of air pollution
- Proximity to major roadways

*Note: Motor vehicle crashes cause a relatively small number of infant deaths.

Difficulty getting to healthcare providers

Difficulty getting to jobs, post-secondary education and child care

Difficulty getting to grocery stores, parks and other places to access healthy food and physical activity

Toxic and persistent stress

Lack of physical activity

Unsafe conditions for drivers and pedestrians

Exposure to poor outdoor air quality (high level of particulate matter)

Inadequate pre-conception, prenatal and postnatal care

Poverty

Poor maternal health
- Physical health
- Mental health

Birt...
- Pre...
- Low...
- weig...
- Birth...
- Matern...
- complica...
- of pregn...

Sudden unexplained infant death

Summary of relationships between housing, transportation, education, employment and infant mortality

Cross-cutting factors

Poverty

Racism* and discrimination

Toxic and persistent stress, trauma and violence

Challenges and inequities in the social, economic and physical environment**

- Housing
- Transportation
- Education
- Employment

Negative effects on health and equity
- Inadequate pre-conception, prenatal and post-natal care
- Poor maternal health
- Inadequate access to healthy foods and opportunities for physical activity
- Limited education and employment opportunities
- Poverty
- Toxic and persistent stress
- Other topic-specific factors***

Leading causes of infant mortality
- Poor birth outcomes
- Sudden unexplained infant death
- Accidents, injuries and violence

* Structural, institutional, interpersonal and internalized racism
** Topics specified for study by SB 332
*** See figures 2-5 for details

Housing

Housing policies and programs

- **Improved housing**
  - Affordability
  - Stability
  - Quality

- **Decreased discriminatory housing policies and practices**

- **Improved neighborhood conditions**

- **Healthy mothers and babies**
- **Improved birth outcomes**
- **Health equity**

Transportation

Transportation policies and programs

→

Improved
- Access and connectivity, including public transit and NEMT
- Pedestrian safety
- Traffic safety
- Air quality

→

- Healthy mothers and babies
- Improved birth outcomes
- Health equity

Policy recommendations

Policy recommendations will be informed by…

Inventory of evidence-based policies and programs

(from evidence registries and systematic review)

Literature reviews

Most-improved state analysis

Suggestions and priorities from Advisory Group

Policy recommendation development process

✓ Gather initial policy ideas through literature review and Advisory Group discussions

✓ Create evidence inventories for each topic

❑ Share evidence inventories and initial draft recommendations as pre-read before Oct. 17 AG meeting

Policy recommendation development process, cont.

❑Discuss and refine recommendations at Oct. 17 Advisory Group meeting

❑Prioritization by Advisory Group via online survey (immediately after Oct. 17 meeting)

❑Finalize recommendations (Oct.-Nov.)

Criteria for prioritizing policy recommendations

- Strength of evidence of effectiveness
- Relevance to the priority populations for infant mortality
- Potential size of impact on overall infant mortality rate and risk factors
- Potential size of impact on inequities and disparities
- Opportunities given current landscape and awareness of the problem in Ohio
- Short-term political feasibility (2 years)*

Effective policy recommendations are….

- Specific and actionable
- Directed at the decision-making authority that can implement the change
  - Legislative, executive or judicial branch
  - Federal, state or local
  - Public or private

- Evidence-informed
- Realistic within policy landscape

Evidence-based policy or program + Specific policy lever = **Policy recommendation**
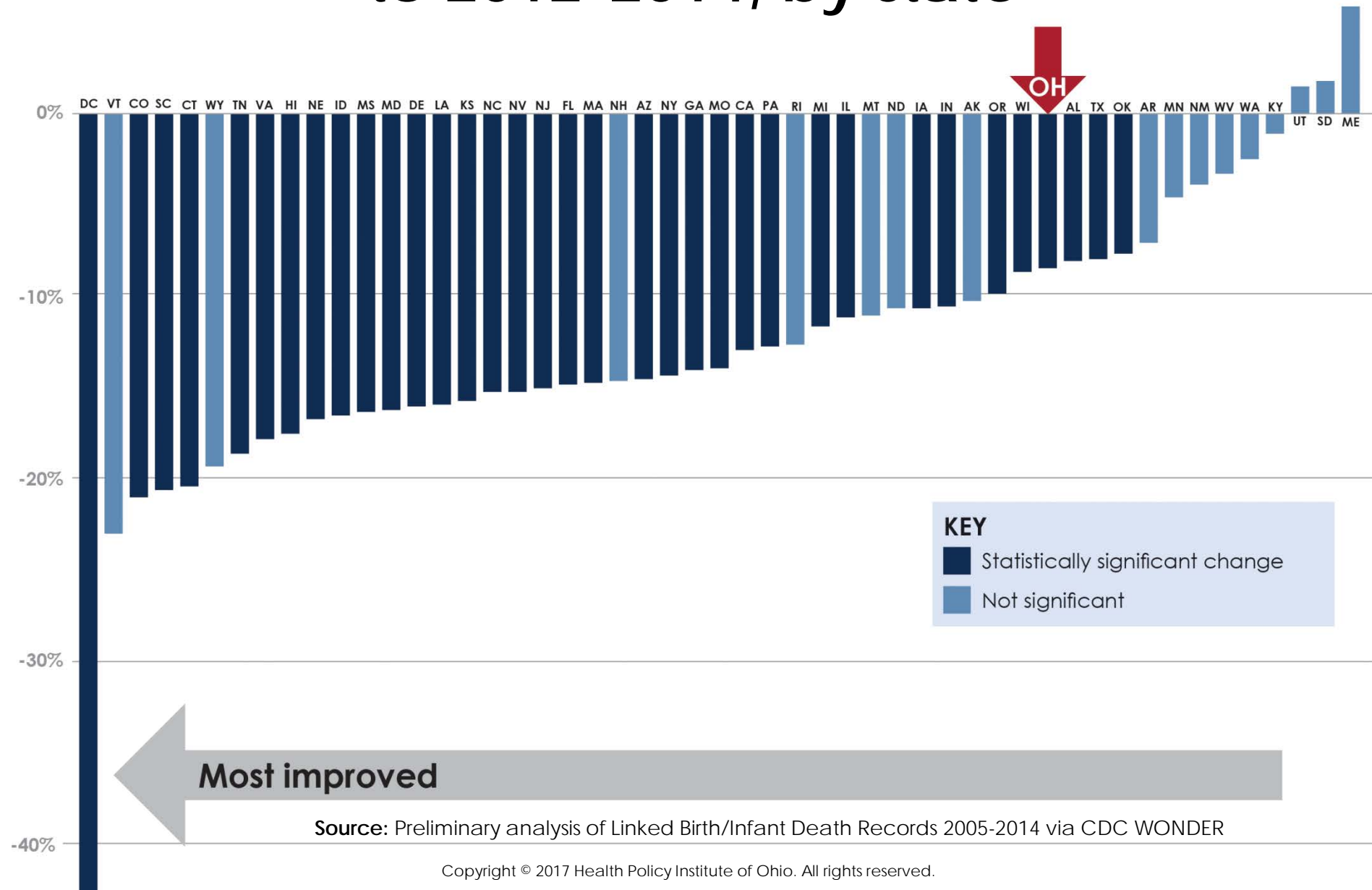
Questions

Contact

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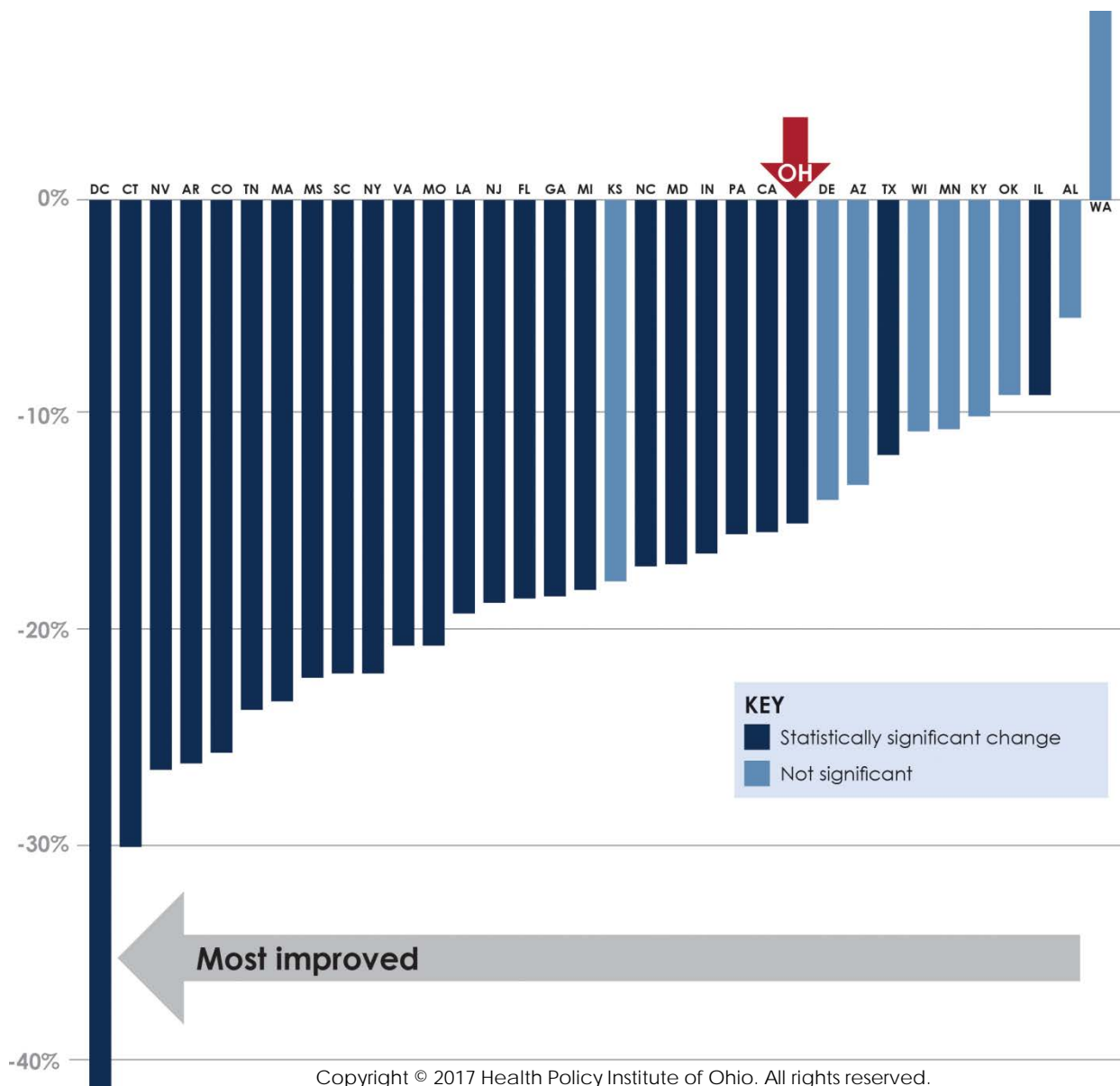
Health Policy Institute of Ohio

astevens@healthpolicyohio.org

Change in infant mortality rate, 2005-2007 to 2012-2014, by state

KEY
- ■ Statistically significant change
- ■ Not significant

Most improved

Change in <u>Non-Hispanic Black</u> infant mortality rate, 2005-2007 to 2012-2014, by state

KEY
- Statistically significant change
- Not significant

Most improved

Change in Black-White disparity odds ratio for infant mortality, 2005-2007 to 2012-2014, by state

Source: Preliminary analysis of Linked Birth/Infant Death Records 2005-2014 via CDC WONDER