Population health status report on maternal and child health in Ohio

Component of Ohio’s 2020 State-wide Five-Year Maternal and Child Health Needs Assessment

September 2019
Contents
Acknowledgments........................................................................................................1
Executive summary .......................................................................................................2
Part 1. Purpose and overview .....................................................................................6
  Background and purpose ............................................................................................6
  Title V Vision .............................................................................................................6
  Title V Mission .........................................................................................................6
  Methods, data sources and stakeholder engagement .................................................6
Part 2. Summary of regional forum and online survey findings .................................9
  Greatest needs .........................................................................................................10
  Strengths ..................................................................................................................13
  Challenges ...............................................................................................................13
  Priority populations and equity ...............................................................................14
Part 3. Summary of key findings from secondary data analysis .................................15
  Disparities, inequities and impact of racism, discrimination and other forms of oppression ........................................................................................................16
  Health outcomes ......................................................................................................17
  Child and adolescent mortality ...............................................................................17
  Infant mortality .........................................................................................................21
  Maternal health .........................................................................................................23
  Mental health and addiction ....................................................................................23
  Asthma ........................................................................................................................28
  Healthy weight ..........................................................................................................28
  Access to care ...........................................................................................................29
  Preventive care and insurance coverage .................................................................29
  Care coordination and transitions in care ...............................................................29
  Access to mental health treatment ..........................................................................30
  Access to dental care ...............................................................................................30
  Health behaviors ......................................................................................................31
  Breastfeeding ...........................................................................................................31
  Teen birth ..................................................................................................................31
  Tobacco and alcohol use .........................................................................................31
  Nutrition and physical activity .................................................................................32
  Community conditions ............................................................................................32
Acknowledgments

The Ohio Department of Health (ODH) contracted with the Health Policy Institute of Ohio (HPIO) to complete this component of Ohio’s 2020 Five-Year State-wide Maternal and Child Health Needs Assessment.

Authors
Reem Aly, JD, MHA
Rebecca Sustersic Carroll, MPA

Data analysis lead
Zach Reat, MPA

Graphic design
Nick Wiselogel, MA

Contributors
Hailey Akah, JD, MA
Amy Bush Stevens, MSW, MPH
Airregina Clay, BA
Alana Clark-Kirk, BA
Amy Rohling McGee, MSW
Molly Schmidt, BS

Jacob Santiago, HPIO intern
Stephen Listisen, HPIO intern
Austin Oslock, HPIO intern
Julia Dionne, HPIO intern
Executive summary

Population health status report on maternal and child health in Ohio: Component of Ohio’s 2020 State-wide Five-Year Maternal and Child Health Needs Assessment

This report is one component of Ohio's 2020 Five-Year State-wide Maternal and Child Health (MCH) Needs Assessment and will inform selection of seven to 10 Title V MCH priority needs for Ohio’s five-year Title V program plan.

This report:
- **Describes health strengths and challenges** related to perinatal/infant health, child health, adolescent/young adult health, children and youth with special healthcare needs and maternal/women’s health (referred to as MCH population domain)
- **Describes health inequities and disparities** experienced by women, infants and children
- **Identifies 10 MCH priority needs** for each MCH population domain
- **Proposes national and state outcome and performance measures** that align with the identified MCH priority needs and can be tracked in the State Action Plan
- **Describes alignment** between the identified MCH priority needs and priority areas in Ohio’s 2020-2022 State Health Improvement Plan

Summary of challenges by population domain

Health challenges facing Ohio’s women, infants and children are summarized below.

**Perinatal and infant health**

Infant mortality and related birth outcomes were identified as the greatest challenges facing the perinatal and infant health population. Ohio’s overall infant mortality rate (6.8 infant deaths per 1,000 live births) was 1.25 times greater than the U.S. rate (5.9 infant deaths per 1,000 live births) in 2016. In addition, in 2018, non-Hispanic black infants in Ohio died at 2.6 times the rate of non-Hispanic white infants.

Addiction issues impacting infants are also a challenge. Ohio’s high rate of infants born with neonatal abstinence syndrome per 1,000 births in 2016 was 76.5% higher than the U.S. rate and moving in the wrong direction.

**Child health**

Children in Ohio face many challenges that can impact health later in life, particularly increased exposure to trauma and lead:
- One-fourth of Ohio children (25.1%) experienced two or more adverse childhood experiences (ACEs), compared to only one-fifth (20.5%) of U.S. children in 2016-2017.
- All of Ohio’s largest cities had lead exposure risk index levels above the average U.S. average in 2012-2016.
There were also notable disparities among children in Ohio across multiple indicators, particularly for black or African-American children and children with low incomes.

**Children and youth with special healthcare needs (CYSHCN)**

CYSHCN face many of the same challenges as children and youth without special healthcare needs in Ohio, including mental health and addiction. However, disparities exist. For example, CYSHCN, ages 12-17, were 2.5 times more likely than children without special healthcare needs to be bullied in 2016-2017.

Challenges related to healthcare access also emerged for CYSHCN, including a need for greater care coordination and increased access to services for children with autism, spectrum disorders, developmental disabilities and learning disabilities.

**Adolescent and young adult health**

Adolescents and young adults in Ohio face severe mental health- and addiction-related challenges:

- The percent of adolescents, ages 12-17, who had at least one major depressive episode in the past year increased by 57%, from 8.9% in 2011-2012 to nearly 14% in 2015-2016.
- Suicide rates for adolescents, ages 15-19, and young adults, ages 18-25, increased by more than half (55.7% and 50.4% respectively) from 2009 to 2018.
- Adolescents and young adults in Ohio are also struggling with drug use. E-cigarettes/vaping products were the most commonly used tobacco products by Ohio high school students in 2017 and U.S. data indicates worsening trends. In addition, drug overdose deaths have more than doubled among young adults, ages 18-25, from 138 deaths in 2007 to 319 deaths in 2018.

**Maternal and women’s health**

Mental health and addiction are also serious issues facing pregnant women and mothers. More women in Ohio experienced postpartum depression in 2015 (16.2%) than women in the U.S. (12.8%). In addition, postpartum depression for Ohio women increased by more than 20% from 2012 to 2015.

In 2017, Ohio’s rate of women who smoked cigarettes during pregnancy (13.8%) was two times higher than the U.S. rate (6.9%). Moreover, 25.5% of pregnant women covered by Ohio Medicaid smoked during pregnancy in 2017, nearly twice the rate for the state overall.

Although Ohio’s severe maternal morbidity rate is lower than the U.S., large disparities exist. Hispanic, non-Hispanic Asian/Pacific Islander and non-Hispanic black women in Ohio experience higher rates of maternal morbidity than non-Hispanic white women.

**Title V MCH State Action Plan Framework**

Figure ES1 highlights the proposed MCH State Action Plan framework, which outlines Ohio’s ten MCH priority needs and aligned performance measures. The framework was developed using several qualitative and quantitative sources, including secondary data analysis and stakeholder input.
Figure ES.1. Proposed Ohio Maternal and Child Health (MCH) State Action Plan framework with priority health needs and performance measures

**Overall goal:** Ensure all women, infants, children and families achieve their full health potential.

<table>
<thead>
<tr>
<th>Maternal and child health population domain</th>
<th>Priority health need and outcome statement</th>
<th>Proposed national or state outcome measures (NOM/SOM)</th>
<th>Proposed national or state performance measures (NPM/SPM)</th>
</tr>
</thead>
</table>
| Perinatal and infant health               | Infant mortality: Reduce Ohio’s infant mortality rate | Infant mortality [NOM 9.1] | • Breastfeeding [NPM 4]
|                                           |                                           |                                                     | • Safe sleep [NPM 5]
|                                           |                                           |                                                     | • Smoking [NPM 14] |
|                                           | Eliminate racial/ethnic disparities      |                                                     |                                                      |
|                                           |                                          |                                                     |                                                      |
| Child health                              | Healthy weight: Increase the prevalence of children and adolescents in Ohio who have a healthy weight | Child and adolescent healthy weight [NOM 20] | • Child health: Physical activity [NFM 8.1]
|                                           |                                           |                                                     | • Adolescent health: Physical activity [NPM 8.2]
|                                           |                                           |                                                     | • Child and adolescent health: Fruit or vegetable consumption [SPM]
|                                           |                                           |                                                     | • Limited access to healthy foods [SPM]
|                                           |                                           |                                                     | • Food insecurity [SPM]
|                                           | Eliminate gender disparities              |                                                     |                                                      |
|                                           |                                          |                                                     |                                                      |
| Children and youth with special healthcare needs | Integrated care: Increase the prevalence of children and youth with special healthcare needs in Ohio receiving integrated physical, behavioral, developmental and mental health services | Care for children with special health care needs [NOM 17.2] | • Developmental screening [NPM 6]
|                                           |                                           |                                                     | • Medical home [NPM 11]
|                                           |                                           |                                                     | • Transitions in care [NPM 12]
|                                           | TBD                                      |                                                     |                                                      |
| Adolescent and young adult health         | Suicide: Reduce Ohio’s adolescent and young adult suicide rate | Adolescent suicide [NOM 16.3] | • Bullying [NPM 9]
|                                           |                                           |                                                     | • Adolescent well visit [NPM 10]
|                                           |                                           |                                                     | • Unmet need for mental health, youth [SPM]
|                                           | Eliminate gender disparities              |                                                     | • Frequent mental distress, youth [SPM]
|                                           |                                          |                                                     | • Mental health treatment [NOM 18]* |
|                                           |                                          |                                                     |                                                      |
|                                           | Drug use: Reduce prevalence of adolescent substance use in Ohio | Adolescent tobacco/nicotine, alcohol and marijuana use [SOM] | • Youth perceived risk of cigarette smoking [SPM]
|                                           |                                           |                                                     | • Youth perceived risk of alcohol use [SPM]
|                                           |                                           |                                                     | • Youth perceived risk of marijuana use [SPM]
|                                           |                                           |                                                     | • Tobacco use and help with quitting among adolescents/young adults [SPM]

* Indicates the equity goal for the priority need. The equity goal identifies populations facing large gaps in outcomes that need to be eliminated. TBD indicates an equity goal has not yet been identified.

* Proposal to include this measure as an NPM instead of a NOM.

For a full description of measures (NOMs, NPMs, SOMs) see Appendix C.
Figure ES.1. Proposed Ohio Maternal and Child Health State Action Plan framework with priority health needs and performance measures (cont.)

<table>
<thead>
<tr>
<th>Maternal and child health population domain</th>
<th>Priority health need and outcome statement</th>
<th>Proposed national or state outcome measures (NOM/SOM)</th>
<th>Proposed national or state performance measures (NPM/SPM)</th>
</tr>
</thead>
</table>
| Women's and maternal health                | Maternal morbidity: Reduce Ohio’s maternal morbidity rate | Maternal morbidity [NOM 2] | • Well-woman visit [NPM 1]  
  • Smoking [NPM 14.1]  
  • Pre-pregnancy healthcare visit [SPM] |
|                                            | Eliminate racial/ethnic disparities      |                                                      |                                                          |
|                                            | Postpartum depression: Reduce prevalence of women in Ohio experiencing postpartum depression | Postpartum depression [NOM 24] | • Well-woman visit [NPM 1]  
  • Postpartum visit [SPM]  
  • Depression or anxiety before pregnancy [SPM] |
|                                            | Eliminate income disparities              |                                                      |                                                          |
|                                            | Preterm births: Reduce prevalence of preterm births in Ohio | Preterm births [NOM 5] | • Well-woman visit [NPM 1]  
  • Smoking [NPM 14.1] |
|                                            | Eliminate racial/ethnic disparities      |                                                      |                                                          |
| Cross-cutting                              | Adverse childhood experiences: Reduce prevalence of Ohio children exposed to adverse childhood experiences | Adverse childhood experiences [SOM] | • Child abuse and neglect [SPM] |
|                                            | Eliminate racial/ethnic and income inequities |                                                      |                                                          |
|                                            | Lead and asthma: Reduce prevalence of Ohio children exposed to environmental hazards (asthma triggers and lead) | Children with elevated blood lead levels [SOM]  
  • Emergency department visits for pediatric asthma [SOM] | • Lead screening [SPM]  
  • Measure TBD to assess number of homes that underwent lead abatement/mitigation and/or workforce capacity |
|                                            | Eliminate racial/ethnic and geographic inequities |                                                      |                                                          |

* Indicates the equity goal for the priority need. The equity goal identifies populations facing large gaps in outcomes that need to be eliminated. TBD indicates an equity goal has not yet been identified.

For a full description of measures (NOMs, NPMs, SOMs) see Appendix C.
Part 1. Purpose and overview

Background and purpose

This report is one component of Ohio’s 2020 Five-Year State-wide Maternal and Child Health Needs Assessment (referred to as the "Needs Assessment"). The Needs Assessment is required for federal Maternal and Child Health (MCH) Services Block Grant funding under Title V (Sec. 505 (a)(1)) of the Social Security Act.

Title V Vision

Title V envisions a nation where all mothers, infants, children aged 1 through 21 years, including children and youth with special healthcare needs, and their families are healthy and thriving.

Title V Mission

The mission of Title V is to improve the health and well-being of the nation’s mothers, infants, children and youth, including children and youth with special healthcare needs, and their families.

The purpose of this report is to inform selection of seven to 10 Title V MCH priority needs for the state that, in addition to other information in the Needs Assessment, will be used to develop Ohio's five-year Title V program plan (referred to as the “State Action Plan”). The State Action Plan should address the health services needs of Ohio’s mothers, infants and children to age 21 (including children and youth with special healthcare needs), and their families (referred to as the “MCH population”).

This report:

- Describes health strengths and challenges related to perinatal/infant health, child health, adolescent/young adult health, children and youth with special healthcare needs and maternal/women’s health (referred to as MCH population domain)
- Describes health inequities and disparities experienced by the MCH population
- Identifies 10 MCH priority needs across the five MCH population domains
- Proposes national and state outcome and performance measures that align with the identified MCH priority needs and can be tracked in the State Action Plan
- Describes alignment between the identified MCH priority needs and priority areas in Ohio’s 2020-2022 State Health Improvement Plan

The Health Policy Institute of Ohio (HPIO) was commissioned by the Ohio Department of Health (ODH) to complete this report by September 2019.

Methods, data sources and stakeholder engagement

This report draws upon data from several qualitative and quantitative sources described in more detail below.

Qualitative data

This report relies on five sources of qualitative data, including a wide representation of stakeholders:

- Regional forums and an online survey
- Key informant interviews
- Feedback from members of the Parent and Medical Advisory Committees
- Feedback from members of a Maternal and Child Health (MCH)/Maternal, Infant and Early Childhood Home Visiting Committee (MIECHV) Steering Committee
- Feedback from staff at the Ohio Department of Health, Division of Maternal, Child and Family Health

**Regional forums and online survey**

HPIO facilitated a series of five regional forums in October 2018 and conducted an online survey that was completed by forum attendees and other stakeholders. The purpose of the forums and the online survey was to gather information on:

- **Priorities and needs:** Stakeholders provided input on the biggest needs faced by women and children in Ohio across the five MCH population domains. Needs were identified related to health outcomes; social determinants of health; public health system, prevention and health behaviors; and healthcare system and access.
- **Strengths and challenges:** Stakeholders were asked to describe MCH strengths and challenges.
- **Equity:** Stakeholders were asked to identify MCH priority populations, the drivers of gaps in health outcomes across priority populations and what needs to happen to ensure all children and families achieve their full health potential.

Overall, a total of 692 stakeholders participated in either a regional forum or completed the online survey. Regional forum attendees and online survey respondents represented a variety of organizations, sectors and perspectives, including maternal and child health advocates, health care, public health, behavioral health, community residents and consumer groups. See figures 1.1-1.2 for additional details on regional forum attendees and online survey respondents. More information can also be found in the full regional forum and online survey report in Appendix A.

**Figure 1.1. 2018 MCH/MIECHV regional forum participation**

<table>
<thead>
<tr>
<th>Total number of forum attendees*</th>
<th>363</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central region – Columbus, Oct. 3, 2018</td>
<td>74</td>
</tr>
<tr>
<td>Southeast region – Athens, Oct. 10, 2018</td>
<td>52</td>
</tr>
<tr>
<td>Southwest region – Dayton, Oct. 12, 2018</td>
<td>68</td>
</tr>
<tr>
<td>Northwest region – Findlay, Oct. 30, 2018</td>
<td>83</td>
</tr>
<tr>
<td>Northeast region – Rootstown, Oct. 31, 2018</td>
<td>86</td>
</tr>
</tbody>
</table>

*Includes duplicates. Some individuals attended more than one forum. Does not include HPIO staff.
Figure 1.2 Online survey respondents, by population domain, by region*

<table>
<thead>
<tr>
<th>Population Domain</th>
<th>Total Respondents</th>
<th>Maternal/ Women's Health</th>
<th>Perinatal/ Infant Health</th>
<th>Child Health</th>
<th>Children with Special Healthcare Needs</th>
<th>Adolescent/ Young Adult Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total respondents*</td>
<td>605</td>
<td>148</td>
<td>108</td>
<td>82</td>
<td>40</td>
<td>101</td>
</tr>
<tr>
<td>Total respondents by region and statewide**</td>
<td></td>
<td>49</td>
<td>31</td>
<td>13</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td>27</td>
<td>14</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Southeast</td>
<td></td>
<td>29</td>
<td>28</td>
<td>23</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Southwest</td>
<td></td>
<td>18</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Northeast</td>
<td></td>
<td>36</td>
<td>31</td>
<td>19</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Statewide***</td>
<td></td>
<td>15</td>
<td>9</td>
<td>11</td>
<td>9</td>
<td>14</td>
</tr>
</tbody>
</table>

*Includes duplicate individuals across population domains because the survey allowed respondents to provide feedback on more than one population domain. 
**Respondents may represent more than one region. 
***Respondents indicated they represented a statewide organization.

Key informant interviews
HPIO conducted a series of 15 key informant interviews to assess the quality and capacity of early childhood home visiting in the state. Of the 15 organizations interviewed, 13 were home visiting providers or funders/payers of home visiting services, five were state agencies or commissions, one was a health plan and one was a statewide advocacy organization. Interviewees provided information on barriers and challenges faced by women and families in accessing home visiting services. Findings from the key informant interviews regarding opportunities for system improvement is on pg. 39 of this report.

Maternal and Child Health (MCH)/Maternal, Infant and Early Childhood Home Visiting (MIECHV) Steering Committee
HPIO and ODH convened an MCH/MIECHV Steering Committee. The purpose of the Committee was two-fold: (1) to inform the identification of MCH priority needs and performance measures and (2) to provide input on development of the state’s MIECHV needs assessment. The Steering Committee was composed of 35 child health and home visiting experts representing 27 organizations from around the state, including representatives from the following state agencies, commissions and advisory groups:
- Ohio Department of Health
- Ohio Department of Medicaid
- Ohio Department of Developmental Disabilities
- Ohio Department of Mental Health and Addiction Services
- Ohio Department of Education
- Ohio Department of Job and Family Services
- Ohio Commission on Minority Health
- Ohio Children’s Trust Fund
- Governor’s Office of Children’s Initiatives
- Ohio Family 2 Family
Information about the Steering Committee meetings is available on [HPIO's website](#). Member organizations are listed in Appendix B.1.

**Medical Advisory Council (MAC) and Parent Advisory Committee (PAC) for the Children with Medical Handicaps Program**

ODH conducted focused conversations in December 2018 and May 2019 with members of the MAC and PAC for the Children with Medical Handicaps Program to garner additional feedback on the needs of child and youth with special health care needs (CYSHCN). MAC and PAC inform ODH and other entities on policy, system and program structures to support and improve physical, social and emotional outcomes for CYSHCN and their families. For a list of members of MAC and PAC, see Appendix B.2.

**Ohio Department of Health Division of Maternal, Child and Family Health**

HPIO gathered input from ODH Division staff at two points during the process of creating this report:

- **January 15, 2019 ODH staff meeting**: HPIO presented preliminary findings from the regional forums and online survey and gathered feedback on the health priority needs that were identified and whether other priority needs that did not rise to the top should be explored further.
- **June 13, 2019 ODH staff meeting**: HPIO presented the top ranked health priority needs based on stakeholder input and secondary data analysis and gathered feedback on identifying a final set of health priority needs and potential performance measures.

**Quantitative data**

To assess the health status of Ohio’s MCH population, HPIO analyzed data from the national outcome measures (NOMs) and national performance measures (NPMs) provided by the Health Resources Services Administration (HRSA) and metrics compiled by ODH in the Ohio [Online State Health Assessment (SHA) and Summary Report](#) (see pg. 44 for a description of the SHA). Data sources included health surveys (such as the Behavioral Risk Factor Surveillance System), Vital Statistics (birth and death records), healthcare system utilization data and data from sectors beyond health (e.g. housing, transportation, education). See Appendix C for a list of metrics reviewed.

**Part 2. Summary of regional forum and online survey findings**

This section synthesizes information from three sources of stakeholder input:

- Small group discussions at regional forums
- Worksheets completed individually by participants at regional forums
- Online survey responses

This triangulation approach provides a comprehensive look at maternal and child health and community conditions that impact health. For more detailed findings from the regional forums and online survey, click [here](#) or see Appendix A.
Greatest needs

Regional forum participants and online survey respondents were asked to identify the greatest needs faced by women and children in Ohio related to health outcomes; social determinants of health; public health system, prevention and health behaviors; and healthcare system and access across five MCH population domains:

- Perinatal and infant health
- Child health
- Children with special healthcare needs
- Adolescent and young adult health
- Maternal and women’s health

When identifying the greatest needs facing these MCH population domains (referred to as the “domains”), stakeholders were asked to consider the criteria in figure 2.1.

![Figure 2.1. Criteria used to rank order maternal and child health needs](image)

<table>
<thead>
<tr>
<th>Magnitude of the problem</th>
<th>Number or percent of Ohio children and/or families affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of the problem</td>
<td>Risk of morbidity and mortality associated with the problem</td>
</tr>
</tbody>
</table>
| Magnitude of disparities/inequities and impact on vulnerable populations | • Size of gap in outcomes between groups (e.g. by race/ethnicity, income, educational attainment, disability status, etc.)
• Overall impact on families living in poverty, people with disabilities or other vulnerable populations |

The top five greatest health outcome needs are highlighted in figure 2.2. Mental health and suicide and drug use and dependency were identified as top-five health outcome needs across all domains. There were no health outcome needs unique to a domain.

![Figure 2.2. Top-five health outcome needs, by population domain](image)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Perinatal/infant health</th>
<th>Child health</th>
<th>Children with special healthcare needs</th>
<th>Adolescent/young adult health</th>
<th>Maternal/women’s health</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Infant mortality and birth outcomes</td>
<td>Mental health and suicide</td>
<td>Mental health and suicide</td>
<td>Mental health and suicide</td>
<td>Infant mortality and birth outcomes</td>
</tr>
<tr>
<td>2</td>
<td>Drug use and dependency</td>
<td>Drug use and dependency</td>
<td>Child maltreatment</td>
<td>Drug use and dependency</td>
<td>Mental health and suicide</td>
</tr>
<tr>
<td>3</td>
<td>Mental health and suicide</td>
<td>Child maltreatment</td>
<td>Drug use and dependency</td>
<td>Violence</td>
<td>Drug use and dependency</td>
</tr>
<tr>
<td>4</td>
<td>Unintended pregnancy and teen birth</td>
<td>Healthy weight status/obesity</td>
<td>Infant mortality and birth outcomes</td>
<td>Healthy weight status/obesity</td>
<td>Unintended pregnancy and teen birth</td>
</tr>
<tr>
<td>5</td>
<td>Violence</td>
<td>Violence</td>
<td>Violence</td>
<td>Tobacco use</td>
<td>Tobacco use</td>
</tr>
</tbody>
</table>

*Note: Gray shading indicates a top-five need across all population domains.*

*Source: 2018 MCH/MECHV online survey and regional forum participant worksheets*
The top five greatest social determinant of health needs are highlighted in figure 2.3. Poverty was in the top two across all domains. Adverse childhood experiences/trauma and housing were ranked in the top five across all domains. Employment and income were identified as a top need for maternal and women’s health, while education-related needs were ranked in the top five for child health and adolescent/young adult health.

The top five greatest public health system, prevention and health behavior needs are outlined in figure 2.4. Nutrition was identified in the top five for all domains. Breastfeeding and safe sleep were ranked as top-five needs for perinatal/infant health. Physical activity was ranked in the top five for child health, and alcohol use was in the top five for adolescent/young adult health.
The top five greatest healthcare system and access needs are highlighted in figure 2.5. Access to healthcare and insurance coverage and healthcare affordability were identified as top-five healthcare system and access needs across all domains. Access to dental care was identified as a top-five need for child health. Services for children with autism, spectrum disorders, developmental disabilities and learning disabilities was ranked as a top-five need for children with special healthcare needs.
Strengths
The top three maternal and child health strengths identified by regional forum participants for Ohio overall were:

- Strong collaboration and partnerships at the local level
- Prevention and public health programs and policies geared towards maternal and child health
- Strong focus on prevention and the social determinants of health

Challenges
The top-three maternal and child health challenges identified by regional forum participants for Ohio overall were:

- Transportation
- Funding and capacity limitations
- Lack of healthcare access
**Priority populations and equity**

The following population groups (i.e., priority populations) were most-frequently identified as having the largest maternal and child health disparities for Ohio overall:

- Low income Ohioans
- African American/black Ohioans
- Residents of rural or Appalachian areas
- People with disabilities

Figure 2.6 highlights additional similarities in priority populations across domains for Ohio overall.

<table>
<thead>
<tr>
<th>Priority population*</th>
<th>Perinatal and infant health</th>
<th>Child health</th>
<th>Children with special healthcare needs</th>
<th>Adolescent and young adult health</th>
<th>Maternal and women’s health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>African-American/black</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>Residents of rural or Appalachian areas</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>People with disabilities</td>
<td>★</td>
<td>★</td>
<td>**</td>
<td>★</td>
<td>★</td>
</tr>
<tr>
<td>Immigrants or refugees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latino(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesbian, gay, bi-sexual, transgender or queer (LGBTQ)</td>
<td>★</td>
<td></td>
<td></td>
<td>★</td>
<td>★</td>
</tr>
</tbody>
</table>

**Key**

- ★ = Top-five priority population is unique to a population domain
- ‡ = Top-five priority population across all population domains

*Includes all top-five priority populations identified for Ohio overall for each of the five population domains

**Population domain is focused on children with special healthcare needs, which include disabling conditions

*Source*: 2018 MCH/MIECHV online survey

The top three drivers of gaps in health outcomes (health disparities) in the state for children and families identified by regional forum participants for Ohio overall were:

- Poverty/income
- Educational attainment
- Family stability (tie)
- Transportation (tie)

When asked what needs to happen to achieve health equity, the most common response from regional forum participants was coordination and collaboration among both state- and local-level partners. This was followed by improvements in educational attainment, employment opportunities and healthcare provider access.
Part 3. Summary of key findings from secondary data analysis

Research estimates that health is influenced by several modifiable factors, including access to care (i.e., clinical care access and quality), health behaviors and community conditions (i.e., factors within the social, economic and physical environments in which families live) (see figure 3.1). All these factors contribute to Ohio’s maternal and child health outcomes.

HPIO took a comprehensive approach to analyzing secondary maternal and child health data, reflecting the modifiable factors that influence health. Data findings were grouped into the following categories:

- **Health outcomes**
- **Community conditions**, referred to as the social determinants of health in the regional forum and online survey findings, and includes factors such as education, housing and transportation
- **Health behaviors**, referred to as public health system, prevention and health behaviors in the regional forum and online survey findings, and includes factors such as breastfeeding and alcohol use
- **Access to care**, referred to as healthcare system and access in the regional forum and online survey findings, and includes factors such as health insurance coverage and dental care

The secondary data analysis used the following sources:
- Data provided by the Health Resource Services Administration (HRSA) on a set of national outcome measures (NOM) and national performance measures (NPM)
- Data from metrics compiled by ODH in the online SHA and SHA Summary Report. 69 metrics were examined from the Online SHA and SHA summary report based on top MCH priority needs identified through stakeholder input (i.e. regional forum)
participants and online survey respondents, Steering Committee members and ODH Division staff).

For a full list of metrics and sources, see Appendix C. Data gaps and limitations of the SHA data can be found here in Appendix D. These limitations also apply to the NOM and NPM data provided by HRSA.

HPIO reviewed the data and identified notable findings* based on one or more of these factors:

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| • Ohio's performance was better than the U.S. by 10% or more  
• Ohio's trend improved by 10% or more, or other notable long-term trend in a positive direction |
| • Ohio's performance was worse than the U.S. by 10% or more  
• Ohio's trend worsened by 10% or more, or other notable long-term trend in a negative direction  
• Ohio children experienced large disparities/inequities by race, ethnicity, income, geography, etc. |

**Disparities, inequities and impact of racism, discrimination and other forms of oppression**

**Disparities** refer to avoidable differences in health outcomes that exist across communities. For example, this includes gaps in outcomes across overall health status; conditions and diseases; and mortality.

**Inequities** refer to differences in access to resources. For example, this includes gaps in outcomes related to access to healthcare; healthy foods; a job that pays a self-sufficient income; adequate, stable housing; and quality education.

Disparities and inequities are rooted in systemic, historic, unjust or racist structures, policies and norms within society. The gaps in outcomes highlighted in the secondary data analysis provide “tip of the iceberg” measures of the cumulative impact of racism, discrimination and other forms of oppression over time.

Gaps in outcomes across the MCH population are most common among:

• Racial and ethnic communities  
• People with low levels of educational attainment  
• People with low incomes  
• People who have a disability  
• Sexual or gender minorities  
• Residents of other under-resourced communities.
Health outcomes
Ohio experiences many poor maternal and child health outcomes, including high infant, child and adolescent mortality rates; depression among adolescents and new mothers; suicide rates among adolescents and young adults; and drug overdose deaths. There are also large disparities in maternal and child health outcomes, with African-American/black women and children often experiencing the poorest outcomes. Findings related to maternal and child health outcomes are highlighted below.

Child and adolescent mortality
Challenges: Ohio has higher child and adolescent mortality rates than the U.S.
- In 2017, Ohio’s child mortality rate per 100,000, ages 1-9, was 20.9% worse than the U.S., and Ohio’s rate increased by more than 30% from 2014 (15.8 deaths) to 2017 (20.8 deaths).
- In 2017, Ohio’s adolescent mortality rate per 100,000, ages 10-19, was nearly 15% worse than the U.S. and increased by more than 35% from 2014 (28.4 deaths) to 2017 (38.7 deaths).

Figure 3.2 highlights the top ten leading causes of death for children, ages 1-9, in 2012 and 2018. The top three leading causes of death for this age group in 2018 were:
- Unintentional injuries
- Homicide
- Cancer

Figures 3.3 and 3.4 highlight the top ten leading causes of death for children ages 1-9 and 1-17 in 2012 and 2018. For both age groups, the top three leading causes of death in 2018 were:

- Unintentional injuries
- Suicide
- Homicide

Ibid.
Figure 3.3. Top ten leading causes of death for children, ages 10-19, by total count, Ohio, 2012 and 2018 (Total number of 2012 deaths: 493; Total number of 2018 deaths: 542)

Unintentional injuries
- Motor vehicle accidents — 103
- Other — 19

Suicide — 87

Homicide — 81

Cancer — 30

Congenital malformations** — 16

Heart diseases — 19

Influenza and pneumonia — 7

Neoplasms - in situ, benign and uncertain or unknown behavior — 7

Chronic lower respiratory diseases — 6

Diabetes — 5

2012
2018*


*2018 data is preliminary
**Congenital malformations include congenital deformation and chromosome abnormalities
Figure 3.5 highlights the top ten leading causes of death for young adults, ages 18-25, in 2012 and 2018. The top three leading causes of death for young adults in 2018 were:

- Unintentional injuries
- Suicide
- Homicide

---

3 Ibid.
Infant mortality

**Strengths:** Ohio has seen a decrease of 18.4% in mortality due to preterm birth and low birth weight babies from 2012 to 2018 (see figure 3.6).

**Challenges:** Ohio has worse outcomes than the U.S. across multiple infant mortality measures, including neonatal, post-neonatal, sleep-related and preterm-related mortality. Ohio’s overall infant mortality rate (7.4 infant deaths per 1,000 live births) was 1.25 times greater than the U.S. rate (5.9 infant deaths per 1,000 live births) in 2016.

Figure 3.6 highlights the top ten leading causes of death for Ohio infants (less than 1 year old) for 2012 and 2018. The top three leading causes of death for Ohio infants in 2018 were:

- Congenital malformations (include congenital deformation and chromosome abnormalities)
- Preterm birth and low birth weight
- Sudden infant death syndrome
**Disparities:** Non-Hispanic black infants in Ohio had the highest mortality rate in 2018 (14 infant deaths per 1,000 live births), 2.6 times as high as the non-Hispanic white rate (5.3 infant deaths per 1,000 live births). See figure 3.7.
**Maternal health**

**Strengths:** The rate of severe maternal morbidity per 10,000 delivery hospitalizations in Ohio was nearly 18% lower than the U.S. rate in 2015.

**Disparities:** Although Ohio’s severe maternal morbidity rate is lower than the U.S., large disparities exist (see figure 3.8). In 2015, the maternal morbidity rate for Hispanic women in Ohio was 2.3 times higher than the rate for non-Hispanic white women. The rate for non-Hispanic Asian/Pacific Islander and non-Hispanic black women was 1.8 and 1.7 times higher than the rate for non-Hispanic white women.

![Figure 3.8: Rate of severe maternal morbidity per 10,000 delivery hospitalizations, by race/ethnicity, Ohio, 2015 (Q1-Q3)](image)

**Source:** HCUP-SID as compiled by the Health Resources Services Administration

**Mental health and addiction**

**Challenges:** Mental health and addiction are serious issues facing Ohio’s maternal and child health population. Mental health issues are challenges for new mothers and adolescents in particular:

- 16.2% of women in Ohio experienced postpartum depression in 2015, compared to 12.8% of women in the U.S., an increase in Ohio of more than 20% from 2012 to 2015.
- Percent of adolescents, ages 12-17, who had at least one major depressive episode in the past year increased by 57% from 8.9% in 2011-2012 to nearly 14% in 2015-2016.
• In 2016-2017, the percent of adolescents, ages 12-17, who bully others was 49% higher in Ohio than in the U.S. The percent of adolescents who reported being bullied was 10.5% higher in Ohio than in the U.S.
• Adolescent and young adult suicide is increasing at an alarming rate in Ohio (see figure 3.9). Suicide rates for adolescents, ages 15-19, and young adults, ages 18-25, increased by more than half (55.7% and 50.4% respectively) from 2009 to 2018.4

![Figure 3.9. Number of deaths due to suicide for children and young adults, per 100,000 population, by age group, Ohio, 2009-2018](image)

*2018 data is preliminary

Troubling trends in addiction are also impacting mothers, infants, children and families at all stages of life in Ohio:
• Unintentional drug overdose deaths for the overall Ohio population increased by 59% from 2015 to 2017. Notably, in 2018, 1,121 fewer Ohioans died of unintentional drug overdose deaths, an encouraging decrease of 22.4%.5

4 Ibid.
• For young adults, ages 18-25, drug overdose deaths have more than doubled from 138 deaths in 2007 to 319 deaths in 2018 (see figure 3.10). However, there was a promising decline of 28.8% in the overdose death rate for young adults between 2017 and 2018.
• Ohio’s rate of infants born with neonatal abstinence syndrome, per 1,000 births, in 2016 was 76.5% higher than the U.S. rate and is moving in the wrong direction.

Disparities: There are disparities across many of the mental health and addiction challenges facing Ohioans. For example:
• Children and youth with special healthcare needs, ages 12-17, were 2.5 times more likely than children without special healthcare needs to be bullied in 2016-2017 (see figure 3.11).

6 Ibid.
• Adolescent males in Ohio, ages 15-19, were 2.6 times more likely than adolescent females to die by suicide over pooled years 2013-2017 (see figure 3.12).

• The rate of infants born with neonatal abstinence syndrome in 2016 was much higher in Ohio for infants covered by Medicaid (23 infants per 1,000 birth hospitalizations), nearly double the rate for Ohio overall (see figure 3.13).
Figure 3.12. Adolescent suicide rate, ages 15-19, per 100,000, by sex, Ohio, 2013-2017

*Ohio data is for 2015-2017
Source: National Vital Statistics System, as compiled by the Health Resources Services Administration

Figure 3.13. Rate of infants born with neonatal abstinence syndrome per 1,000 birth hospitalizations, by health insurance type, Ohio, 2016

Source: HCUP-SID as compiled by the Health Resources Services Administration
Asthma

**Strengths**: Ohio’s overall child asthma prevalence is lower than the U.S. The Ohio rate improved from 9.7% in 2013 to 6.9% in 2016.

**Disparities**: Although Ohio has relatively low asthma prevalence as compared to the U.S., African-American and Hispanic children are 1.5 times more likely to have asthma than white children in Ohio. African-American children are also 4.3 times more likely than white children in Ohio to go to the emergency department due to asthma.

Healthy weight

**Strengths**: The percent of children, ages 2-4, who have obesity (body mass index (BMI) at or above the 95th percentile) was more than 10% lower in Ohio than in the U.S in 2014.

**Challenges**: The percent of adolescents, ages 10-17, who have obesity was 17.7% higher in Ohio than in the U.S. in 2016-2017.

**Disparities**: In Ohio, male high school students were more than two times as likely to have obesity than female peers, and African-American high school students were 1.6 times more likely to have obesity than white peers in 2013.

Adolescents, ages 10-17, with lower household incomes were also more likely to be identified as having obesity than peers with higher incomes (see figure 3.14).
**Access to care**
Health insurance coverage and medical home access continue to be strengths for Ohio’s children. However, access to mental health treatment was identified as a serious challenge. Findings related to access to care outcomes for the maternal and child health population are highlighted below.

**Preventive care and insurance coverage**
**Strengths:** Fewer children, ages 0-17, are uninsured in Ohio (4%) as compared to the U.S. (4.8%). The number of uninsured children in the state decreased by 18% from 2014 to 2017.

**Disparities:** In 2017, Black or African-American women were 1.25 times less likely than white women to receive prenatal care in their first trimester (62.7% vs. 78.6% for white women). Additionally, women without a high school diploma were nearly 1.5 times less likely than women with a bachelor’s degree to receive prenatal care. See figure 3.15.

![Figure 3.15. Percent of women who completed a pregnancy in the last 12 months who received prenatal care in the first trimester, by race/ethnicity and educational attainment, Ohio, 2017](image)

**Note:** Denominator includes unknown values  
**Source:** Centers for Disease Control and Prevention, as reported in the 2019 Ohio State Health Assessment

**Care coordination and transitions in care**
**Strengths:** Both children with and without special healthcare needs were more likely to have a medical home in Ohio than in the U.S. in 2016-2017. Notably, children without special healthcare needs were 12.7% more likely to have a medical home in Ohio as compared to the U.S.
Challenges: Adolescents in Ohio, ages 12-17, both with and without special healthcare needs, were more than 17% less likely than adolescents in the U.S. to receive the services necessary to transition to the adult healthcare system in 2016-2017.

Access to mental health treatment

Challenges: Ohio’s maternal and child health population faces many challenges in accessing mental health treatment. In 2017, Ohio had fewer mental health providers (including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists and advanced practice nurses specializing in mental health care) serving its population than the overall U.S. (561 population per mental health provider in Ohio compared to 470 population per mental health provider in the U.S.).

In addition, although Ohio performed better than the U.S. on youth with depression who did not receive mental health services, 51.6% of Ohio youth with a major depressive episode did not receive mental health services in 2014-2016.

Access to dental care

Strengths: In 2016-2017, Ohio had fewer children, ages 1-17, who had decayed teeth or cavities in the past year as compared to the U.S. (9.9% for Ohio vs. 11.7% for U.S.). In addition, the percent of children in Ohio, ages 3-17, with unmet dental care needs improved from 6.8% in 2010 to 5% in 2017.

Challenges: In 2016, Ohio had fewer dentists serving its population than the overall U.S. (1,656 population per dentist in Ohio compared to 1,480 population per dentist in the U.S.).

Disparities: African-American children and children living in Appalachian counties had the highest rates of unmet dental care needs (8.1% for African-American children and 6.5% for Appalachian children compared to 5% for Ohio overall in 2017). See figure 3.16.
Health behaviors
Over the past few years, Ohio has seen improvements in breastfeeding and teen birth rates. However, Ohio faces serious challenges related to tobacco and alcohol use. Findings related to health behavior outcomes for the maternal and child health population are highlighted below.

Breastfeeding
**Strengths:** Breastfeeding rates improved in Ohio between 2012 and 2015. The percent of infants ever breastfed increased by 13.9% (from 71.9% to 81.9%), and the percent of Ohio infants breastfed exclusively through six months increased by 63.4% (from 14.5% to 23.7%).

Teen birth
**Strengths:** Ohio’s teen birth rate declined 17.5% from 25.2 births per 1,000 female population (age 15-19) in 2014 to 20.8 in 2017 (slightly higher than the U.S. rate of 18.8).

Tobacco and alcohol use
**Strengths:** Ohio had a few strengths related to alcohol use in recent years. In 2015, the percent of infants born with fetal alcohol exposure was nearly 20% lower in Ohio than in the U.S.

In addition, the percent of adolescents, ages 12-17, perceiving great risk in consuming five or more drinks of an alcoholic beverage once or twice a week improved by 13.5%, increasing from 37% in 2013-2014 to 42% in 2016-2017. However, this is still below the U.S. rate of 43.8%

**Challenges:** Tobacco and alcohol use are key contributors to Ohio’s poor maternal and child health outcomes, including infant mortality, child asthma exacerbation and drug overdose deaths.

Ohio performed worse than the U.S. on several tobacco-related measures:
- Ohio’s rate of women who smoked cigarettes during pregnancy decreased by 15.3% between 2014 and 2017. However, it remained two times higher than the rate for the overall U.S. in 2017 (see figure 3.17).
- In 2016-2017, nearly a quarter of Ohio children (23%) lived in a home where someone smokes – 1.5 times more than the percent of children in the U.S.
- According to Ohio’s Youth Tobacco Survey, e-cigarettes/vaping products were the most commonly used tobacco products by high school students in 2017. This is in line with U.S. data which indicates that e-cigarette use among U.S. high school students increased from 11.7% in 2017 to 20.8% in 2018.7

Figure 3.17 Smoking during pregnancy, Ohio and US and by insurance coverage

---

**Disparities:** In 2017, 25.2% of pregnant women covered by Ohio Medicaid smoked during pregnancy, nearly twice the rate for Ohio overall (see figure 3.17).

![Figure 3.17. Percent of women who smoked cigarettes during pregnancy, by health insurance, Ohio, 2017](image)

**Nutrition and physical activity**
Ohio performs similarly to the U.S. (less than 10% difference) on several metrics related to nutrition and physical activity:
- Fruit consumption
- Vegetable consumption
- Access to exercise opportunities
- Physical activity among children

**Community conditions**
An estimated 50% of the modifiable factors that influence health are attributed to community conditions (see figure 3.1). Community conditions lay the foundation for good health outcomes and are critical to ensure all mothers, infants, children and families in Ohio have the opportunity to make healthy choices.

Ohio has made some notable improvements in child poverty and unemployment and, compared to the U.S., does relatively well on fourth-grade reading proficiency. However, Ohio has many opportunities to improve outcomes across community conditions, particularly for exposure to violence and trauma, lead risk and transportation.
Violence and trauma
Ohio performs similar to the U.S. (less than 10% difference) for child abuse and neglect, incarceration and intimate partner violence.

**Strengths:** Ohio had 290 violent crimes per 100,000 population in 2012-2014, compared to 380 in the overall U.S.

**Challenges:** Adverse childhood experiences (ACEs) are strongly linked to the development of a wide range of physical and mental health problems. ACEs include a child’s exposure to family dysfunction, addiction or mental illness in the home, domestic or neighborhood violence and living in a family with financial hardship. One-fourth of Ohio children (25.1%) experienced two or more ACEs, compared to only one-fifth (20.5%) of U.S. children in 2016-2017.

**Inequities:** Black, non-Hispanic children and children with low incomes were much more likely to be exposed to two or more ACEs as compared to peers in 2016-2017 (see figure 3.18).

![Figure 3.18. Percent of children with two or more adverse childhood experiences, by race/ethnicity and household income, Ohio and U.S., 2016-2017](image)

Income, employment and poverty
**Strengths:** Ohio experienced some positive trends in recent years for income, employment and poverty:
- Child poverty decreased from 22.7% in 2013 to 20.4% in 2016.
- Unemployment decreased from a peak of 10.3% in 2009 and 2010 to 5.0% in 2017.
• Median household income in Ohio increased by 24% from $43,493 in 2005 to $54,021 in 2017.

**Challenges:** Although unemployment has decreased and median household income has increased in recent years, Ohio performs worse than the U.S. on both these measures.

**Inequities:** In 2016, black children were more than three times as likely to live in poverty than white children in Ohio.

**Housing**

**Strengths:** Ohio performs better than the U.S. on access to federal housing assistance (i.e., average number of months spent on U.S. Department of Housing and Urban Development housing waiting list) and the number of people experiencing homelessness per 10,000 population.

**Challenges:** While the percent of children in Ohio who have been identified as having elevated blood lead levels is below the U.S. rate, it is important to note that the lead exposure risk in many Ohio cities is extremely high. Lead risk is assessed based on the age of housing stock and the percent of people who live in poverty — major predictors of lead exposure.

All of Ohio’s largest cities had lead exposure risk index levels well above the average U.S. rate in 2012-2016 (see figure 3.19). Even low levels of lead exposure can have harmful effects on children’s health and behavior, including developmental delays, learning disabilities and damage to the brain and nervous system.

![Figure 3.19. Lead exposure risk index for Ohio’s largest cities, 2012-2016](image)
Transportation

**Challenges:** Families in Ohio experience various transportation challenges. For example:

- Only 4.1% of commutes to work were via bicycle, walking or mass transit in Ohio in 2013-2017, which is worse than the U.S. rate of 8.4%. These types of active transportation promote physical activity.
- The percent of jobs accessible in at least 90 minutes via transit for households without a vehicle in Akron, Cincinnati and Youngstown was worse than the U.S. rate in 2010.

**Inequities:** In Ohio in 2015, black households (22.1%) were far more likely than white households (6.2%) to lack access to a vehicle.

Education

**Strengths:** In 2017, the percent of Ohio fourth-graders who were proficient in reading (39%) was higher than in the U.S. (35%).

**Challenges:** In school year 2018-2019, 22.7% of Ohio children were identified as “emerging,” in the Kindergarten Readiness Assessment. Children assessed at this level demonstrated “minimal skills and behaviors that prepare them for instruction based on Ohio’s kindergarten standards.”

**Inequities:** In 2017, Ohio fourth-graders from low-income families (eligible for free/reduced lunch) (24%) were nearly 2.3 times less likely than peers from moderate to high-income families (55%) to be proficient in reading. In addition, black (15%) and Hispanic (26%) fourth-graders were less likely than white fourth-graders (44%) to be proficient in reading. See figure 3.20.

![Figure 3.20. Percent of fourth graders proficient in reading by race/ethnicity and income (eligibility for free/reduced lunch), Ohio, 2017](image-url)

*Source: US Department of Education, as reported in the 2019 Ohio State Health Assessment*
**Food access**

**Strengths and challenges:** The percent of households that are food insecure in Ohio decreased by 20% from 18% in 2011 to 15% in 2016. However, Ohio’s rate remained above the U.S. rate of 13% in 2016. Food insecurity refers to the percent of households that are uncertain of having, or unable to acquire, at some time during the year, enough food to meet the needs of all their members because they had insufficient money or other resources for food.

**Inequities:** The percent of households in 2016 that were food insecure differed markedly by county, from a low of 8% in Delaware County to a high of 20% in Athens County (see figure 3.21).

---

**Figure 3.21. Food insecurity, by county, Ohio, 2016**

Source: Feeding America, as compiled by County Health Rankings and Roadmaps
Part 4. Summary of needs by population domain

This section summarizes key findings from the qualitative and quantitative data analyses across the five MCH population domains to highlight top health needs by domain.

Perinatal and infant health

Infant mortality and related birth outcomes were identified as the greatest challenges facing the perinatal and infant health population. Ohio’s overall infant mortality rate (7.4 infant deaths per 1,000 live births) was 1.25 times greater than the U.S. rate (5.9 infant deaths per 1,000 live births) in 2016. In addition, in 2018, non-Hispanic black infants in Ohio were dying at 2.6 times the rate of non-Hispanic white infants.

The data also highlights the need to address addiction issues impacting infants, given that Ohio’s high rate of infants born with neonatal abstinence syndrome per 1,000 births in 2016 was 76.5% higher than the U.S. rate and moving in the wrong direction.

Child health

Children in Ohio face many challenges that can impact their health later in life, particularly increased exposure to trauma and lead:

- One-fourth of Ohio children (25.1%) experienced two or more ACEs, compared to only one-fifth (20.5%) of U.S. children in 2016-2017.
- All of Ohio’s largest cities had lead exposure risk index levels above the U.S. average in 2012-2016.

There were also disparities among children in Ohio across multiple indicators, for example:

- Black, non-Hispanic children and children with low incomes were much more likely to be exposed to two or more ACEs as compared to peers in 2016-2017.
- In 2016, black children were more than three times as likely to live in poverty than white children in Ohio.
- African-American children are also 4.3 times more likely than white children in Ohio to go to the emergency department due to asthma.

Children and youth with special healthcare needs (CYSHCN)

CYSHCN have many of the same challenges faced by children without special healthcare needs in Ohio, including mental health and addiction. However, disparities exist. For example, CYSHCN, ages 12-17, were 2.5 times more likely than children without special healthcare needs to be bullied in 2016-2017.

Challenges related to accessing healthcare also emerged from the data. For example, regional forum attendees and online survey participants highlighted the need for greater care coordination and increased access to services for children with autism, spectrum disorders, developmental disabilities and learning disabilities. CYSHCN, ages 12-17, were also more than 17% less likely than U.S. peers to receive the services necessary to transition to the adult healthcare system in 2016-2017.
Feedback from the Parent and Medical Advisory Committees (PAC and MAC)

Members of the PAC and MAC were asked to reflect on strengths, challenges and opportunities to improve health and health care outcomes for CYSHCN and their families. The following opportunities and challenges were identified.

**Challenges**
- Health systems discharge pediatric patients with medical complexity from the hospital to a home that is not equipped to address their needs
- Additional medical and emotional support services are needed for patients and caregivers
- CYSHCN and their families face barriers with primary payers who question and deny prescribed treatments/pharmaceuticals

**Opportunities**
- Increase and improve services that promote and support transition to adulthood healthcare throughout adolescence
- Increase screenings for mental health needs of parents/caregivers of CYSHCN and provide resources and connections to care
- Improve inclusion opportunities for CYSHCN within education and in settings that promote physical activity (e.g., state and local parks)
- Increase and improve workforce development for those who provide physical and mental health services to CYSHCN to improve comprehensive and quality care
- Educate primary payers on the rationale for why certain/unique services/goods need to be covered for this specialized population

Adolescent and young adult health

Adolescents and young adults in Ohio face severe mental health-related challenges. The percent of adolescents, ages 12-17, who had at least one major depressive episode in the past year increased by 57%, from 8.9% in 2011-2012 to nearly 14% in 2015-2016. Even more alarming, suicide rates for adolescents, ages 15-19, and young adults, ages 18-25, increased by more than half (55.7% and 50.4% respectively) from 2009 to 2018.

Adolescents and young adults in Ohio are also struggling with drug and alcohol use:
- E-cigarettes/vaping products were the most commonly used tobacco products by high school students in 2017. This is in line with U.S. data which indicates that e-cigarette use among U.S. high school students increased from 11.7% in 2017 to 20.8% in 2018.8
- The percent of adolescents, ages 12-17, perceiving great risk in consuming five or more drinks of an alcoholic beverage once or twice a week improved by 13.5%, increasing from 37% in 2013-2014 to 42% in 2016-2017. However, this is still below the U.S. rate of 43.8%.

---

• For young adults, ages 18-25, drug overdose deaths have more than doubled from 138 deaths in 2007 to 319 deaths in 2018. However, there was a promising decline of 28.8% in the overdose death rate for young adults between 2017 and 2018.

**Maternal and women’s health**
Mental health and addiction are also serious issues facing pregnant women and mothers. More women in Ohio experienced postpartum depression in 2015 (16.2%) as compared to women in the U.S. (12.8%). In addition, postpartum depression for women in Ohio increased by more than 20% from 2012 to 2015.

In 2017, Ohio’s rate of women who smoked cigarettes during pregnancy was two times higher than the U.S. rate. Moreover, 25.5% of pregnant women covered by Ohio Medicaid smoked during pregnancy in 2017, nearly twice the rate for Ohio overall.

Women in Ohio also face large pregnancy-related disparities:
• Ohio’s severe maternal morbidity rate is lower than the U.S. However, in 2015, the maternal morbidity rates for Hispanic, non-Hispanic Asian/Pacific Islander, and non-Hispanic black women were higher than the rate for non-Hispanic white women.
• In 2017, Black or African-American women were 1.25 times less likely than white women to receive prenatal care in their first trimester (62.7% vs. 78.6% for white women). Additionally, women without a high school diploma were nearly 1.5 times less likely than women with a bachelor’s degree to receive prenatal care.

**Opportunities for systems change**
In interviews conducted to inform an assessment of the quality and capacity of early childhood home visiting in the state, key informants highlighted several challenges faced in the provision of home visiting and related services. These findings are important for ODH to address in planning for MCH needs:
• Improve family engagement and retention in programs
• Ensure follow-up after referral to programs
• Improve collaboration and coordination among community programs
• Identify women and families most in need
• Address parental mental health and drug use
• Address transportation and other geographic barriers
• Improve coordination among state agencies
• Improve data sharing and outcome tracking

**Part 5. Identification of MCH priority needs and measures**
An initial list of MCH priority needs was identified by MCH/MIECHV regional forum and online survey participants. These health priority needs were then revised and narrowed to a list of 10 health priority needs based on:
• Feedback from members of the MCH/MIECHV Steering Committee (input gathered through facilitated dialogue at two Steering Committee meetings)
• Feedback from the ODH Division of Maternal, Child and Family Health staff (input gathered through facilitated dialogue at one ODH staff meeting)
Results of secondary data analysis

MCH/MIECHV Steering Committee members and ODH staff were asked to consider the following prioritization criteria when providing feedback on MCH priority needs:

✓ **Ability to track progress**: Measurable indicators are available to assess and report progress in a meaningful way on an annual basis at the state level (particularly NOMs and NPMs)

✓ **Potential for impact**: Availability of evidence-based strategies, co-benefits, feasibility to address at the state level and by ODH, and ability to improve outcomes

✓ **Nature of the problem**: Magnitude, severity, disparities, U.S. comparison and trends (based on the secondary data analysis)

✓ **Alignment**: With Ohio's 2020-2022 State Health Improvement Plan (SHIP) and other state agency plans and initiatives

From this process, the following MCH priority needs and outcome statements were identified:

1. **Infant mortality**: Reduce Ohio's infant mortality rate
2. **Healthy weight**: Increase the prevalence of children and adolescents in Ohio who have a healthy weight
3. **Integrated care**: Increase the prevalence of children and youth with special healthcare needs in Ohio receiving integrated physical, behavioral, developmental and mental health services
4. **Suicide**: Reduce Ohio's adolescent and young adult suicide rate
5. **Drug use**: Reduce the prevalence of adolescent substance use in Ohio
6. **Maternal morbidity**: Reduce Ohio's maternal morbidity rate
7. **Postpartum depression**: Reduce the prevalence of women in Ohio experiencing postpartum depression
8. **Preterm births**: Reduce the prevalence of preterm births in Ohio
9. **Adverse childhood experiences**: Reduce the prevalence of Ohio children exposed to adverse childhood experiences
10. **Lead and asthma**: Reduce the prevalence of Ohio children exposed to environmental hazards (asthma triggers and lead)

After identification of MCH priority needs, a set of prioritization criteria was used to propose national and state outcome and performance measures that aligned with the identified MCH priority needs and could be tracked in the State Action Plan:

✓ **Health priority need alignment**: Measure aligns with a top MCH priority need

✓ **State Health Improvement Plan (SHIP) alignment**: Measure aligns with a health outcome or health factor metric in the 2020-2022 SHIP

✓ **NOM and NPM alignment**: Measure is identified as a national outcome (NOM) or national performance measure (NPM) (federal government requirement)

✓ **Evidence linkage**: NPMs selected have an evidence linkage to a NOM selected (federal government guidance)

✓ **Population domain alignment**: Minimum of five NPMs selected, one per MCH population domain (federal government requirement)

See Appendix C for a complete list of NOMs and NPMs and Appendix E.1 and E.2 for more information about evidence linkages and population domain alignment.
**Getting to equity**
The goal of the State Action Plan is to improve the health of the entire MCH population and ensure all mothers, infants, children and families achieve their full health potential. To do this, it is critical to identify the people and communities facing the greatest gaps in outcomes, focusing resources and strategies there first.

Figure 4.1 highlights equity goals to be addressed by each MCH priority need. Equity goals require the elimination of a disparity or inequity. Goals are based on identification of populations with the worst outcomes in the secondary data analysis and alignment with priority populations in Ohio’s 2020-2022 State Health Improvement Plan (SHIP) (see pg. 44 for more information on the SHIP).

The proposed MCH State Action Plan framework with priority outcomes and aligned performance measures is outlined in figure 4.1.

**Additional information on maternal and child health in Ohio**
The following recent reports provide additional information on the overall health of Ohio’s MCH population:
- Asthma Disparities in Ohio (2019)
- Kids Count Data Book (2019)
- Assessment of Child Health and Health Care in Ohio (2018)
- Groundwork Ohio’s Early Childhood Race & Rural Equity report (2018)
- A new approach to reduce infant mortality and achieve equity: Policy recommendations to improve housing, transportation, education and employment (2017)
- Ohio Infant Mortality Data Brief (2017)
- Race for Results: Building a Path to Opportunity for All Children (2017)
Figure 4.1. Proposed Ohio Maternal and Child Health (MCH) State Action Plan framework with priority health needs and performance measures

**Overall goal:** Ensure all women, infants, children and families achieve their full health potential.

<table>
<thead>
<tr>
<th>Maternal and child health population domain</th>
<th>Priority health need and outcome statement</th>
<th>Proposed national or state outcome measures (NOM/ SOM)</th>
<th>Proposed national or state performance measures (NPM/ SPM)</th>
</tr>
</thead>
</table>
| **Perinatal and infant health**           | Infant mortality: Reduce Ohio’s infant mortality rate | Infant mortality [NOM 9.1] | • Breastfeeding [NPM 4]  
• Safe sleep [NPM 5]  
• Smoking [NPM 14] |
|                                           | • Eliminate racial/ethnic disparities | | |
| **Child health**                          | Healthy weight: increase the prevalence of children and adolescents in Ohio who have a healthy weight | Child and adolescent healthy weight [NOM 20] | • Child health: Physical activity [NPM 8.1]  
• Adolescent health: Physical activity [NPM 8.2]  
• Child and adolescent health: Fruit or vegetable consumption [SPM]  
• Limited access to healthy foods [SPM]  
• Food insecurity [SPM] |
|                                           | • Eliminate gender disparities | | |
| **Children and youth with special healthcare needs** | Integrated care: increase the prevalence of children and youth with special healthcare needs in Ohio receiving integrated physical, behavioral, developmental and mental health services | Care for children with special health care needs [NOM 17.2] | • Developmental screening [NPM 4]  
• Medical home [NPM 11]  
• Transitions in care [NPM 12] |
|                                           | • TBD | | |
| **Adolescent and young adult health**     | Suicide: Reduce Ohio’s adolescent and young adult suicide rate | Adolescent suicide [NOM 16.3] | • Bullying [NPM 9]  
• Adolescent well visit [NPM 10]  
• Unmet need for mental health, youth [SPM]  
• Frequent mental distress, youth [SPM]  
• Mental health treatment [NOM 18]* |
|                                           | • Eliminate gender disparities | | |
|                                           | Drug use: Reduce prevalence of adolescent substance use in Ohio | Adolescent tobacco/ nicotine, alcohol and marijuana use [SOM] | • Youth perceived risk of cigarette smoking [SPM]  
• Youth perceived risk of alcohol use [SPM]  
• Youth perceived risk of marijuana use [SPM]  
• Tobacco use and help with quitting among adolescents/ young adults [SPM] |
|                                           | • TBD | | |

*indicates the equity goal for the priority need. The equity goal identifies populations facing large gaps in outcomes that need to be eliminated. TBD indicates an equity goal has not yet been identified.

* Proposal to include this measure as an NPM instead of a NOM.

For a full description of measures (NOMs, NPMs, SOMs) see Appendix C.
To strengthen and streamline Ohio’s population health assessment and planning efforts, ODH contracted with HPIO to simultaneously work on the MCH assessment, the Maternal, Infant and Early Childhood Home Visiting (MIECHV) statewide needs assessment, Ohio’s 2019 State Health Assessment (SHA) and 2020-2022 State Health Improvement Plan (SHIP).

### State plan alignment

<table>
<thead>
<tr>
<th>Maternal and child health population domain</th>
<th>Priority health need and outcome statement</th>
<th>Proposed national or state outcome measures (NOM/SOM)</th>
<th>Proposed national or state performance measures (NPM/SPM)</th>
</tr>
</thead>
</table>
| **Women’s and maternal health**           | **Maternal morbidity**: Reduce Ohio’s maternal morbidity rate | Maternal morbidity [NOM 2] | • Well-woman visit [NPM 1]  
• Smoking [NPM 14.1]  
• Pre-pregnancy healthcare visit [SPM] |
|                                           | ▪ Eliminate racial/ethnic disparities |                                                      |                                                       |
|                                           | **Postpartum depression**: Reduce prevalence of women in Ohio experiencing postpartum depression | Postpartum depression [NOM 24] | • Well-woman visit [NPM 1]  
• Postpartum visit [SPM]  
• Depression or anxiety before pregnancy [SPM] |
|                                           | ▪ Eliminate income disparities |                                                      |                                                       |
|                                           | **Preterm births**: Reduce prevalence of preterm births in Ohio | Preterm births [NOM 5] | • Well-woman visit [NPM 1]  
• Smoking [NPM 14.1] |
|                                           | ▪ Eliminate racial/ethnic disparities |                                                      |                                                       |
| **Cross-cutting**                         | **Adverse childhood experiences**: Reduce prevalence of Ohio children exposed to adverse childhood experiences | Adverse childhood experiences [SOM] | • Child abuse and neglect [SPM] |
|                                           | ▪ Eliminate racial/ethnic and income inequities |                                                      |                                                       |
|                                           | **Lead and asthma**: Reduce prevalence of Ohio children exposed to environmental hazards (asthma triggers and lead) | • Children with elevated blood lead levels [SOM]  
• Emergency department visits for pediatric asthma [SOM] | • Lead screening [SPM]  
• Measure TBD to assess number of homes that undergone lead abatement/mitigation and/or workforce capacity |
|                                           | ▪ Eliminate racial/ethnic and geographic inequities |                                                      |                                                       |

> Indicates the equity goal for the priority need. The equity goal identifies populations facing large gaps in outcomes that need to be eliminated. TBD indicates an equity goal has not yet been identified.

For a full description of measures (NOMs, NPMs, SOMs) see Appendix C.
What are the SHA, SHIP and MIECHV?

**SHA:** The SHA is a document, updated every three years, that describes Ohio’s health status and overall wellbeing, highlighting the state’s many opportunities to improve health outcomes, reduce disparities and control healthcare spending. The 2019 SHA provides a comprehensive and actionable picture of health and wellbeing in Ohio. The 2019 SHA has two main components:

- Summary report prepared by HPIO
- Online, interactive data website prepared by ODH

**SHIP:** The SHIP, also updated every three years, provides a roadmap to address the challenges highlighted in the SHA. The 2020-2022 SHIP includes a strategic menu of priorities, outcome objectives and evidence-based strategies to be implemented by state agencies, local health departments, hospitals and other community partners, including sectors beyond health. The SHIP can be accessed here.

The SHIP also identifies and sets targets for improving outcomes of “priority populations”. Priority populations are communities identified as experiencing the worst outcomes compared to other Ohioans.

Both the SHA and SHIP are required for accreditation of ODH by the Public Health Accreditation Board.

**MIECHV:** Ohio is required to conduct a statewide needs assessment for the Maternal, Infant and Early Childhood Home Visiting (MIECHV) program. Findings are used to identify high-risk communities, home visiting service gaps and opportunities for improving early childhood home visiting services throughout the state.

Title V of the Social Security Act, as amended by the Bipartisan Budget Act of 2018, requires awardees to review and update their statewide needs assessments by Oct. 1, 2020.

HPIO has worked with ODH to align priority outcomes and measures for the MCH State Action Plan with the 2020-2022 SHIP. This alignment can be seen in the SHIP conceptual framework (see figure 4.2).
Figure 4.2. 2020-2022 State Health Improvement Plan (SHIP) framework with Maternal and Child Health (MCH) alignment

2020-2022 State Health Improvement Plan (SHIP) framework

Equity
To ensure all Ohioans achieve their full health potential, SHIP strategies must be targeted and tailored to communities where the need is greatest and coupled with efforts to address racism, discrimination and other forms of oppression.

Priorities
The SHIP identifies three priority factors and three priority health outcomes that affect the overall health and wellbeing of children, families and adults of all ages.

What shapes our health and wellbeing?
Many factors, including these SHIP priority factors*:

- Community conditions
  - Housing affordability and quality
  - Poverty
  - K-12 student success
  - Adverse childhood experiences

- Health behaviors
  - Tobacco/nicotine use
  - Nutrition
  - Physical activity

- Access to care
  - Health insurance coverage
  - Local access to healthcare providers
  - Unmet need for mental health care

How will we know if health is improving in Ohio?
The SHIP is designed to track and improve these priority health outcomes:

- Mental health and addiction
  - Depression
  - Suicide
  - Youth drug use
  - Drug overdose deaths

- Chronic disease
  - Heart disease
  - Diabetes
  - Childhood conditions (asthma, lead)

- Maternal and infant health
  - Preterm births
  - Infant mortality
  - Maternal morbidity

All Ohioans achieve their full health potential
- Improved health status
- Reduced premature death

Vision
Ohio is a model of health, wellbeing and economic vitality

Strategies
The SHIP provides state and local partners with a menu of effective policies and programs to improve Ohio’s performance on these priorities.

* These factors are sometimes referred to as the social determinants of health or the social drivers of health
Part 6. Appendix

Appendix includes:
Appendix A. MCH/MIECHV Regional Forum and Online Survey report........1

Appendix B. Membership lists
  B.1. List of Steering Committee member organizations......................118
  B.2. List of MAC and PAC members................................................119

Appendix C. List of metrics included in the secondary data analysis
  C.1. National outcome measures (NOMs) ....................................120
  C.2. National performance measures (NPMs) ................................123
  C.3. State health assessment (SHA) measures..................................125
  C.4. Proposed performance measures for priority health needs, by population domain.............................................................131

Appendix D. Health Resources Services Administration guidance
  D.1. Evidence-based/informed National Performance and Outcome......135
  Measure Linkages from the Health Resources Services Administration (HRSA)
  D.2. MCH population domain alignment table from HRSA..................136