Accelerating Upstream Together to Eliminate Racial Disparities in Infant Health Outcomes by 2030

Michael D. Warren, MD, MPH, FAAP
Associate Administrator
Maternal and Child Health Bureau (MCHB)
Accelerating Upstream Together to Eliminate Racial Disparities in Infant Health Outcomes by 2030

Illinois Perinatal Quality Collaborative Annual Conference

October 27, 2022

Michael D. Warren, MD, MPH, FAAP
Associate Administrator
Maternal and Child Health Bureau (MCHB)

Vision: Healthy Communities, Healthy People
Paradigm for Improving Maternal and Infant Health

Accelerate
Upstream
Together
Paradigm for Improving Maternal and Infant Health

Accelerate

Upstream

Together
Infant Mortality Rate, United States (1980-2020)

Rate of 5.4 deaths per 1,000 births = 19,582 deaths
In 2017, the infant mortality rate (IMR) for black infants (10.8 deaths per 1,000 births) achieved the same rate as for white infants in 1980. 37 years later.

If the black IMR continues at the same rate of decline since the beginning of this millennium, it will reach the 2017 white IMR (4.9 deaths per 1,000 births) in 2069. 52 years later.

Source: National Vital Statistics System, unlinked mortality (child race) and birth (maternal race) files for Black and White infant deaths and births
In 1995, the infant mortality rate (IMR) for AI/AN infants (9.2 deaths per 1,000 births) achieved the same rate as for white infants in 1985. 10 years later.

By 2015, the AI/AN IMR (8.0 deaths per 1,000 births) reached the white IMR in 1989. 26 years later.

If the same rate of decline continues, it will reach the 2015 white IMR (4.9 deaths per 1,000 births) in 2087. 72 years later.

Note: Period Linked Infant Birth/Death File begins in 1995 for more accurate AI/AN estimates based on maternal race.
Healthy People 2030: Infant Mortality

Reduce the rate of infant deaths — MICH-02

Status: Improving

- Most Recent Data: 5.6 infant deaths per 1,000 live births (2019)
- Target: 5.0 per 1,000
- Desired Direction: Decrease desired

Baseline: 5.8 infant deaths per 1,000 live births occurred within the first year of life in 2017
Where Are We Now?

Among broad or bridged race/ethnic groups, our policies, systems, and environments have failed to reduce infant mortality among Non-Hispanic Black and AI/AN infants down to the HP2030 target.

Where Do We Go From Here?

Ultimately, we want to prevent every infant death possible.

We need to accelerate efforts to achieve equity now.
What Would It Take to Achieve Equity Now?

To achieve equity, we need to make policy and system changes that make it possible for an additional 3,727 babies need to celebrate their first birthday. That’s ~10 babies/day.

For context: ~10,500 babies born each day in the United States.


<table>
<thead>
<tr>
<th>Population</th>
<th>Annual Births</th>
<th>Infant Mortality Rate (per 1,000)</th>
<th>Reduction to Achieve Equity (Subtract 4.7)</th>
<th>Number of Annual Deaths Needed to Prevent (Multiply by Births/1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH Black</td>
<td>583,439</td>
<td>10.9</td>
<td>6.2</td>
<td>3,592</td>
</tr>
<tr>
<td>NH AI/AN</td>
<td>34,801</td>
<td>8.6</td>
<td>3.9</td>
<td>135</td>
</tr>
</tbody>
</table>
Regional Variation in Black Infant Mortality

Black infant mortality AND the Black-White infant mortality gap are highest in Region 5

Notes: Uses 3-year average data (2016-2018) from the Linked Birth / Infant Death Data File
State Variation in Black Infant Mortality

5 of the 10 states with the highest Black infant mortality rate are in Region 5

The 4 states with the largest Black-White infant mortality gap are in Region 5

When restricted to U.S. Born, Minnesota’s Black IMR is 10.3 and Black-White gap is 6.5 per 1,000
Regional Variation in AI/AN Mortality

Region 5 has the 2\textsuperscript{nd} highest AI/AN infant mortality rate and 3\textsuperscript{rd} highest AI/AN-White infant mortality gap among all 10 Public Health Regions.

# What Can States Do to Achieve Equity Now?

To Achieve Equity

<table>
<thead>
<tr>
<th>Black Infant Deaths to Prevent Annually</th>
<th># States</th>
<th>% of Total Black Infant Deaths to Prevent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-11</td>
<td>15</td>
<td>1%</td>
</tr>
<tr>
<td>12-59</td>
<td>15</td>
<td>11%</td>
</tr>
<tr>
<td>60-119</td>
<td>9</td>
<td>22%</td>
</tr>
<tr>
<td>120-239</td>
<td>9</td>
<td>42%</td>
</tr>
<tr>
<td>240-336</td>
<td>3</td>
<td>24%</td>
</tr>
</tbody>
</table>

Notes: Uses 3-year average data (2016-2018) with Bayesian spatial smoothing to improve stability of estimates.
What Can Counties Do to Achieve Equity Now?

Number of Black Infant Deaths to Prevent Annually to Achieve Equity

<table>
<thead>
<tr>
<th>Number of Deaths to Prevent</th>
<th># Counties</th>
<th>% of Total Black Infant Deaths to Prevent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>597</td>
<td>30%</td>
</tr>
<tr>
<td>6-11</td>
<td>67</td>
<td>14%</td>
</tr>
<tr>
<td>12-23</td>
<td>40</td>
<td>18%</td>
</tr>
<tr>
<td>24-47</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>48-95</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td>96-149</td>
<td>3</td>
<td>9%</td>
</tr>
</tbody>
</table>

Notes: Uses 3-year average data (2016-2018) with Bayesian spatial smoothing to improve stability of estimates; 324 counties had no Black births and 2,081 counties had too few births to expect one excess death per year.
What Can Region 5 States Do to Achieve Equity?

- Region 5 accounts for 21% of all U.S. Black infant deaths that need to be prevented to achieve equity.

### To Achieve Equity

<table>
<thead>
<tr>
<th>State</th>
<th>Black Infant Deaths to Prevent in a Year</th>
<th>% of All U.S. Black Infant Deaths to Prevent</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL</td>
<td>208</td>
<td>6%</td>
</tr>
<tr>
<td>OH</td>
<td>192</td>
<td>5%</td>
</tr>
<tr>
<td>MI</td>
<td>177</td>
<td>5%</td>
</tr>
<tr>
<td>IN</td>
<td>67</td>
<td>2%</td>
</tr>
<tr>
<td>WI</td>
<td>64</td>
<td>2%</td>
</tr>
<tr>
<td>MN</td>
<td>38</td>
<td>1%</td>
</tr>
</tbody>
</table>

Notes: Uses 3-year average data (2016-2018) from the Linked Birth / Infant Death Data File with Bayesian spatial smoothing to improve stability of estimates.
What Can Region 5 Counties Do to Achieve Equity?

- 4 of the top 10 counties with the most Black infant deaths to prevent are in Region 5
- Cook, Wayne, Cuyahoga, Milwaukee

<table>
<thead>
<tr>
<th>Black Infant Deaths to Prevent in a Year</th>
<th># Counties</th>
<th>% of All U.S. Black Infant Deaths to Prevent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>66</td>
<td>4%</td>
</tr>
<tr>
<td>6-11</td>
<td>10</td>
<td>2%</td>
</tr>
<tr>
<td>12-23</td>
<td>5</td>
<td>2%</td>
</tr>
<tr>
<td>24-47</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>48-95</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>96-149</td>
<td>1</td>
<td>4%</td>
</tr>
</tbody>
</table>
Paradigm for Improving Maternal and Infant Health

Accelerate

Upstream

Together
Thinking Upstream About Prematurity

• Typical Rounds on Premature Infant
  • Vent settings
  • Discussion of morbidities
  • Fluid status
  • TPN stats
  • Labs
  • Maybe (hopefully) something about social status

But Michael, why was this baby premature?
Thinking Upstream About Prematurity: Perinatal Periods of Risk (PPOR)

Age at Death
- Fetal (24+ weeks)
- Neonatal (0-28 days)
- Infant (28-364 days)

Birth Weight
- 500-1499 g
- 1500+ g

Maternal Health/Prematurity
- Maternal Care
- Newborn Care
- Infant Health

Perinatal Periods of Risk (PPOR): Opportunities for Intervention

Maternal Health/Prematurity
- Preconception Health
- Health Behaviors
- Prenatal Care

Maternal Care
- Prenatal Care
- High Risk Referral
- Obstetric Care

Newborn Care
- Perinatal Management
- Neonatal Care
- Pediatric Surgery

Infant Health
- Safe Sleep
- Breast Feeding
- Injury Prevention

PPOR for Illinois (2017-2018)
Excess Black Fetal-Infant Mortality

Life Course Approach

Adapted from the Life Course Toolkit by CityMatCH. Available at: http://www.citymatch.org/projects/mch-life-course-toolbox.
What Determines Health?

Health care accounts for only 10-20% of overall health

Structural and Social Determinants of Health

**EXPERIENCE OF SOCIAL DETERMINANTS**

- Income/Poverty/Wealth
- Education
- Employment
- Transportation
- Housing
- Food Security
- Exposure to Toxins
- Health Insurance
- Distance to Services

**STRUCTURAL DETERMINANTS**

- Governing Processes
- Economic and Social Policies
- Racism, Discrimination, Bias, and Segregation

**Educational Access and Quality**

**Health Care Access and Quality**

**Economic Stability**

**Neighborhood and Built Environment**

**Social and Community Context**

Paradigm for Improving Maternal and Infant Health

Accelerate
Upstream
Together
Working Together

- Home Visitors
- Community Health Workers
- Community Services & Support Systems
- Title V and Public Health Systems
- Health Care Providers
- Quality Improvement Collaboratives
- Academic Institutions
- Community Organizations
- Professional Organizations
- States and Jurisdictions

Families
How Can Perinatal Quality Collaboratives Help Achieve Equity Now?

- Help providers better understand and eliminate biases
- Support provision of respectful, culturally-appropriate care
- Incorporate screening for concerns related to underlying social determinants of health
- Facilitate referrals to community-based resources

How Can Perinatal Quality Collaboratives Help Achieve Equity Now?

- Examine data from:
  - Practice
  - Affiliated health systems
  - Local/state public health entities

- Identify disparities

- Include data on patient/family experience of care

- Implement improvement initiatives based on community need/disparities, and not just in hospitals

How Can Perinatal Quality Collaboratives Help Achieve Equity Now?

- Include and amplify voices and experiences of families
- Partner with public and private organizations to address social and structural determinants
- Educate local, state, and national policymakers on policies that tackle root causes of inequities

If we are to achieve equity, we must **accelerate our efforts** to help **all** infants reach their first birthday.

Clinical care is necessary, but not sufficient. To solve for equity, we must **get outside of the hospital and clinic**.

Quality improvement collaboratives can play an important role in **driving change at the provider, practice, and systems levels**.
Accelerate
Upstream
Together
Dr. Michael Warren, MD MPH FAAP
Associate Administrator
Maternal and Child Health Bureau (MCHB)
Health Resources and Services Administration (HRSA)
Email: mwarren@hrsa.gov
Phone: 301-443-2170
Web: mchb.hrsa.gov
Connect with HRSA

Learn more about our agency at:

www.HRSA.gov

Sign up for the HRSA eNews

FOLLOW US: