Prioritized Findings from First Year
Cleveland’s Action Team #4:
Extreme Premature Births
Welcome!

Rita Horwitz
President & CEO
Better Health Partnership
Before we begin...

Everyone will be muted.

Submit your questions via the “Chat” window.

We will do Q & A at the end.

Presentations will be posted on our website.
Working together since 2007…

to collectively improve health and reduce health disparities
Vision
Northeast Ohio is one of the healthiest places to live and best places to do business

Mission
We bring health care providers, social services, and other sectors together, to share best practices and accelerate data-informed improvements in equitable population and community health.
Better Health Partnership’s Population Health Improvement Priorities “Twinkle to Wrinkle”

**Infant & Maternal Health (2018 - present)**
- Extreme Prematurity

**Children’s Health (2016 - present)**
- Obesity, Asthma

**Adult Health (2007 - present)**
- Hypertension
- Diabetes
- Colorectal Cancer Screening
- Mental/Behavioral
- Lead Exposure

Pathways HUB integrates with all to address SDOH/ improve outcomes
First Year Cleveland Action Team 4
Extreme Premature Births

Led by:
Brian Mercer MD, Chair Ob/gyn, The MetroHealth System and
Better Health Partnership
First Year Cleveland’s Mobilization Strategy to Reduce Infant Deaths and Racial Disparities

By the end of 2020, our community will reduce Cuyahoga County's IMR from 10.5 in 2015 to 6.0 IMR
Every Baby Deserves to Celebrate their First Birthday

IN GREATER CLEVELAND, TOO MANY BABIES DON’T GET THAT CHANCE. IN 2019*...

13,937 babies were born in Cuyahoga County

120 of those babies didn’t celebrate a first birthday

73% of those babies were African American from all socioeconomic levels

2019 Overall IM Rate: 8.61
2019 Black, non-Hispanic IM Rate: 16.34
(As of August 10, 2020 CCBH Report)
Prematurity: Leading cause of Infant Death
Cuyahoga County, 2013-2017

First Year Cleveland (FYC) Action Team 4 Goals

- Prevent & delay extreme premature births
- Optimize outcomes of peri-viable births
- Reduce disparities

Ensure recognized and effective interventions are completed in a timely fashion for each extreme preterm delivery before 26 weeks of gestation
FYC Action Team #4 Strategies

- Collect data and launch learning circles with local birth hospitals and researchers/experts
- Launch QI interventions, monitor progress, identify and spread best practices
**Action Team #4 Timeline**

1. **Action Team #4 Formation**
   - May – August 2018

2. **Aggregate baseline data (2013-2017 all four systems)**
   - Sept – Dec 2018

3. **Learning Circles & define consensus-driven data elements**
   - Jan – Dec 2019

   - Jan - Dec 2020

5. **QI interventions, ongoing evaluation; Integrate QI with AT#1**
Brian Mercer MD, Chair Ob/gyn
The MetroHealth System

Findings and Recommendations from Action Team #4
2013-2017
Hospital Aggregate Baseline Data
“guided our focus”
Infant Mortalities Related to Prematurity by Gestational Week
Cuyahoga County, 2017

Total=21 (25%)
Total=65%

Overall total deaths=82
90% <26 weeks

Source: Cuyahoga County Board of Health
Proportion of Live Birth That Are Extremely Premature
(< 26 weeks)
All Live Births, 2013-2017

Among participating systems, extreme prematurity rate ranges from a low of 0.5% to a high of 1.5%.

• Extreme premature births are a problem for every hospital system in Cuyahoga County.
Cumulative Newborn Death before discharge by Week (%)
% of Live Births Which Survived to Discharge (All Systems combined, 2013-2017) by Gestational Week
Action Team #4
2018 Findings
## Prioritized Areas for Data Collection and Evaluation

### Access to Early Care, Risk Identification and Follow-up
1: Early identification of risk for extremely preterm birth  
2: Timely antenatal consultation for those at risk  
3: Appropriate follow-up after ED evaluation

### Access to Timely Consultation and Intervention
4: Timely access to Progesterone  
5: Timely access to history and ultrasound indicated cerclage  
6: Collaborative consultative care for twin/multifetal gestation

### Coordinated Counseling and Care Planning at Admission
7: Systemwide guidelines regarding counseling and care for anticipated extremely preterm birth

### Appropriate Access to Critical Newborn Interventions and Comfort Care
8: Coordinated care for imminent extremely preterm birth  
9: Evaluation of appropriateness of resuscitation absent parental request for comfort care
# Mother’s Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Black - African American</th>
<th>White</th>
<th>Other - Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>81 (48%)</td>
<td>66 (39%)</td>
<td>23 (14%)</td>
<td>170</td>
</tr>
<tr>
<td>Nulliparous</td>
<td>22%</td>
<td>32%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>Teen (&lt;20 years old)</td>
<td>4%</td>
<td>12%</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>Advanced Maternal Age (35+)</td>
<td>10%</td>
<td>21%</td>
<td>39%</td>
<td>18%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>80%</td>
<td>93%</td>
<td>94%</td>
<td>87%</td>
</tr>
<tr>
<td>Living with Partner</td>
<td>60%</td>
<td>85%</td>
<td>74%</td>
<td>73%</td>
</tr>
<tr>
<td>Other (non-partner) adults in home</td>
<td>12%</td>
<td>9%</td>
<td>0%</td>
<td>9%</td>
</tr>
<tr>
<td>Frequent Address Change</td>
<td>3%</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Shelter / Homeless</td>
<td>1%</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Tobacco use</td>
<td>15%</td>
<td>15%</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>4%</td>
<td>2%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Illicit drug use</td>
<td>7%</td>
<td>6%</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Underweight</td>
<td>0%</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Obese</td>
<td>60%</td>
<td>38%</td>
<td>44%</td>
<td>49%</td>
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</table>
## Mother’s Characteristics

<table>
<thead>
<tr>
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<th>Other-Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>81 (48%)</td>
<td>66 (39%)</td>
<td>23 (14%)</td>
<td>170</td>
</tr>
<tr>
<td>Infertility Rx</td>
<td>1%</td>
<td>14%</td>
<td>13%</td>
<td>8%</td>
</tr>
<tr>
<td>Surrogate</td>
<td>0%</td>
<td>2%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Multiple Gestation</td>
<td>6%</td>
<td>15%</td>
<td>17%</td>
<td>11%</td>
</tr>
<tr>
<td>Prior Uterine Surgery (incl. D&amp;C)</td>
<td>11%</td>
<td>9%</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Prior Cervical Surgery</td>
<td>10%</td>
<td>2%</td>
<td>9%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Prior Obstetric History
N=170

- No prior pregnancy: 20%
- Prior preterm birth: 40% (33% Black - African American, 19% White)
- Prior miscarriage/abortion (<20 weeks) only: 15% (20% Black - African American, 20% White)
- Prior term birth(s) only: 25% (28% Black - African American, 28% White)

Black - African American
White
Prenatal Care Events
N=170

Access to Care

- 11% of Mothers: First trimester care, but no first trimester Ultrasound
- 9%: First trimester ultrasound or ED visit but no first trimester care
- 3%: Received ultrasound or ED visit prior to 22 weeks but no documented prenatal care

Delayed Prenatal Care, Ultrasound for Cervical Length; Care Coordination Opportunity after ED Visit
Prenatal Care Events
N=170

Access to Cervical Length Assessment

- 53 mothers had Frist trimester prenatal care, but no cervical length measurement.
- 11 mothers had Ultrasound prior to 23 weeks with no prenatal care visit or cervical length measurement.

31% had no cervical length measurement and preterm labor was due to short cervix with no preventive intervention.
Cervical Length Screening (Prior to 23 Weeks)

Access to Cervical Length Assessment

- All Mothers: 141
- African-American: 66
- White: 53
- Other/Unknown Race: 22

All mothers

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Prior Preterm Birth

17OH-Progesterone for Prior Spontaneous Premature Births

- **All Mothers**: 26 mothers
  - Had prior spontaneous premature birth: 17
  - 17OHP offered: 16
- **African-American**: 17 mothers
  - Had prior spontaneous premature birth: 11
  - 17OHP offered: 11
- **White**: 7 mothers
  - Had prior spontaneous premature birth: 4
  - 17OHP offered: 4
- **Other/Unknown Race**: 2 mothers
  - Had prior spontaneous premature birth: 1
  - 17OHP offered: 1

[Graph showing the number of mothers for different racial categories and the number of prior spontaneous premature births and 17OHP offered.]
Cervical Insufficiency

(Diagnosed Prior to 23 Weeks)

- All Mothers: 29
  - Cervical Insufficiency: 14
- African-American: 17
  - Cervical Insufficiency: 11
- White: 8
  - Cervical Insufficiency: 2
- Other/Unknown Race: 4
  - Cervical Insufficiency: 1

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Short Cervix

Vaginal Progesterone for Cervix (< 20 mm)

- **All Mothers**: 18
  - Short Cervix, No Prior Spontaneous Preterm Births: 11
  - Vaginal Progesterone offered: 7

- **African-American**: 14
  - Short Cervix, No Prior Spontaneous Preterm Births: 9
  - Vaginal Progesterone offered: 5

- **White**: 3
  - Short Cervix, No Prior Spontaneous Preterm Births: 2
  - Vaginal Progesterone offered: 1

- **Other/Unknown Race**: 0
  - Short Cervix, No Prior Spontaneous Preterm Births: 0
  - Vaginal Progesterone offered: 0
Multiple Gestations

Number of Mothers

- All Mothers: 19
- African-American: 5
- White: 10
- Other/Unknown Race: 4

Twins/Multiples Diagnosed

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Hospital Care
Intrapartum Interventions for Fetal Benefit
(Mothers with Documented Intent to Intervene, Delivery >1 hour After Admission)

% of Mothers

- Antenatal corticosteroids
- Continuous Electronic Fetal Monitoring
- Magnesium Sulphate
- Tocolysis
- Caesarean Delivery

- All Mothers
- African American
- White
- Other/Unknown Race

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### NICU Staff Involvement and Care

#### Intent to Intervene For Fetal Benefit and Intent to Resuscitate

<table>
<thead>
<tr>
<th>Race</th>
<th>Intent to Intervene for Fetal Benefit</th>
<th>Intent to Resuscitate at Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Mothers</td>
<td>58%</td>
<td>60%</td>
</tr>
<tr>
<td>African American</td>
<td>58%</td>
<td>61%</td>
</tr>
<tr>
<td>White</td>
<td>56%</td>
<td>79%</td>
</tr>
<tr>
<td>Other/Unknown Race</td>
<td>60%</td>
<td>80%</td>
</tr>
</tbody>
</table>

- **Intent to Intervene for Fetal Benefit**: The percentage of mothers who intend to intervene for fetal benefit varies among different racial groups. All mothers show a 58% intent, while African American mothers show a slightly lower rate of 58%. White mothers have a slightly higher rate of 56%, and other/unknown race mothers show the highest rate of 60%.

- **Intent to Resuscitate at Birth**: The percentage of mothers who intend to resuscitate at birth is also shown. All mothers have a 60% intent, African American mothers have a 61% intent, while White mothers have a 79% intent, and other/unknown race mothers have the highest rate of 80%.

*Better Health Partnership*
NICU Staff Involvement and Care

Newborn Outcomes

- Liveborn: 69% All Newborns, 77% African American
- Comfort care provided: 19% All Newborns, 23% African American
- Newborn survived to discharge: 42% All Newborns, 33% African American
Extreme Premature Births per 100 Live Births, Cuyahoga County 2018

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuyahoga</td>
<td>149</td>
<td>13843</td>
<td>1.07</td>
</tr>
<tr>
<td>Cleveland</td>
<td>109</td>
<td>8956</td>
<td>1.22</td>
</tr>
<tr>
<td>OEI Targets</td>
<td>21</td>
<td>1417</td>
<td>1.48</td>
</tr>
</tbody>
</table>

Extreme PTB occurred in 43 out of 52 zip codes; It’s everyone’s problem

OEI=Ohio Equity Institute
## Extreme Premature Babies

**divided by Birth Certificate Births in 2018 for Moms who were residents of zip codes in Cuyahoga County**

<table>
<thead>
<tr>
<th>Social/Economic Determinants</th>
<th>High Ratio [1.50, 2.73]</th>
<th>Low Ratio [0.01, 1.50]</th>
<th>None (0)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of zip codes</td>
<td>16</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>% Non-Hispanic White</td>
<td>53.4</td>
<td>57.6</td>
<td>75.4</td>
</tr>
<tr>
<td>% African-Amer. or Black</td>
<td>35.8</td>
<td>35.1</td>
<td>14.1</td>
</tr>
<tr>
<td>% Hispanic ethnicity</td>
<td>5.5</td>
<td>3.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Area Deprivation Index</td>
<td>106.8</td>
<td>102.1</td>
<td>86.6</td>
</tr>
<tr>
<td>Median Income</td>
<td>47,500</td>
<td>50,300</td>
<td>65,200</td>
</tr>
<tr>
<td>HS Graduation Rate</td>
<td>84.1</td>
<td>87.5</td>
<td>87.0</td>
</tr>
<tr>
<td>% Single-Parent HHs</td>
<td>39.7</td>
<td>39.3</td>
<td>23.1</td>
</tr>
<tr>
<td>% Broadband</td>
<td>69.9</td>
<td>73.7</td>
<td>77.1</td>
</tr>
<tr>
<td>% Smart Phone</td>
<td>64.5</td>
<td>66.4</td>
<td>69.7</td>
</tr>
<tr>
<td>Death Rate</td>
<td>12.8</td>
<td>11.7</td>
<td>9.4</td>
</tr>
<tr>
<td>Maltreatment Rate</td>
<td><strong>20.9</strong></td>
<td><strong>13.1</strong></td>
<td><strong>8.9</strong></td>
</tr>
</tbody>
</table>

### Data Reported to FYC/BHP

<table>
<thead>
<tr>
<th></th>
<th>High Ratio [1.50, 2.73]</th>
<th>Low Ratio [0.01, 1.50]</th>
<th>None (0)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of zip codes</td>
<td>16</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td># of Moms</td>
<td>64</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td># of Babies</td>
<td>71</td>
<td>78</td>
<td>0</td>
</tr>
</tbody>
</table>

### From 2018 Birth Certificate Data

<table>
<thead>
<tr>
<th></th>
<th>Mean Births</th>
<th>% Medicaid</th>
<th>% Inadequate Pre-Natal Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>235</td>
<td>52.3</td>
<td>18.0</td>
</tr>
</tbody>
</table>

### Notes

- Data is reported to FYC/BHP for High Ratio and Low Ratio categories.
- None category represents zero data points.
AT #4: Prioritized/Recommended Areas of Improvement

Based on chart review data collection, AT #4 prioritized 3 quality improvement interventions:

1. Early access to prenatal care for pregnant women presenting to an ED for evaluation

2. Early establishment of gestational age, pregnancy viability, and determination of pregnancy risk

3. Consistent cervical length screening in all pregnancies receiving prenatal care before 20 weeks
2020 Follow-up Actions and Insights
Dr. Brian Mercer
Rita Horwitz
Kimberly Dudley, Community Health Worker
The MetroHealth System
and
Alvonta Jenkins, Program Coordinator
Better Health Partnership

Leveraging the Better Health Pathways HUB to assist high-risk pregnant moms
First Year Cleveland’s Mobilization Strategy to Reduce Infant Deaths and Racial Disparities

- Reduce Racial Disparities
- Address Extreme Prematurity
- Eliminate Sleep Related Deaths

By the end of 2020, our community will reduce Cuyahoga County's IMR from 10.5 in 2015 to 6.0 IMR
Register for Next Webinar- last of 5 part series

- September 23: 12:00 noon – 1:00 p.m.

Prioritized Findings from First Year Cleveland’s Action Team #1
Patient Experiences; Racial Disparities

Need more information?
Please send your requests to Carol Kaschube ckaschube@metrohealth.org
Questions?
Please submit through chat function
Thank You!

Better Health Partnership
Collaborating for a healthy community

www.betterhealthpartnership.org