



# Perinatal Periods of Risk Analysis: Disentangling Race & Socioeconomic Status to Inform a Black Infant Mortality Community Action Initiative

**Catherine Kothari PhD, Evaluator**

Assistant Professor,

Division of Epidemiology & Biostatistics

WMU Homer Stryker MD School of Medicine

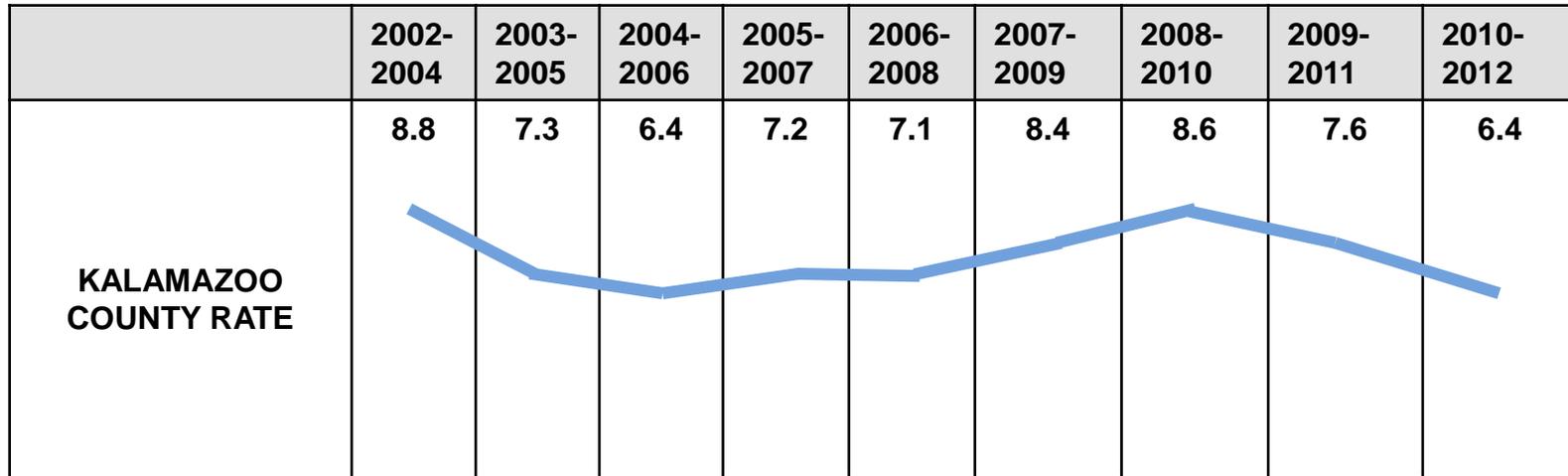
[catherine.kothari@med.wmich.edu](mailto:catherine.kothari@med.wmich.edu)

(269) 501-4149



# Infant Mortality & Racial Disparities Trends, Kalamazoo County, 2002-2012

Infant Mortality Rates per 1,000 Live Births, Three-year moving Averages



Source: Michigan Department of Community Health, Division for Vital Records and Health Data Development. *Michigan Infant Death Statistics*. March, 2014.

# Infant Mortality & Racial Disparities Trends, Kalamazoo County, 2002-2012

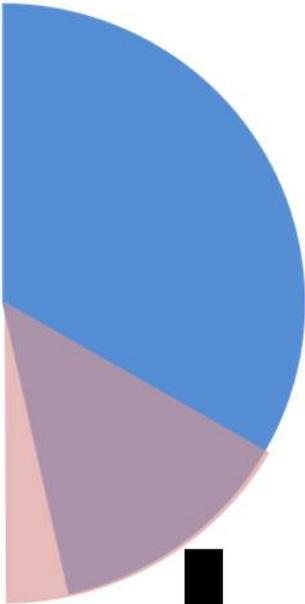
Infant Mortality Rates per 1,000 Live Births, Three-year moving Averages

	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012
<b>KALAMAZOO COUNTY RATE</b>	8.8	7.3	6.4	7.2	7.1	8.4	8.6	7.6	6.4
White	6.4	5.2	4.6	5.0	4.8	5.5	5.7	4.8	3.9
Black	20.8	17.9	16.0	16.8	16.8	19.2	19.5	18.3	17.6
<b>DISPARITY: RATIO OF BLACK TO WHITE IMR</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>3.4</b>	<b>3.5</b>	<b>3.5</b>	<b>3.4</b>	<b>3.8</b>	<b>4.5</b>

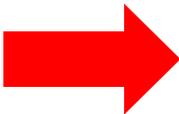
Source: Michigan Department of Community Health, Division for Vital Records and Health Data Development. *Michigan Infant Death Statistics*. March, 2014.

# Overlap between Black Race and Poverty

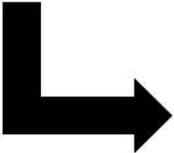
BIRTHS



84.5% of Black women giving birth are poor



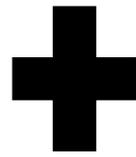
2X higher than White births



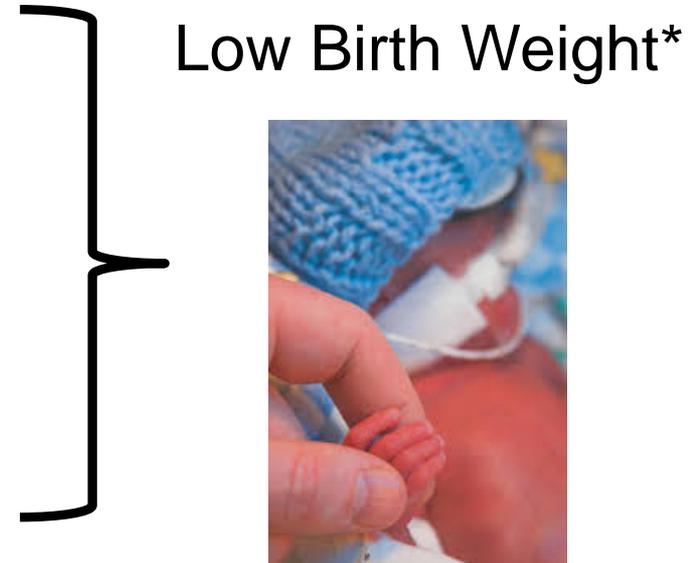
Black & Poor

# Poverty and Race EACH contribute risk...

Poverty  
1.7X ↑



Black Race  
1.6X ↑



...but kind  
of risk? ...and does it  
vary?



# Perinatal Periods of Risk (PPOR)





# Perinatal Periods of Risk (PPOR)



500-  
1499 g



Infant birth weight

1500+ g



The National Organization of Urban MCH Leaders



# Perinatal Periods of Risk (PPOR)



Fetal Neonatal Post neonatal

500-  
1499 g



Age at death

1500+ g



The National Organization of Urban MCH Leaders

# Perinatal Periods of Risk (PPOR)

Fetal      Neonatal      Post  
neonatal

500-  
1499 g

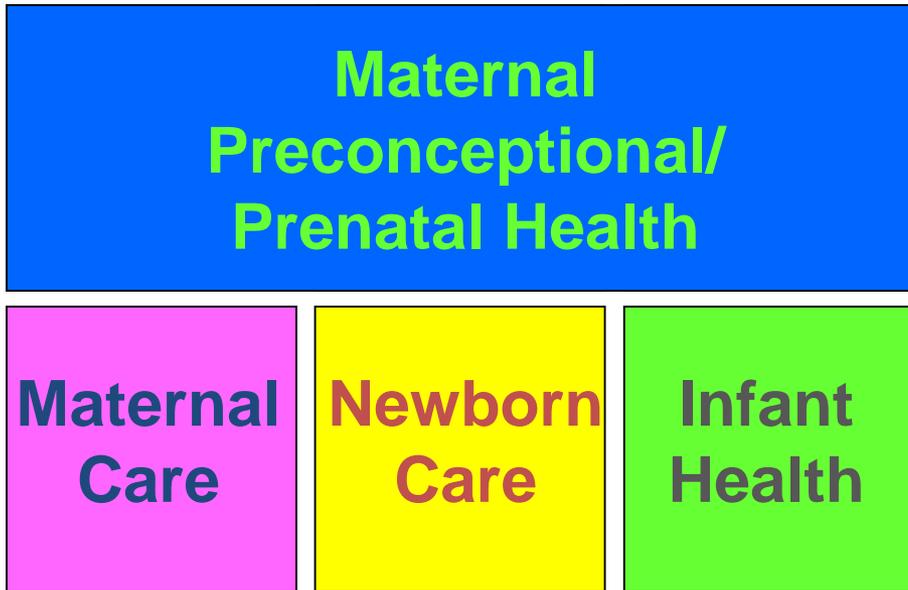
**Maternal  
Preconception/  
Prenatal Health**

1500+ g

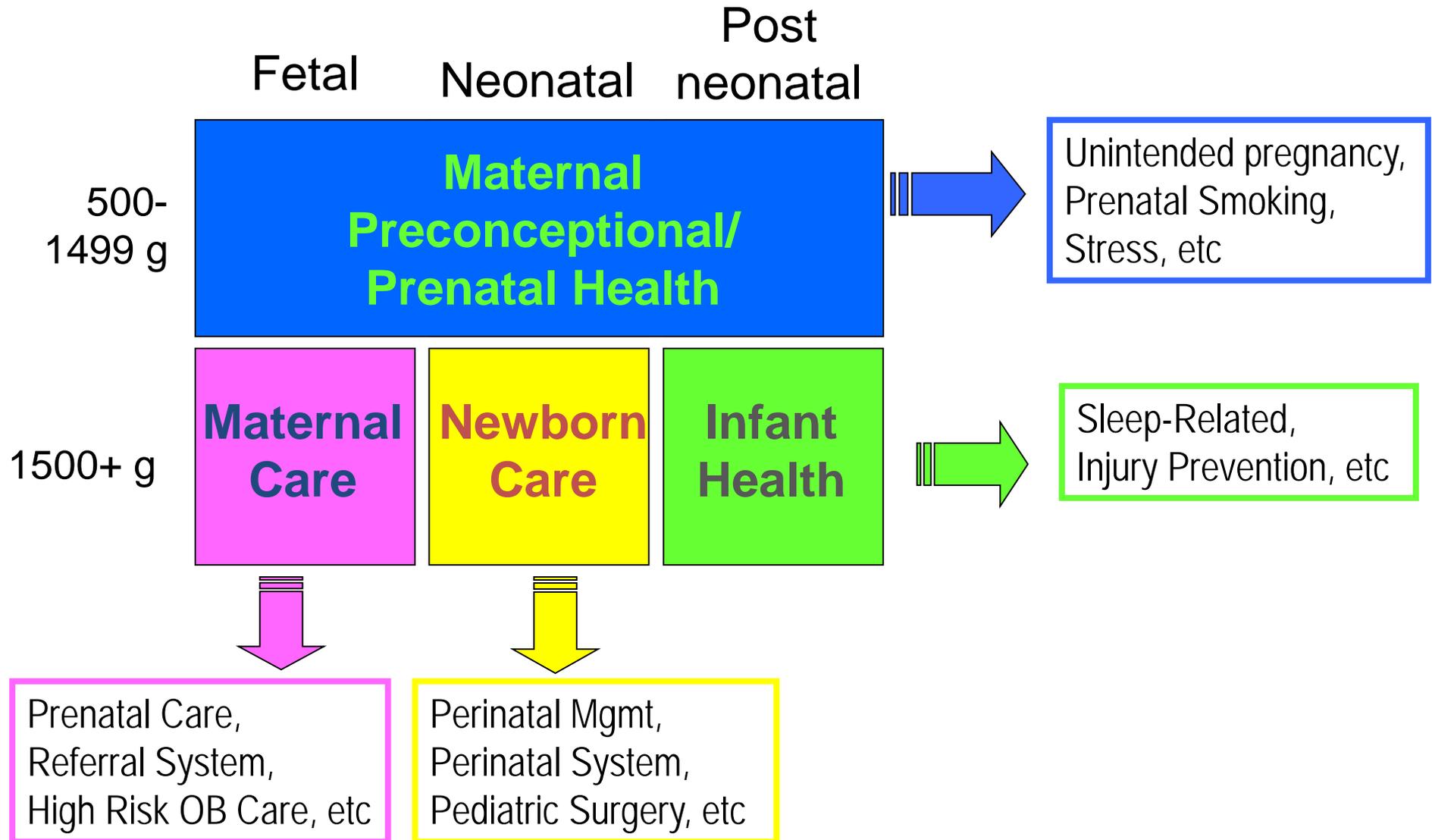
**Maternal  
Care**

**Newborn  
Care**

**Infant  
Health**



# Perinatal Periods of Risk (PPOR)



**“Excess  
Mortality”  
BLACK RACE**

# **PPOR (2003-2012)**

## **Excess Mortality: Black Women**

# PPOR (2003-2012)

## Excess Mortality: Black Women



\*REFERENCE: White, non-Hispanic women, age 20+, with 13+ years of education

# PPOR (2003-2012)

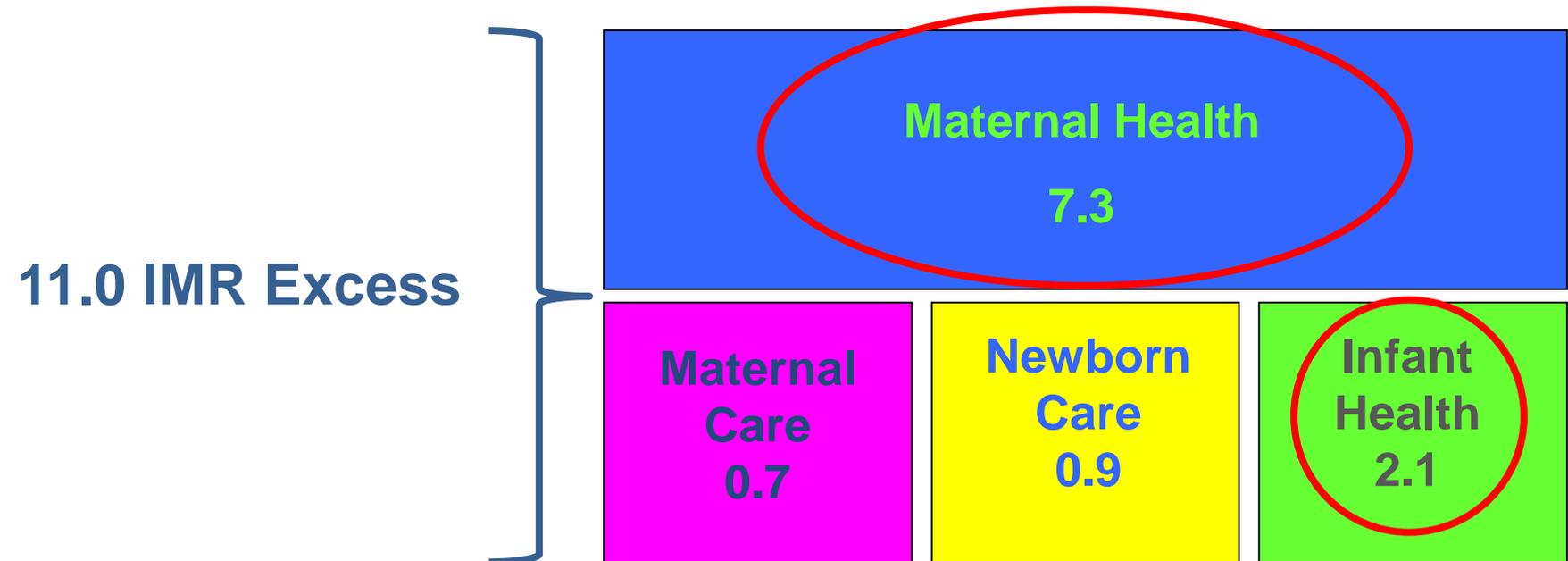
## Excess Mortality: Black Women

$$\begin{array}{|c|} \hline \text{Black women} \\ \hline 15.2 \text{ IMR} \\ \hline \end{array} - \begin{array}{|c|} \hline \text{Reference} \\ \hline 4.2 \text{ IMR} \\ \hline \end{array} = 11.0 \text{ IMR}$$

# PPOR (2003-2012)

## Excess Mortality: Black Women

<u>Black women</u>	-	<u>Reference</u>	=	11.0 IMR
15.2 IMR	-	4.2 IMR		



# Perinatal Periods of Risk Assessment

## TRENDS in Excess Mortality of Black Women

1997-2006

Maternal Health/  
Prematurity

5.1

Maternal  
Care  
2.0

Newborn  
Care  
0.2

Infant  
Health  
2.9

2003-2012

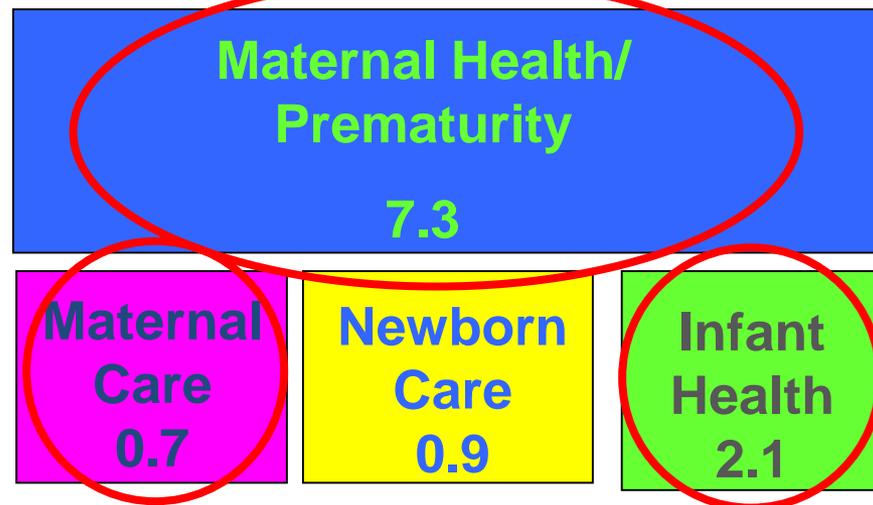
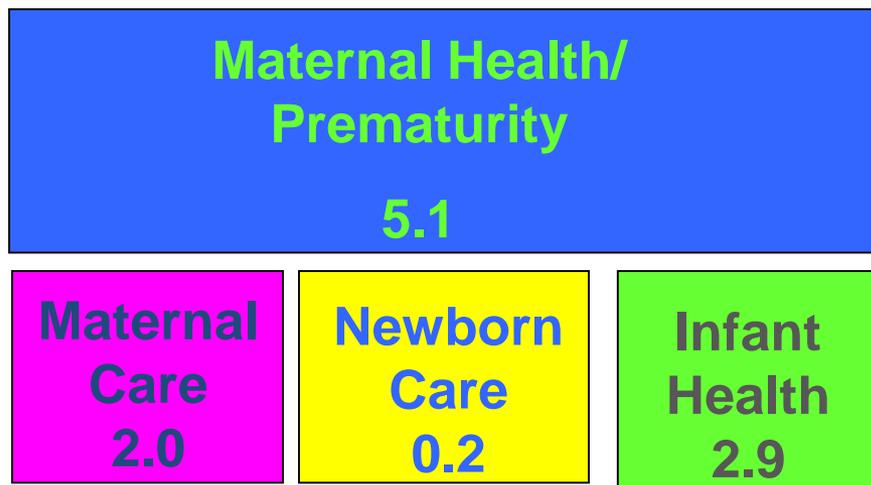
Maternal Health/  
Prematurity

7.3

Maternal  
Care  
0.7

Newborn  
Care  
0.9

Infant  
Health  
2.1

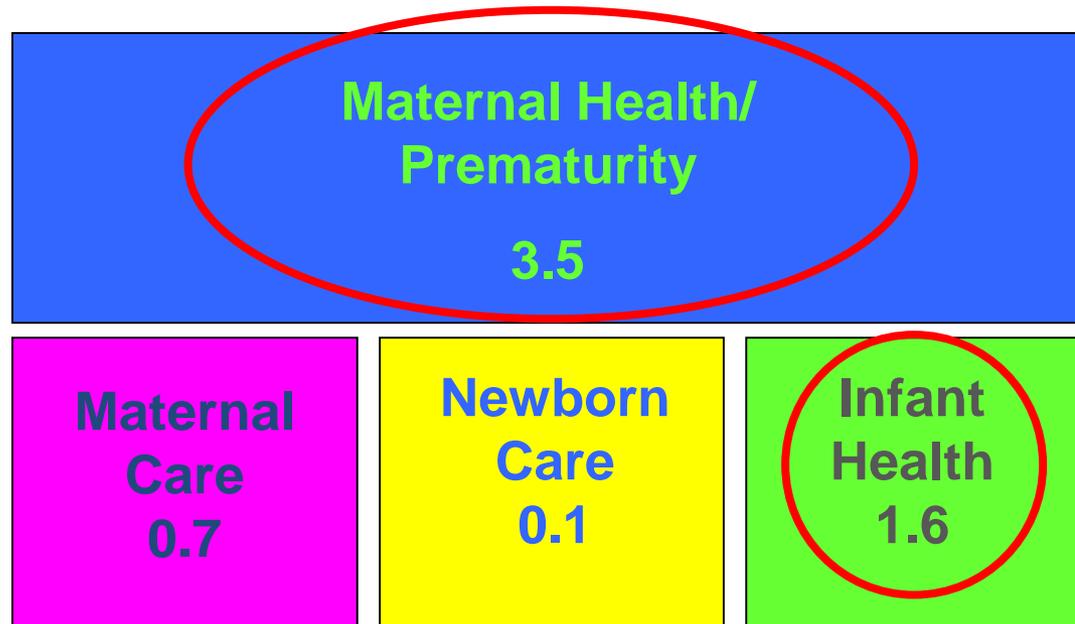


**“Excess  
Mortality”  
POVERTY**

# Perinatal Periods of Risk Assessment (2003-2012)

**Excess Mortality: Poor Women**

[Poor women – Reference Group]



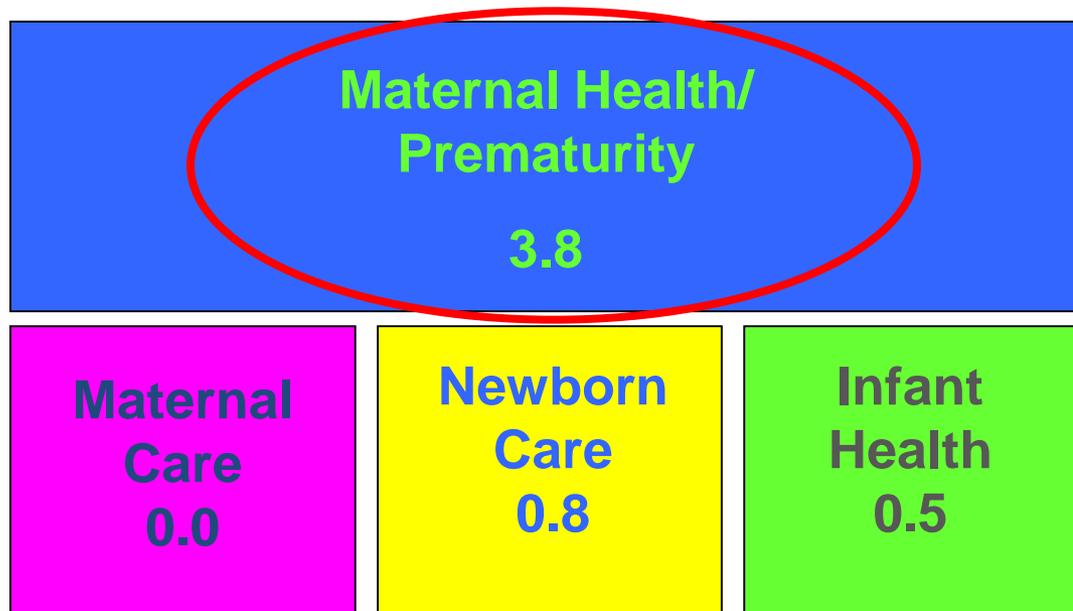
\* Medicaid-paid birth

**BLACK  
“Excess  
Mortality”  
after**

**accounting  
for POVERTY**

# Perinatal Periods of Risk Assessment (2003-2012)

**Excess Mortality: Black women – Poor Women**



# Perinatal Periods of Risk Assessment

Excess Mortality: Black Women – Poor Women

1997-2006

Maternal Health/  
Prematurity

1.9

Maternal  
Care  
0.3

Newborn  
Care  
-0.6

Infant  
Health  
0.7

2003-2012

Maternal Health/  
Prematurity

3.8

Maternal  
Care  
0.0

Newborn  
Care  
0.8

Infant  
Health  
0.5

# What We Learned

- The majority of mortality risk associated with Black race is related to **women's health before and during pregnancy**
  - Some of this risk is associated with Poverty
  - Some is not
  - Both point to systematic racism
  
- The other notable mortality risk is in the area of **infant health and safety**
  - Most of this risk has to do with being Poor

# What We Did

- **Formed an infant mortality community action initiative**
  - **Collaboration between YWCA, public health department, maternal-infant-early childhood home visitation programs, WMed, hospitals, clinics, faith community, local funders**
  - **Formal strategic planning process**

## Vision:

- Reduce the infant mortality rate in racial ethnic minorities to 6.0 (per 1000 births) in Kalamazoo County by 2020.

## Intended Populations:

- Female residents of Kalamazoo County ages 15-44:
  - Who are black
  - Who have incomes at or below FPL
  - Who have previous poor birth outcomes

# What We Did

## Principles

- All programs will be designed and delivered to empower the intended population
- Seek to be inclusive in all that we do
- Data driven, implementing evidence-based practices with CQI

- **Raised awareness about the problem and the solutions**
  - **Four community wide meetings, between 100-150 participants each**
  - **NAACP/ faith community-organized concert**
  - **Presentations to community political leaders, faith community leaders and medical community**
  - **Marketing / Branding campaign “Cradle Kalamazoo”**

# What We Did

- **Integrated Cultural Competency**

- Strategic objective, formal sub-group led by anti-racism agency
- Steering team completed trainings together
- Funding to sponsor provider trainings
- Proclamation by the County Board of Commissioners, under consideration

- **Reinvigorated FIMR**

- Innovative partnership between WMed and public health dept
- Steering team functions as CAT
- Funding to add abstractor and family interviewers

# What We Did

- **Developed/ing infrastructure for coordinating CHWs and home visitors**
  - Backbone team to administer plan
  - Consents allow case reviews and case sharing across programs
  - Weekly coordination meetings between frontline workers
  - Community health worker corps
  - Co-locate workers within local DHHS and WIC to identify women early
  - Data Hub with a care coordination registry to track all prenatal referrals and ensure timely response

- **Launched Safe Sleep Campaign**
  - Presentations to medical, social service and public health providers
  - Developed a toolkit, specific to Kalamazoo
  - Promoted safe sleep on social media, local radio

# What We Plan to Do Next

- **Expand to include Fathers**

- Educational/ Recreational fatherhood events in community
- Case managers specific to fathers
- Partner with other community groups supporting men and fatherhood

- **Community Survey of delivering mothers**

- Experiences with medical, public health & social service providers
- Experiences with discrimination
- Barriers faced, coping strategies