

Perinatal Periods of Risk:

Using Data as a Community Tool for Maternal and Child Health Planning and Programming

Anne Trinh, MPH

Epidemiologist,
*Center for Epidemiology,
Preparedness, and Response*

Robyn Taylor, MBA

Assistant Director of Health Equity,
Ohio Department of Health



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

A note before we move on...

**ALL DATA ARE FOR
ZIP CODES 43206 AND 43207
*UNLESS OTHERWISE STATED!***



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

PPOR Analysis is...

- A way to use data to reduce infant mortality
- A community-based approach
- Part of a cycle of processes
- Simple (really! [kind of])



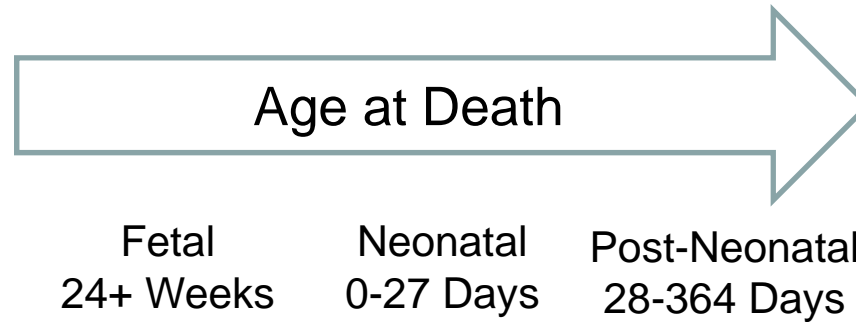
Complexity → Simplicity



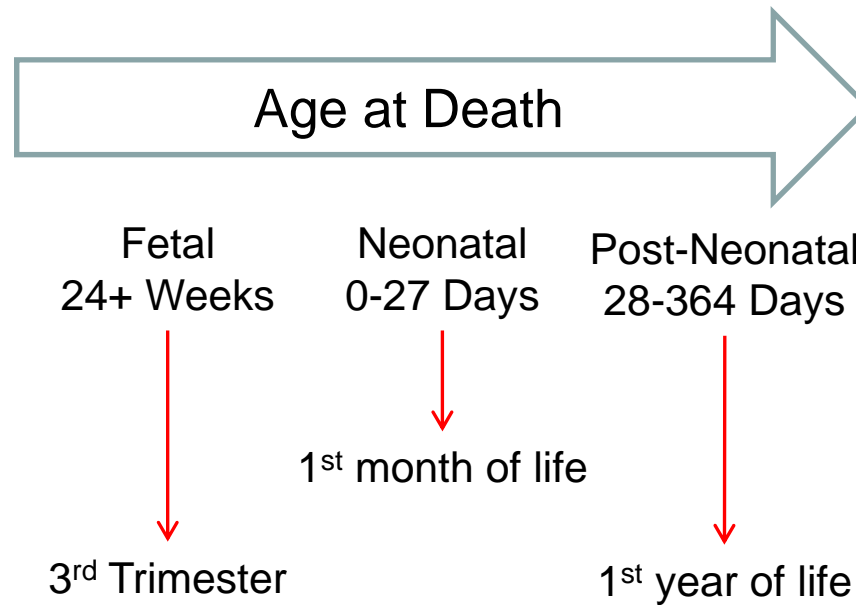
THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

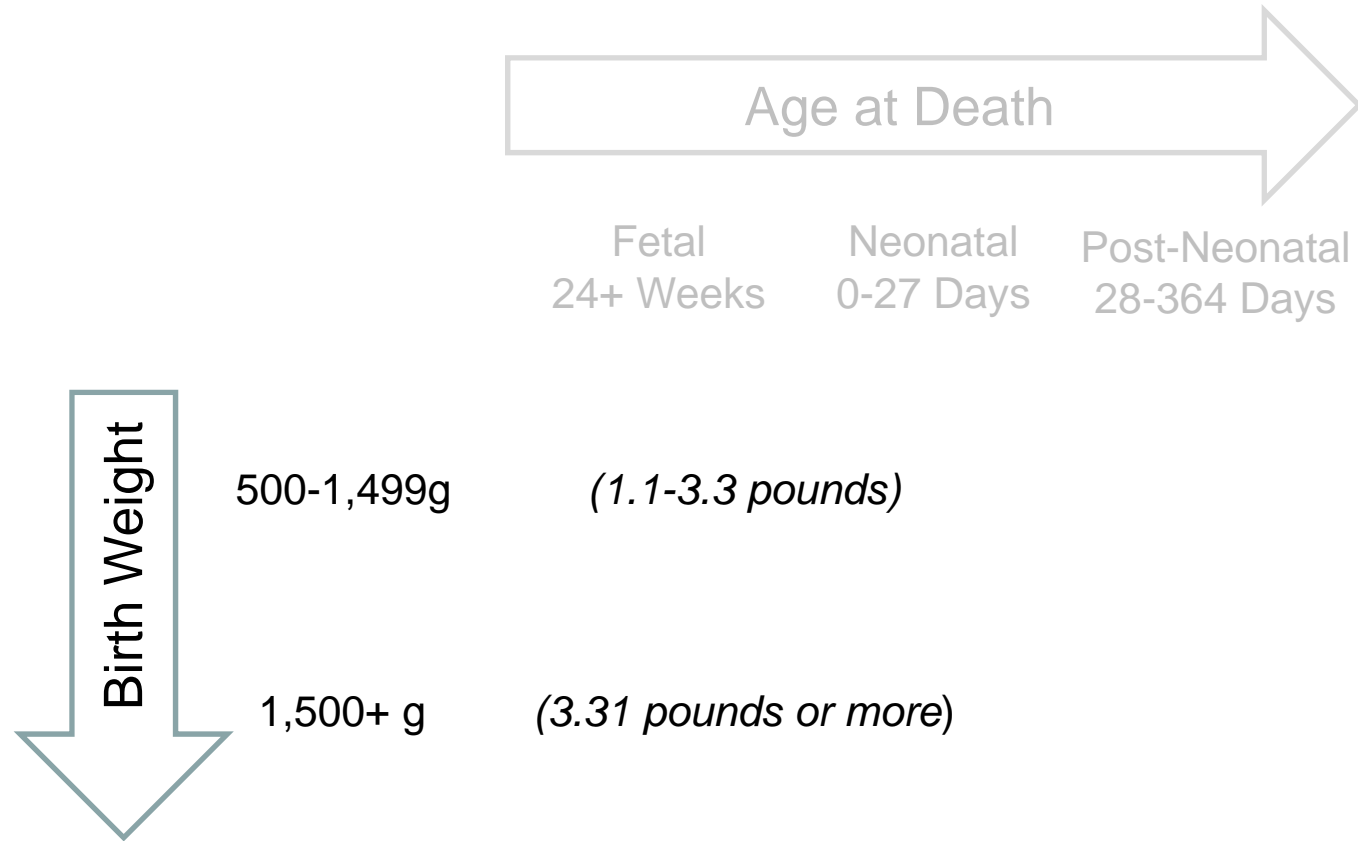
PPOR are Classifications Based On...



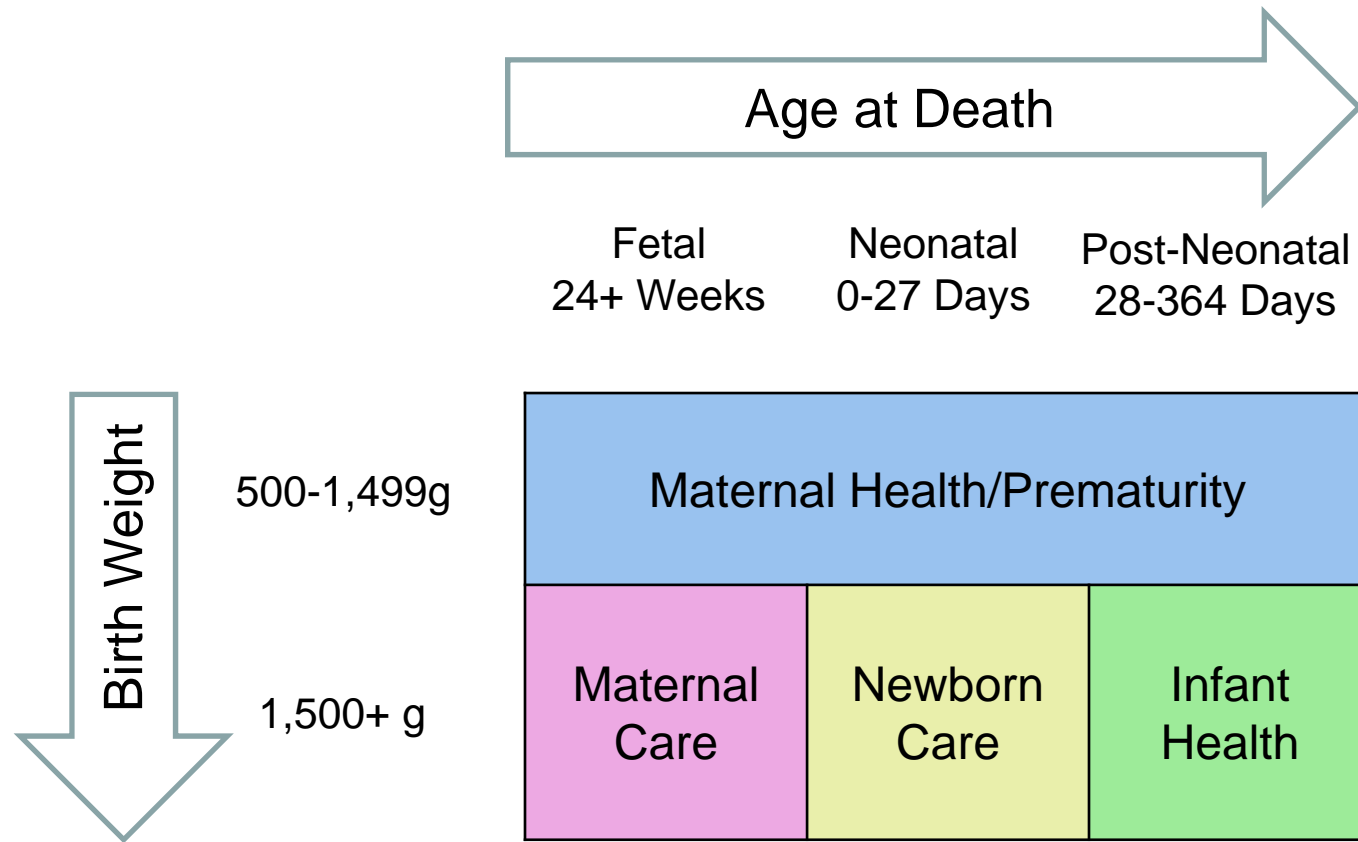
PPOR are Classifications Based On...



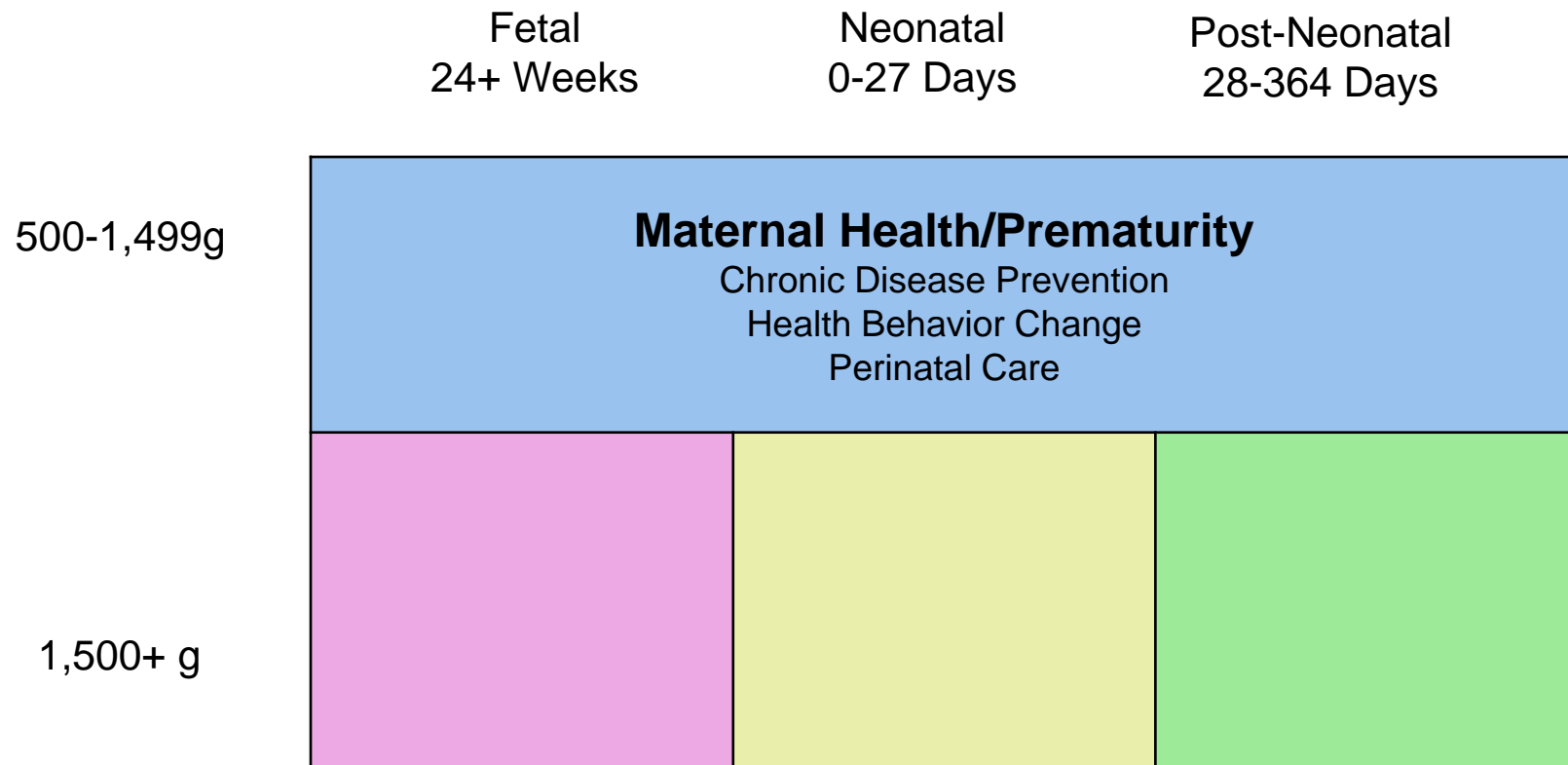
PPOR are Classifications Based On...



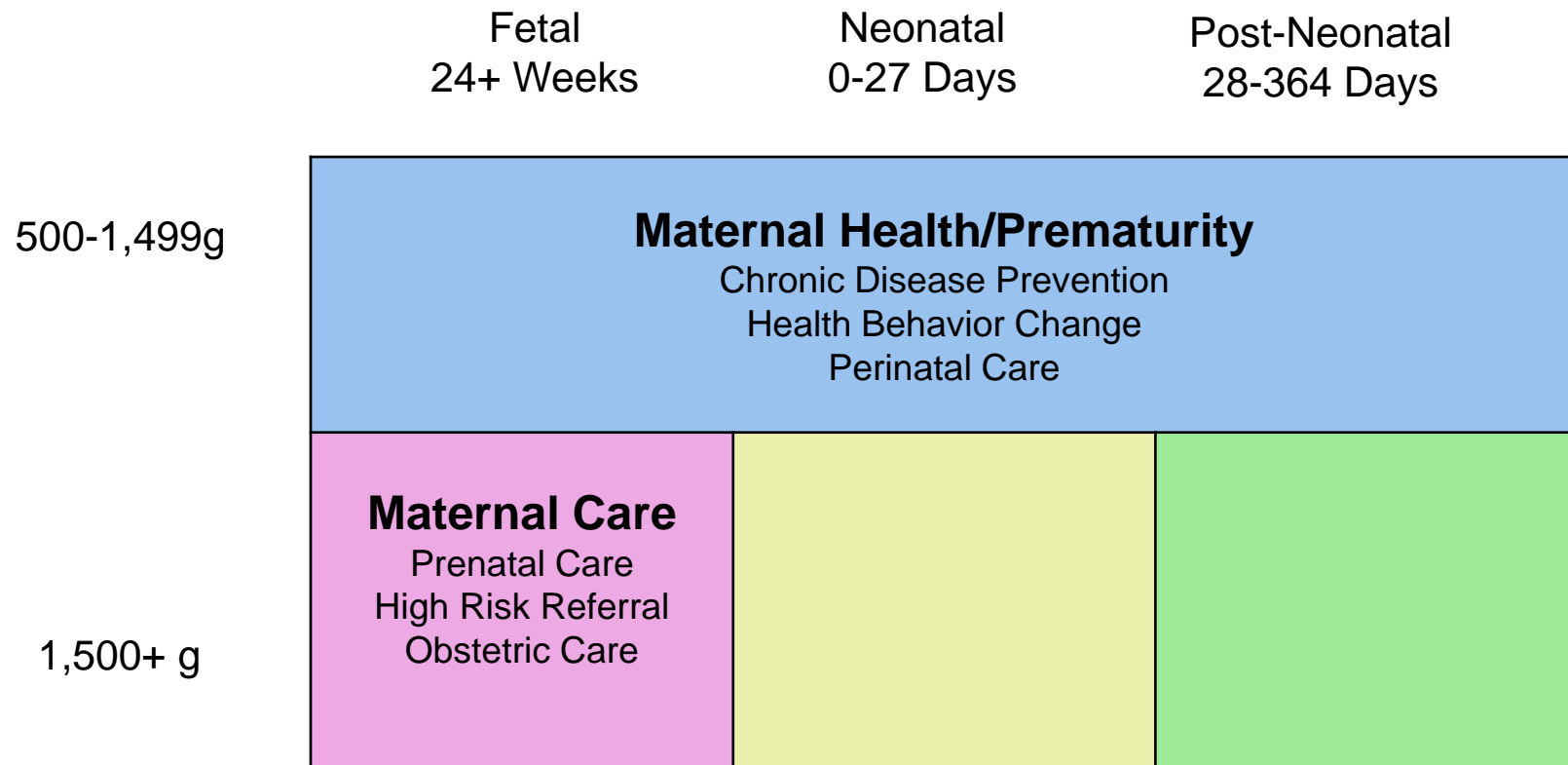
PPOR are Classifications Based On...



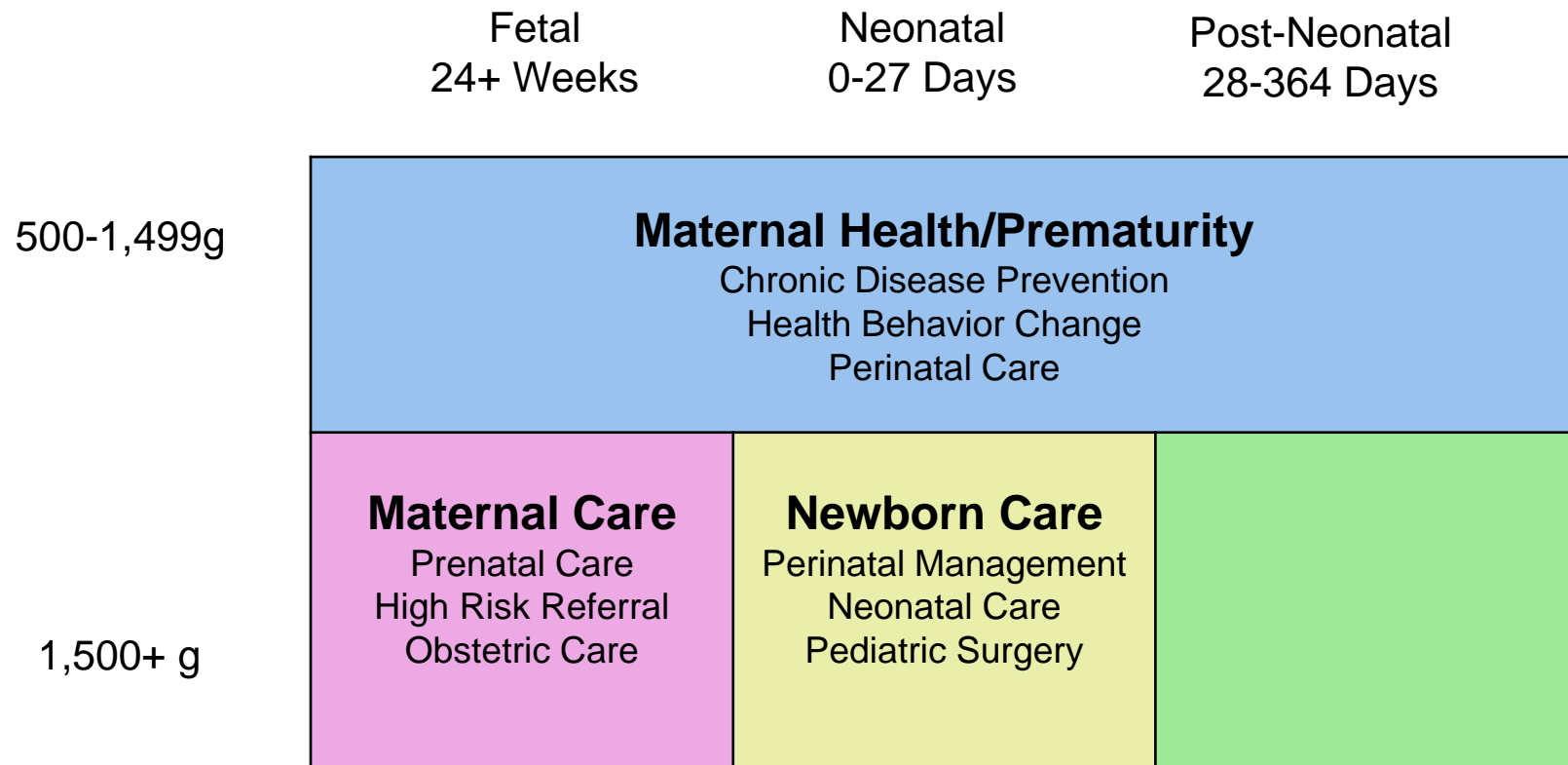
PPOR Helps Determine Possible Interventions



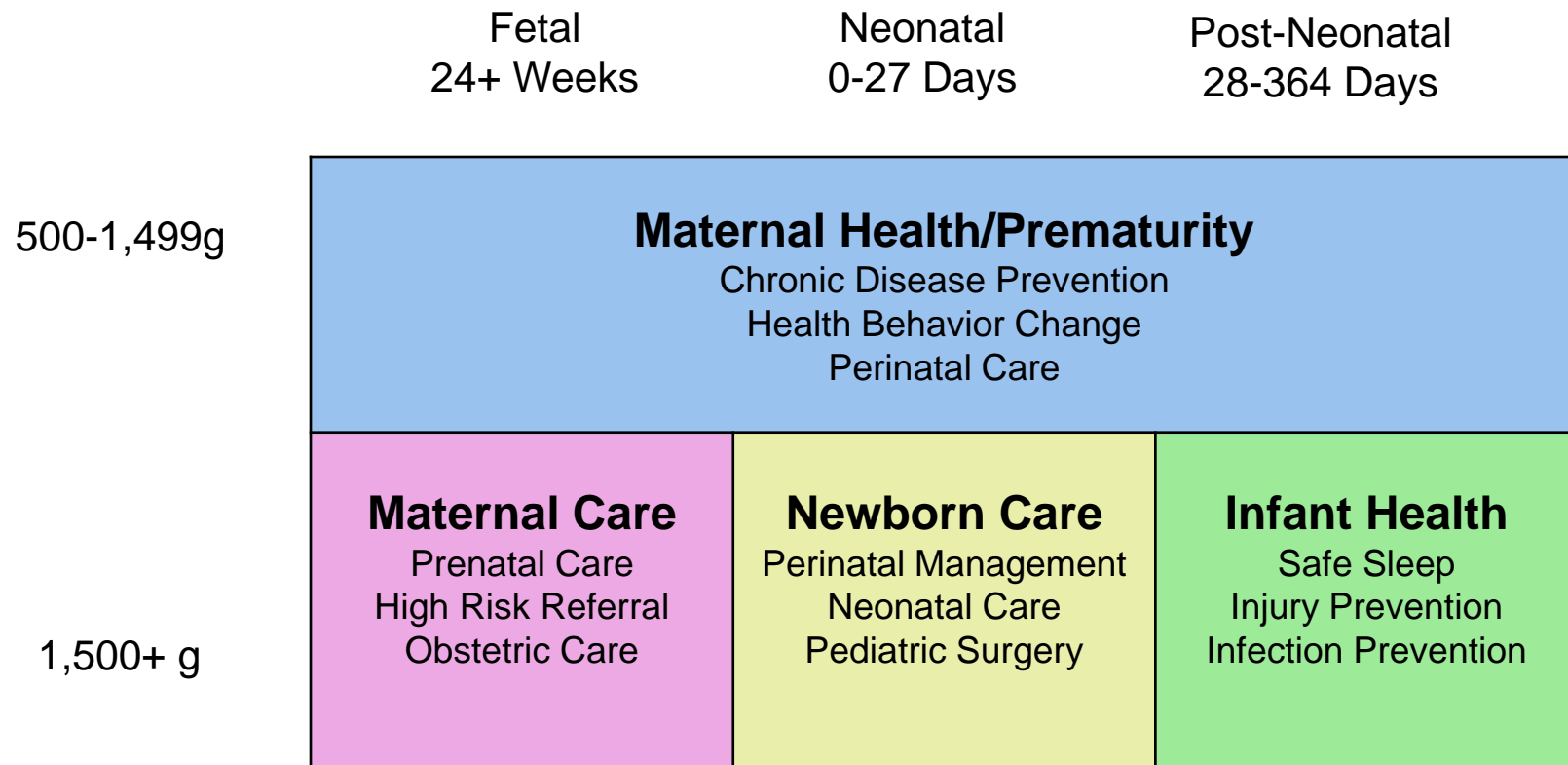
PPOR Helps Determine Possible Interventions



PPOR Helps Determine Possible Interventions



PPOR Helps Determine Possible Interventions



South Side Birth, Death, and Demographic Data

- Approximately 1,074* births annually
 - 13* infant deaths
 - 6* fetal deaths
- 59.9% Non-Hispanic White^
 - 13+ years of education: 39.6%
 - Below poverty in the past 12 months: 18.6%
 - 2011 inflation-adjusted mean income: \$30,452
- 33.2% Non-Hispanic Black^
 - 13+ years of education: 38.4%
 - Below poverty in the past 12 months: 30.9%
 - 2011 inflation-adjusted mean income: \$14,273

* Annual average ^ US Census

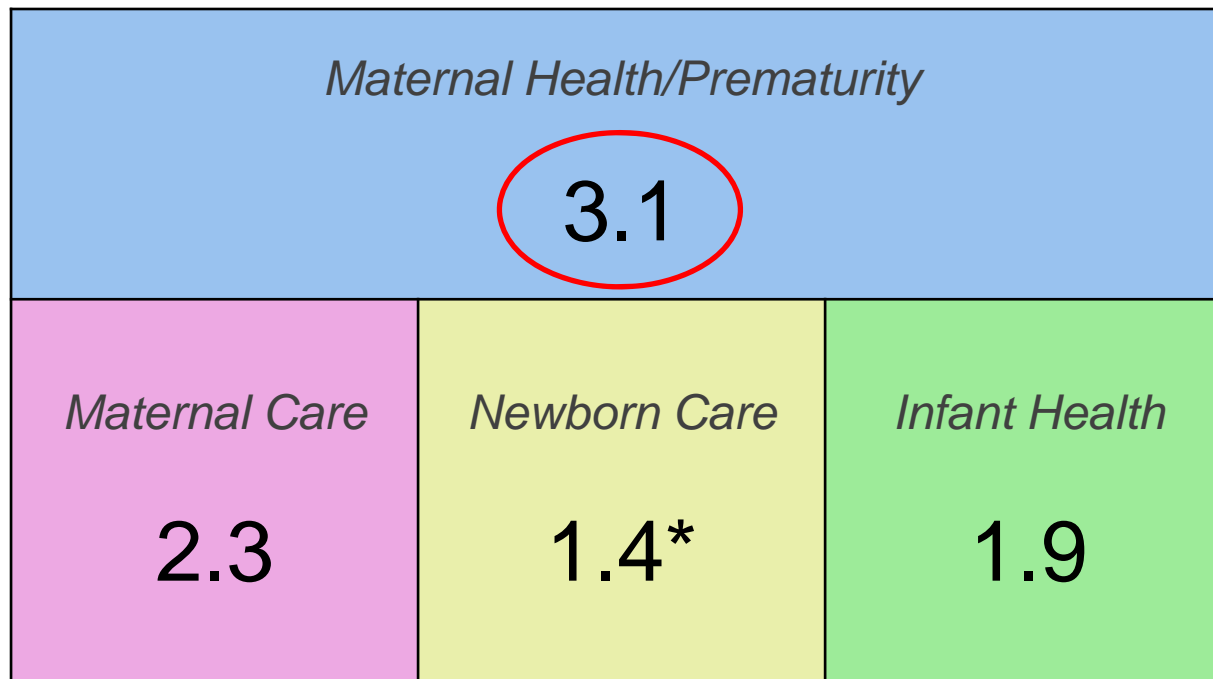
2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

South Side PPOR Map



* Unreliable rate

2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

South Side PPOR Map

<i>Maternal Health/Prematurity</i>		
3.1		
<i>Maternal Care</i>	<i>Newborn Care</i>	<i>Infant Health</i>
2.3	1.4*	1.9

$3.1 + 2.3 + 1.4 + 1.9$
=
8.7 fetal and infant deaths
for every 1,000 live births
and fetal deaths

* Unreliable rate

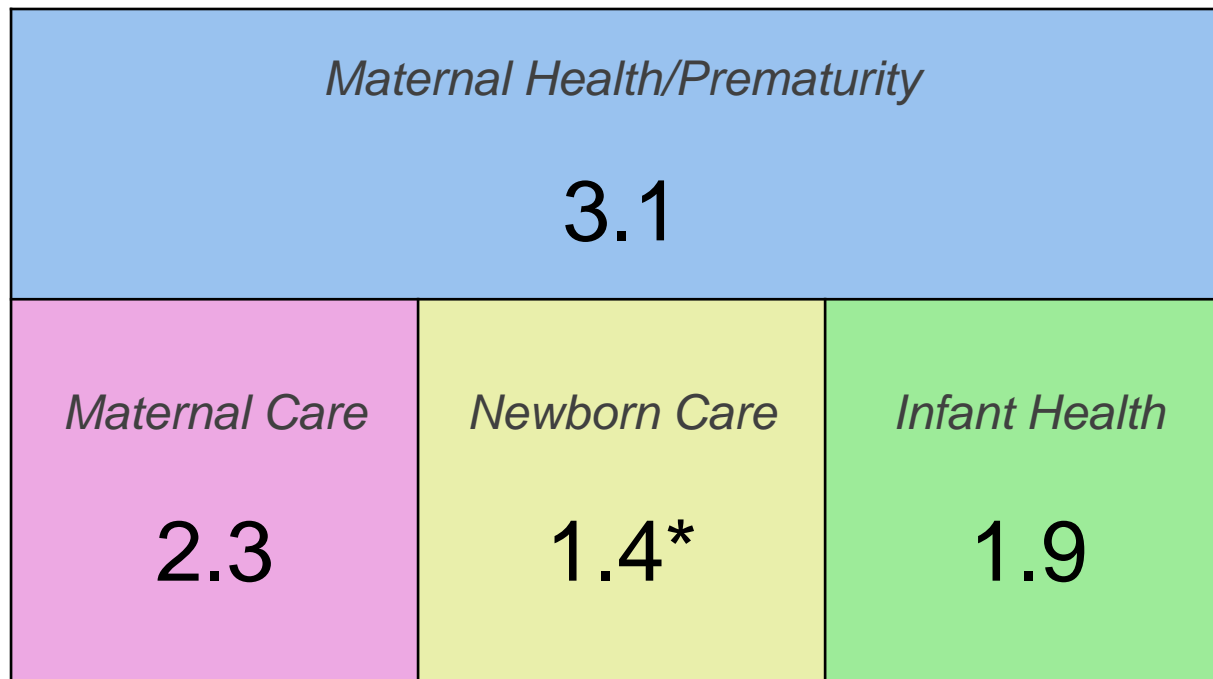
2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

South Side PPOR Map



* *Unreliable rate*

2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

What do these rates mean to you?

- Too high?
- How do we compare?
- What's possible?
- What's fair?
- What's "good"?
- What do YOU want South Side fetal and infant mortality rates to be?

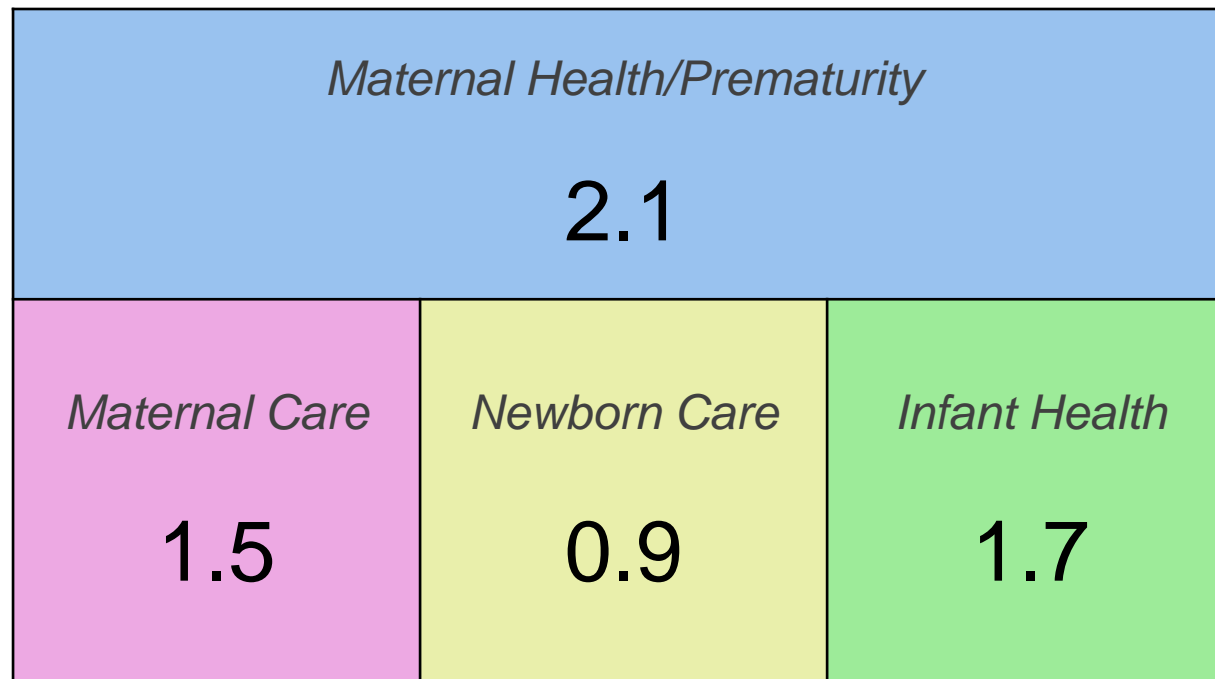


Franklin County Reference Group

- Non-Hispanic White
- 20+ years of age
- High school graduate



Franklin County Reference Group



2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

Disparity ~ Gap ~ Difference

South Side				Reference Group			
<i>Maternal Health/Prematurity</i>				<i>Maternal Health/Prematurity</i>			
3.1				2.1			
<i>Maternal Care</i>	<i>Newborn Care</i>	<i>Infant Health</i>		<i>Maternal Care</i>	<i>Newborn Care</i>	<i>Infant Health</i>	
2.3	1.4*	1.9		1.5	0.9	1.7	

* Not reliable due to a smaller number of deaths

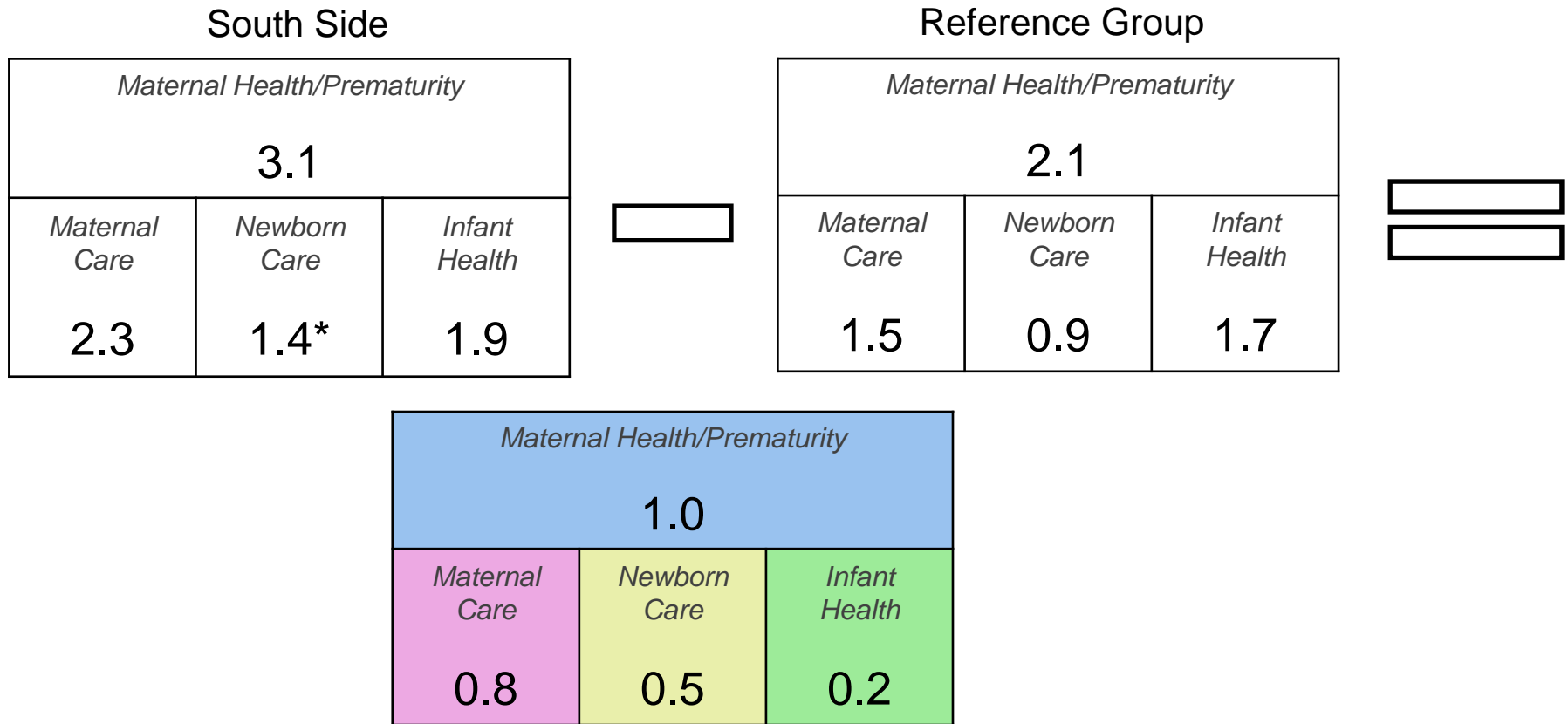
2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

Disparity ~ Gap ~ Difference



* Not reliable due to a smaller number of deaths

2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

South Side Excess or Preventable Deaths

Maternal Health/Prematurity		
1.0		
Maternal Care	Newborn Care	Infant Health
0.8	0.5*	0.2

$$1.0 + 0.8 + 0.5 + 0.2 =$$

2.5 EXCESS fetal and infant deaths for every 1,000 live births and fetal deaths

6,479 fetal deaths and live births during 2004-2009



16 EXCESS DEATHS

** Not reliable due to a smaller number of deaths*

2004-2009 Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

Are 16 “Preventable” Deaths in 6 Years a Crisis?

- Infant mortality is the tip of the iceberg
- 43206 includes German Village, a higher socio-economic status neighborhood
- Health inequities are unfair, unacceptable, and really expensive!



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH



What happens after we finish our PPOR map?



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

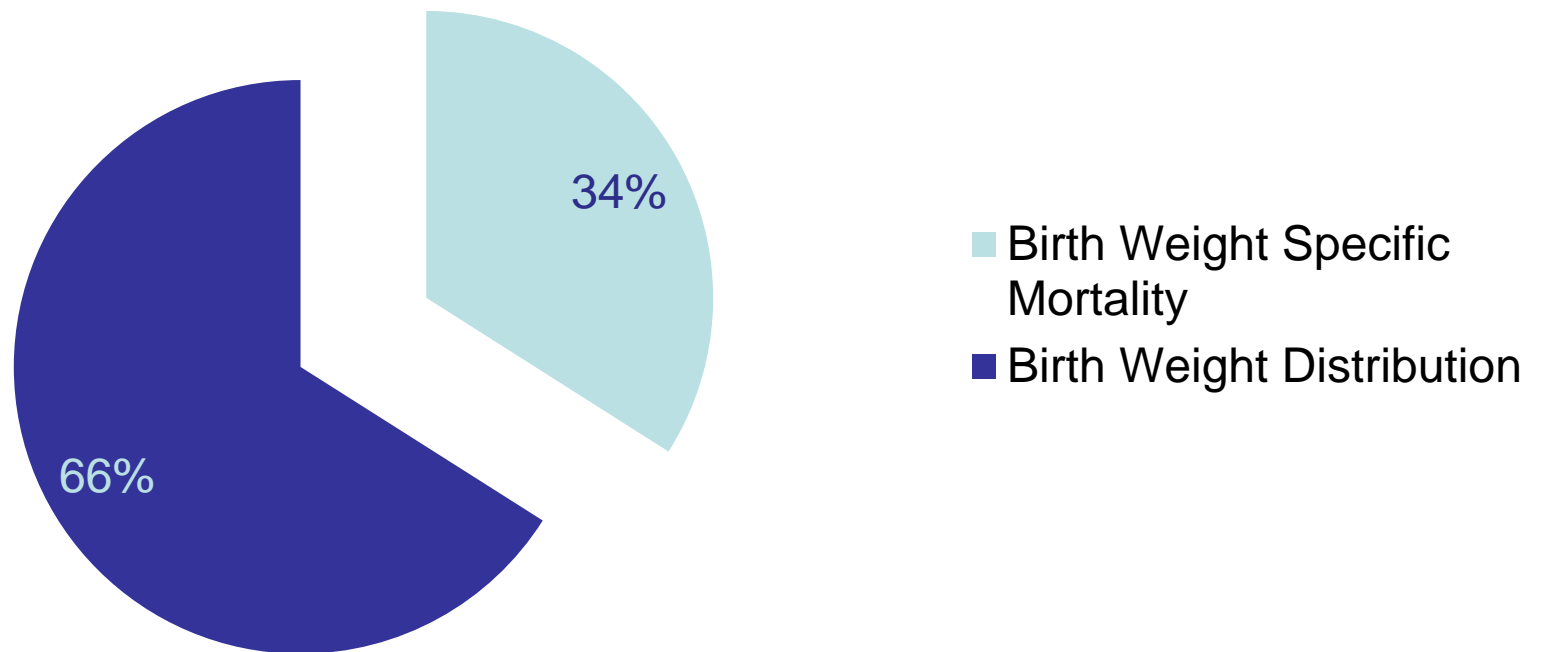
South Side- Maternal Health and Prematurity Group

- Birth weight distribution
 - Too many low and very low birth weight births
 - Prevalence and impact of risk factors for low birth weight births and prematurity
- Birth weight specific mortality
 - Too many deaths in a specific birth weight range
 - Aspects of perinatal care system

<i>Maternal Health/Prematurity</i>		
3.1		
<i>Maternal Care</i>	<i>Newborn Care</i>	<i>Infant Health</i>
2.3	1.4*	1.9



Maternal Health and Prematurity



Risk Factors for Very Low Birth Weight and Prematurity

2004-2009	South Side	FC Reference	Disparity Ratio
Not Married	76.1	26.2	2.9
Medicaid Birth*	52.2	18.0	2.9
Using WIC*	66.7	23.2	2.9
Inadequate PNC^	26.4	11.3	2.3
Any Smoking During Pregnancy	32.7	14.9	2.2
Previous Preterm Birth	5.4	4.1	1.3
Obese*	27.7	23.7	1.2
Birth Spacing < 18 Months	23.0	20.2	1.1
Overweight or Obese*	36.9	47.6	0.8
Multiples	24.8	32.8	0.8

Ohio Department of Health Vital Statistics Data Analyzed by Office of Epidemiology
 *2006-2009 Data ^Kotelchuck Index
 Among births weighing between 500-1,499g and 24+ weeks or older

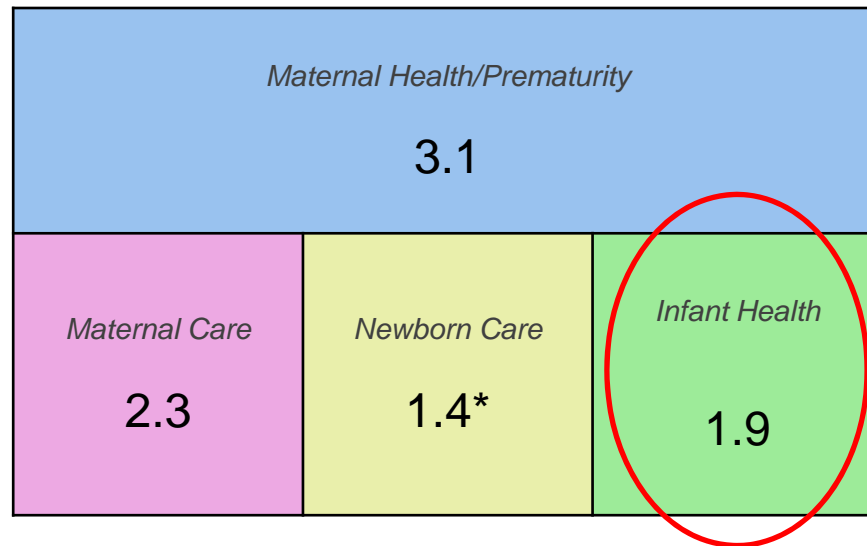


THE CITY OF
COLUMBUS
 MICHAEL B. COLEMAN, MAYOR

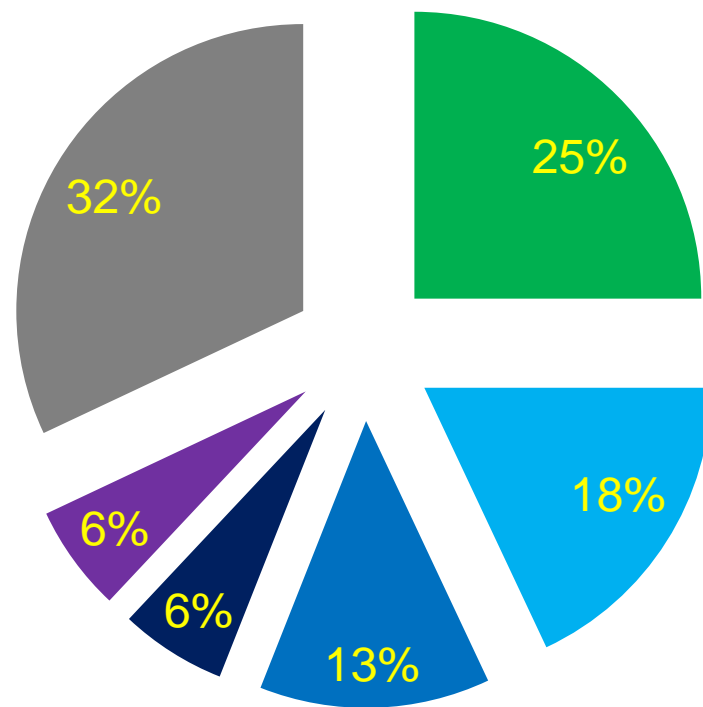
COLUMBUS
 PUBLIC HEALTH

South Side- Infant Health Group

- Explore causes of death



Leading Causes of Infant Death



- Low Birth Weight and Prematurity
- Sudden Infant Death Syndrome (SIDS)
- Serious Birth Defects
- Maternal Complications of Pregnancy
- Necrotizing Enterocolitis of Newborn
- All Other Causes

2004-2009 Ohio Department of Health Vital Statistics, All South Side Infant Deaths, Data Analyzed by Office of Epidemiology



THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

COLUMBUS
PUBLIC HEALTH

Possible Targeted Interventions

Area 1: Reduce low birth weight and premature births

- Life course development and social determinants of health
 - Income
 - Education
 - Effects of racism
- Smoking
- Perinatal care

Area 2: Reduce SIDS and other sleep related deaths

- Smoking
- Sleep position
- Breast-feeding
- Death scene investigation
- Bed sharing
- Bedding

→ Non-traditional public health partners!!!



Possible Targeted Interventions

Area 3: Reduce serious birth defects

- Folic acid
- Alcohol and drug use
- Diabetes
- Consistent and good medical care



Take Home Messages

- PPOR and other analyses are vital tools in decision making
- Planning before acting is crucial, especially for a topic as complex as infant mortality
- Equity, justice, and creating o**PPOR**tunities for all people are core public health values

