



The State of Infant Health in Illinois: Identifying Opportunities and Monitoring Change

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Infant Mortality...

- Is “the most sensitive index we possess of social welfare” (Julia Lathrop, 1913)
- Reflects a society’s commitment to the provision of: (SACIM report, 2013)
 - High quality healthcare
 - Adequate food and good nutrition
 - Safe and stable housing
 - Healthy psychosocial and physical environment
 - Sufficient income to prevent impoverishment

ILLINOIS DATA ON INFANT MORTALITY

Definitions

- **Infant Death:** any live-born infant who dies within the first year of life
 - **Neonatal Death:** any live-born infant who dies during days 0-27 of life
 - **Post-Neonatal Death:** any live-born infant who dies during days 28-364 of life

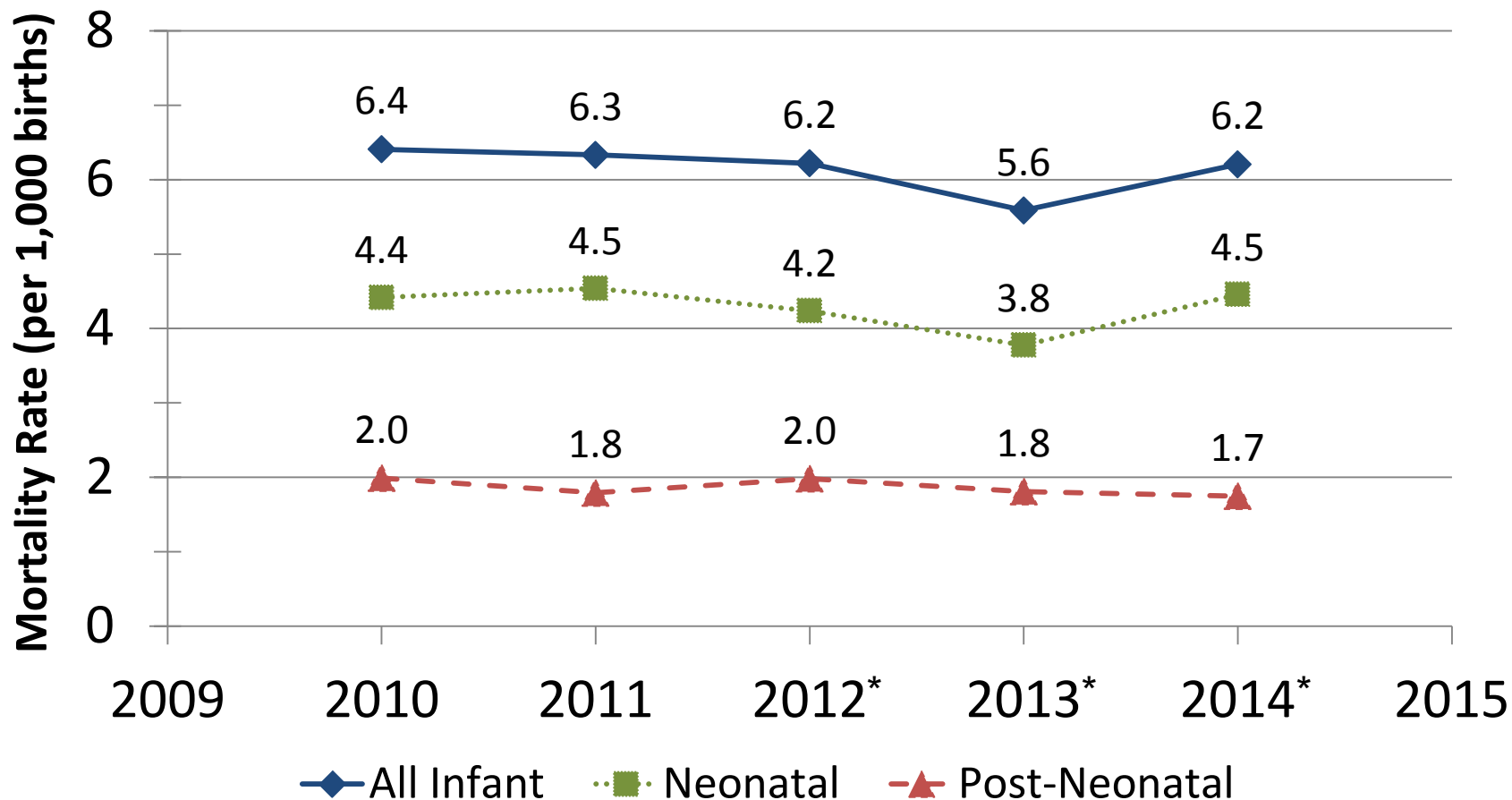
Data Definition & Sources

- **Mortality Rates:** expressed as the number of deaths for every 1,000 births

$$\frac{\# \text{ deaths}}{\# \text{ births}} * 1000 = IMR$$

- **# Deaths:** identified by death certificates
 - 2013-2014 data are provisional
- **# Births:** identified by birth certificates
 - 2012-2014 data are provisional

Illinois Infant, Neonatal, & Post-Neonatal Mortality Rates



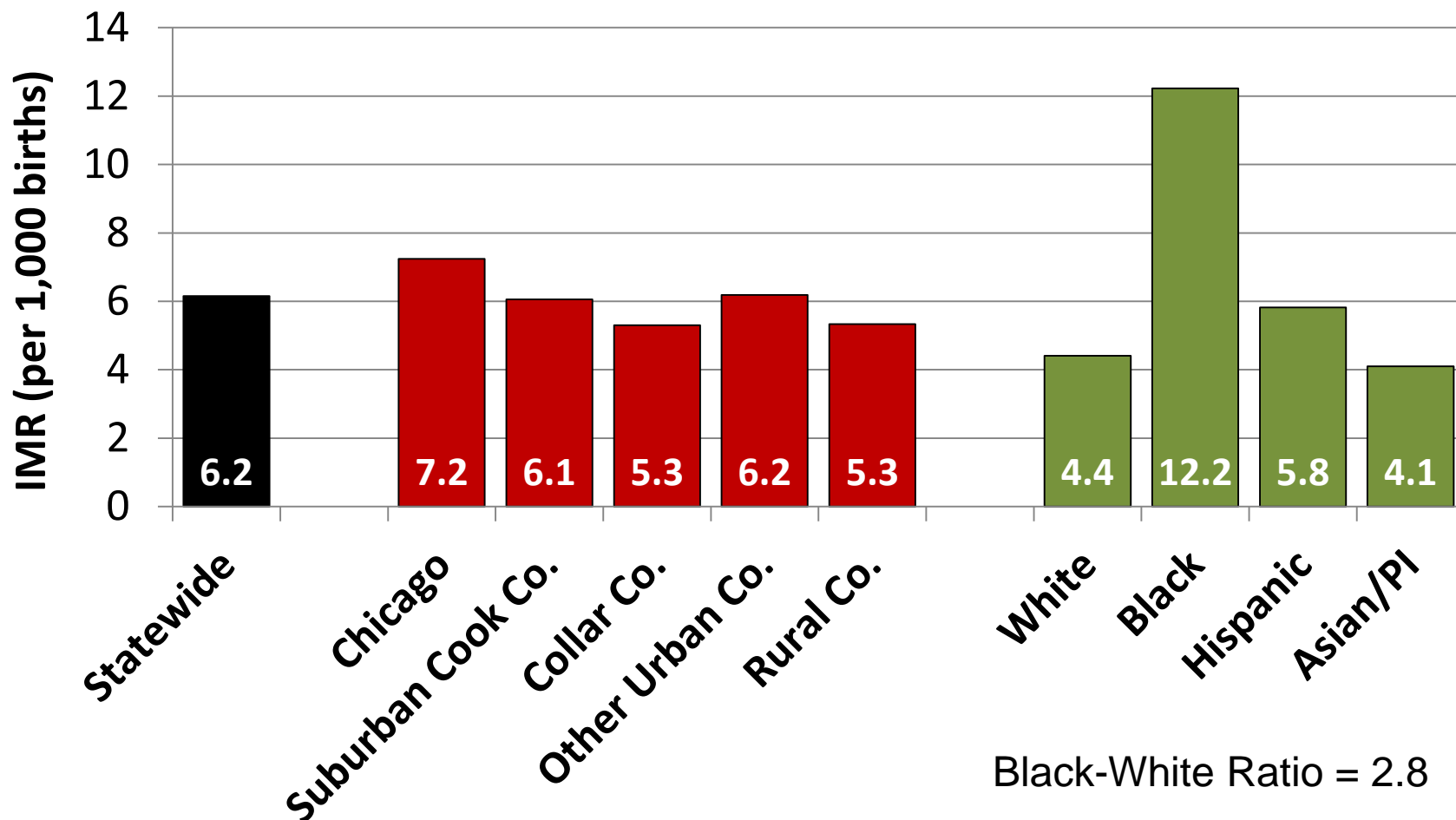
Data Source: Birth and Death records occurring in Illinois to Illinois residents

* Note *: 2012-2014 data are provisional and subject to change

Trends in Infant Mortality

- The infant, neonatal, and post-neonatal mortality rates have essentially remained the same over the last five years
- A small dip in neonatal mortality in 2013 may be due to incomplete provisional records
- There may have been a small decrease in post-neonatal mortality in 2014, but can't be confirmed until record finalization

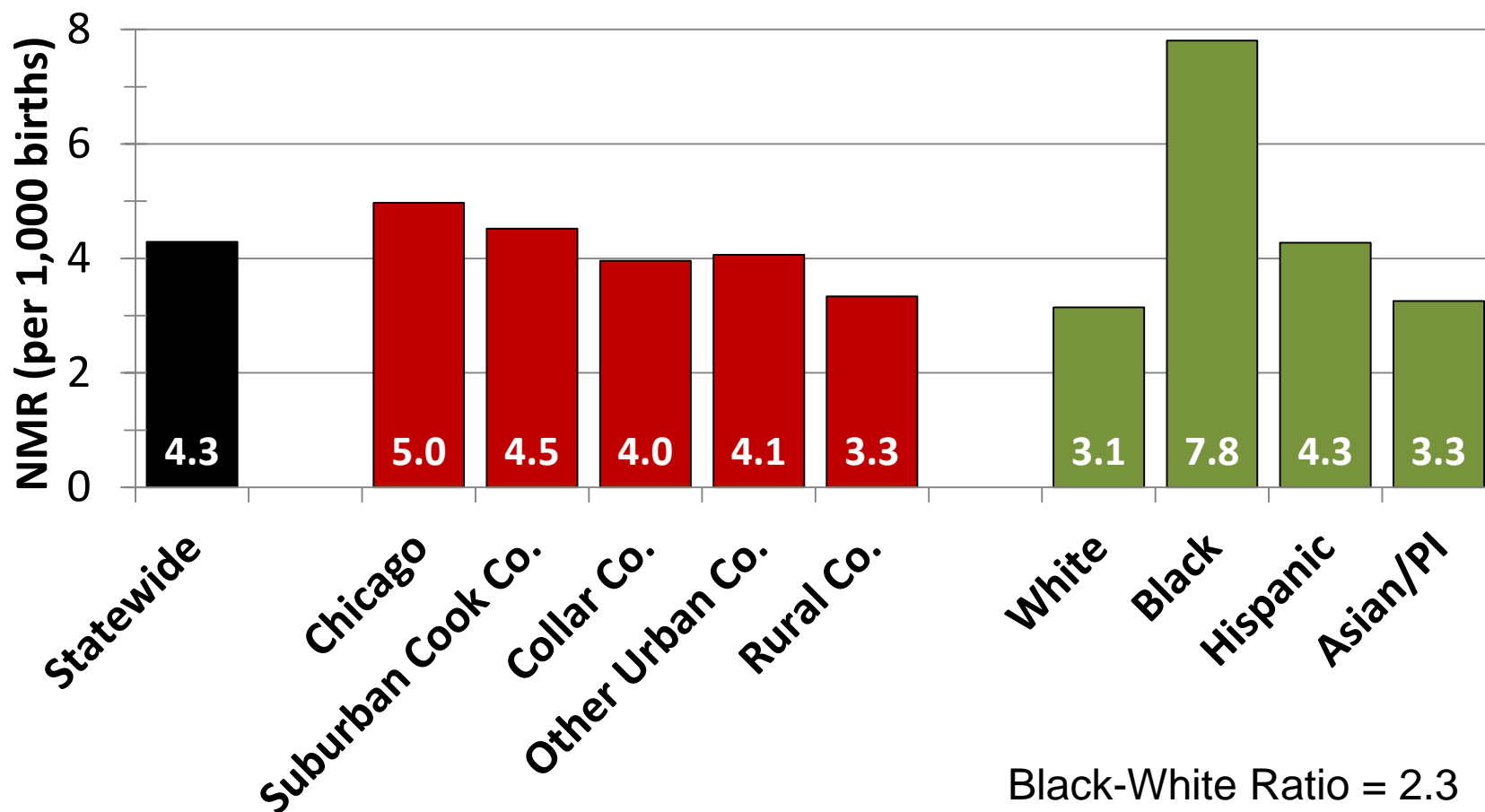
Infant Mortality Rate, IL 2010-2014*



Data Source: Birth and Death records occurring in Illinois to Illinois residents

* Note *: 2012-2014 data are provisional and subject to change

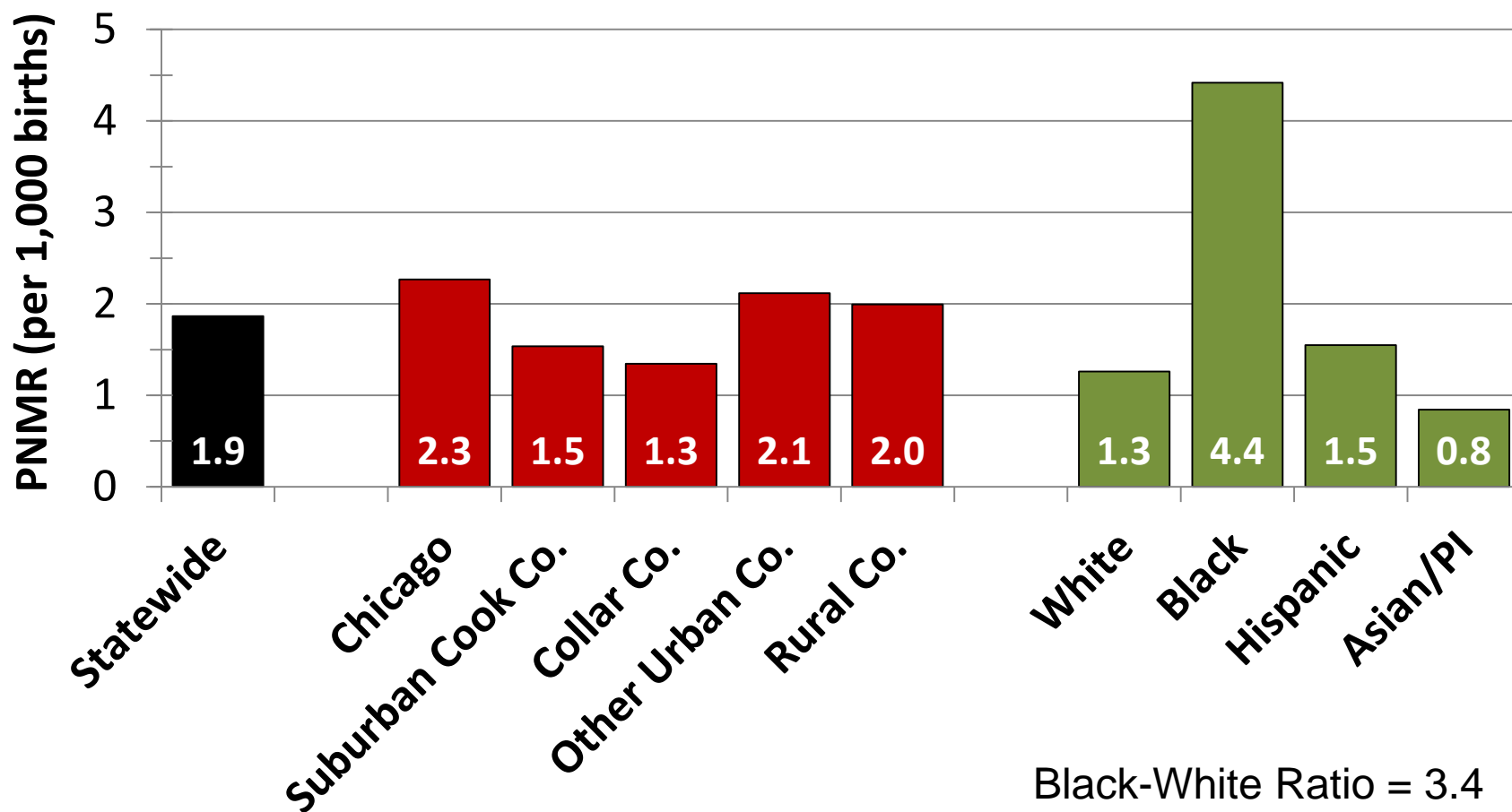
Neonatal Mortality Rate, IL 2010-2014*



Data Source: Birth and Death records occurring in Illinois to Illinois residents

** Note *: 2012-2014 data are provisional and subject to change*

Post-Neonatal Mortality Rate, IL 2010-2014*



Data Source: Birth and Death records occurring in Illinois to Illinois residents

** Note *: 2012-2014 data are provisional and subject to change*

Leading Causes of Death, IL 2010-2014*

Cause Category	# Deaths (2010-2014)	% Infant Deaths
Disorders related to Short Gestation and Fetal Malnutrition	1134	23.8
Congenital Malformations	766	16.1
Symptoms, Signs, Findings NEC (<i>includes SIDS</i>)	595	12.5
Hemorrhagic and Hematological Disorders of Newborn	386	8.1
Newborn affected by Maternal Complications of Pregnancy	331	6.9
<i>All Other</i>	<i>1558</i>	<i>32.7</i>

Data Source: Birth and Death records occurring in Illinois to Illinois residents

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Leading Causes of Death, IL 2010-2014*

Neonatal Mortality

Cause Category	% Neonatal Deaths
Short Gestation and Fetal Malnutrition	33.6
Congenital Malformations	17.0
Hemorrhagic and Hematological Disorders	11.0
Maternal Complications of Pregnancy	9.9
Complications of Placenta, Cord & Membranes	4.9
<i>All Other</i>	23.6

Post-Neonatal Mortality

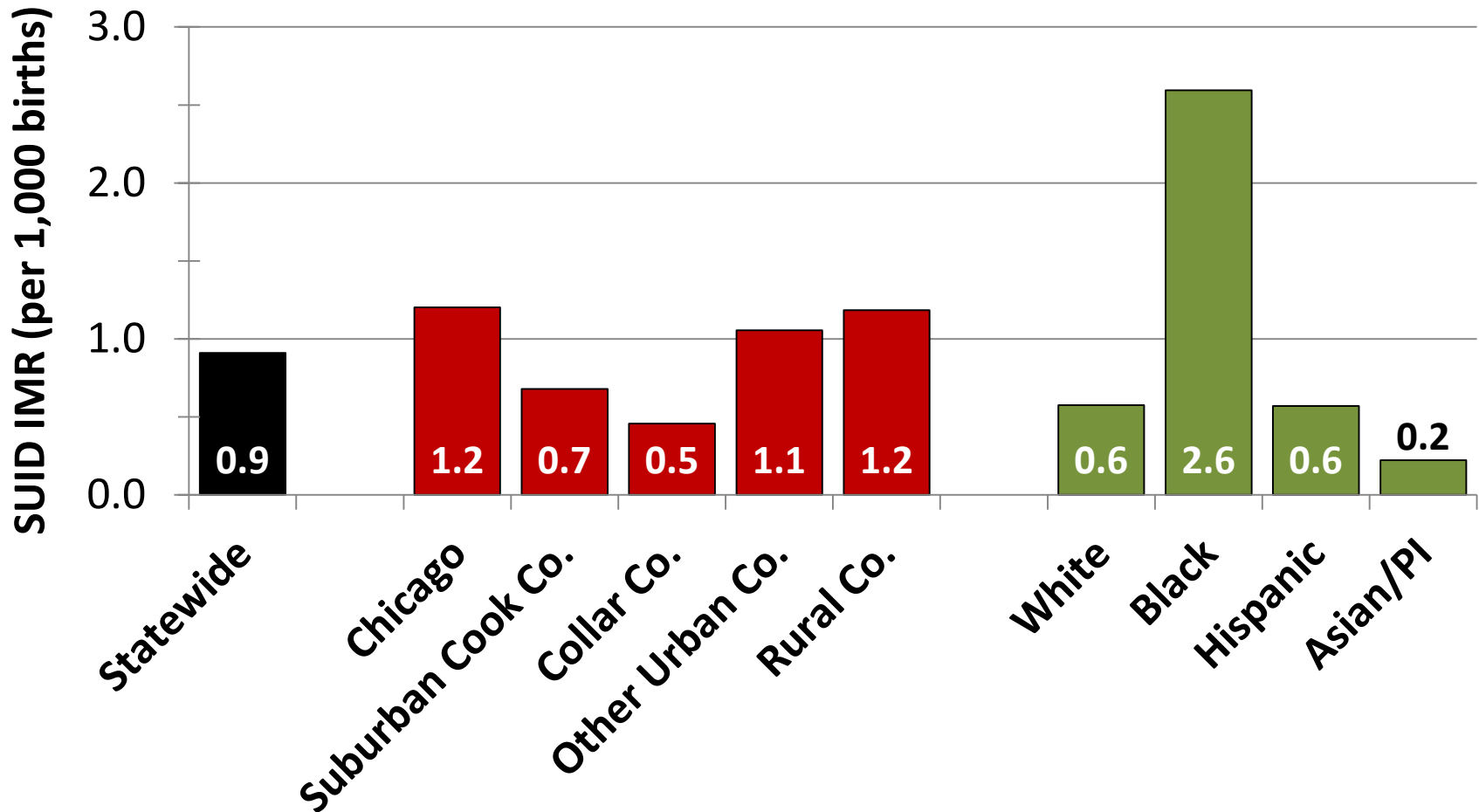
Cause Category	% Post-Neo Deaths
Symptoms, Signs, Findings NEC (<i>includes SIDS</i>)	35.8
Congenital Malformations	13.9
Accidents	12.0
Unknown	7.4
Respiratory System Disease	6.9
<i>All Other</i>	24.0

Data Source: Birth and Death records occurring in Illinois to Illinois residents

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**DISPARITY EXAMPLE:
POST-NEONATAL DEATHS:
LEADING CAUSE = SIDS/SUID**

SUID Mortality Rate, IL 2010-2014*



Data Source: Birth and Death records occurring in Illinois to Illinois residents

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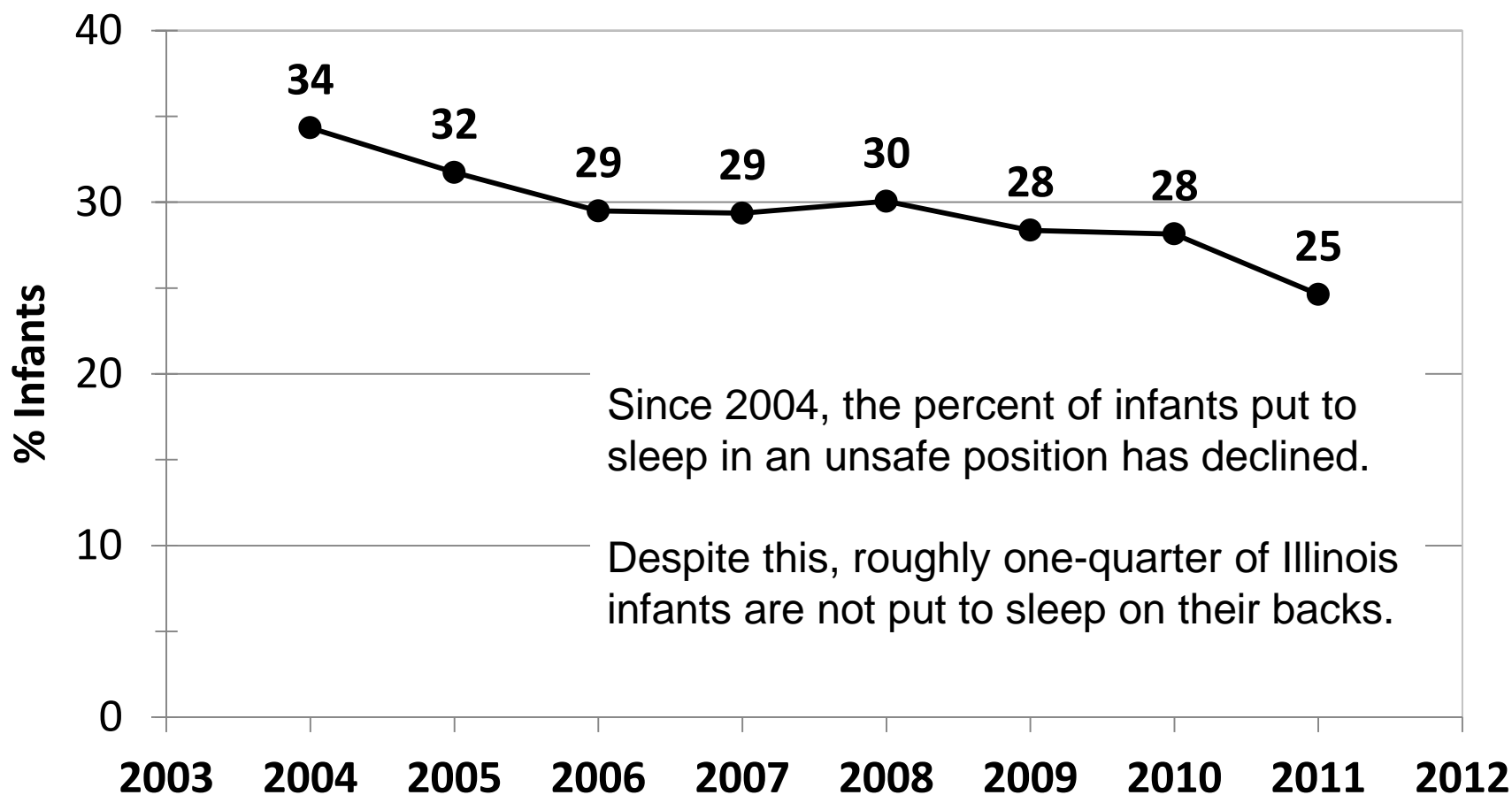
SIDS/SUID Deaths

- SIDS and other sudden unexpected causes of infant death are the leading cause of post-neonatal mortality
- SUID Deaths are highest in Cook County, Non-Chicago Metro Urban Counties, and Rural Counties
- Black infants are 3.5 times as likely to experience a SUID death as white infants

Some Risk Factors for SIDS/SUID

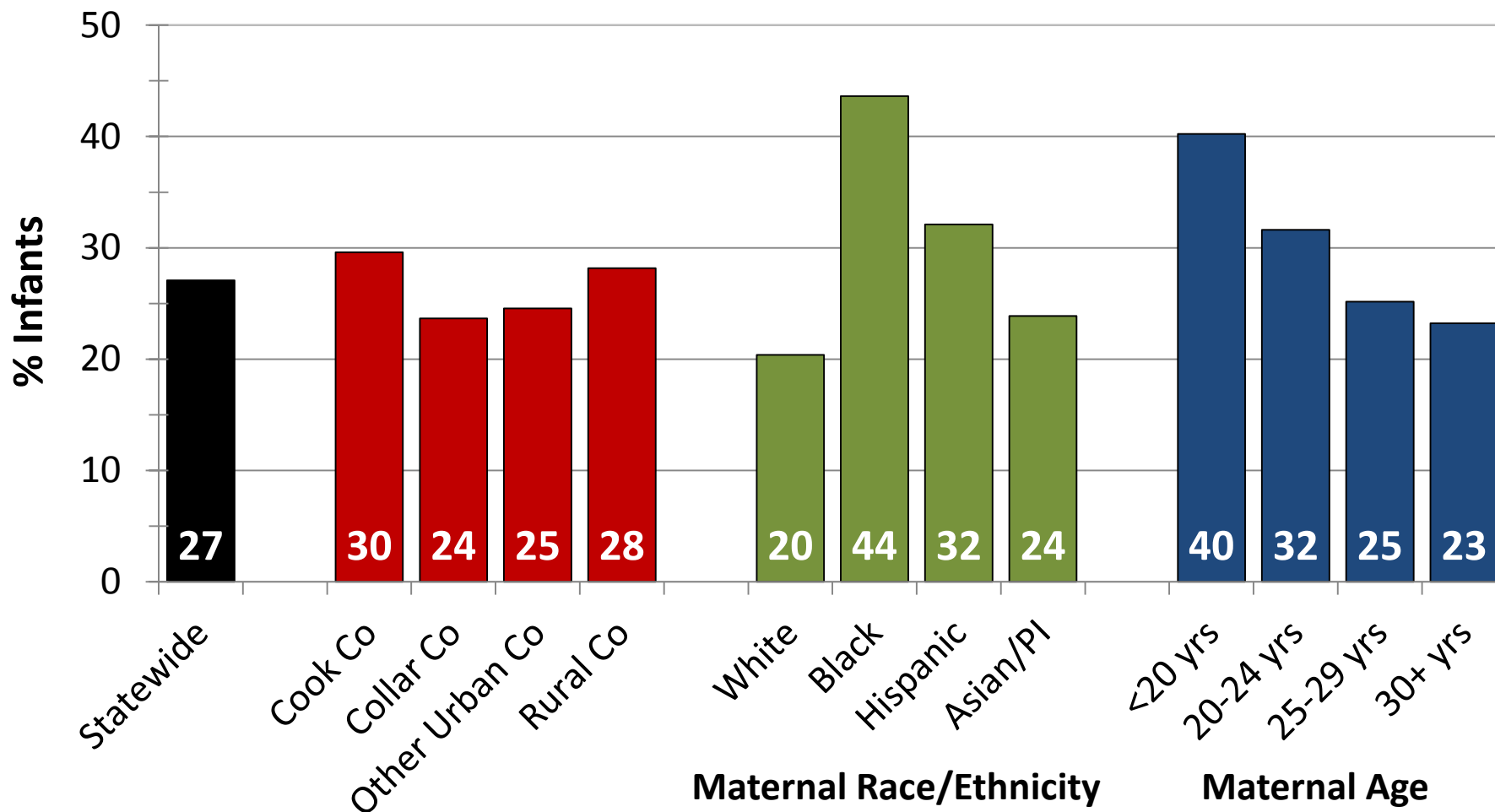
- Non-Back Sleep Position
- Sleep Environment (blankets, pillows, etc.)
- Bed-sharing
- Exposure to Tobacco Smoke
- Lack of Breastfeeding
- Prematurity
- Male Gender

Percent of Illinois Infants Put to Sleep in Unsafe Position (NOT on back)



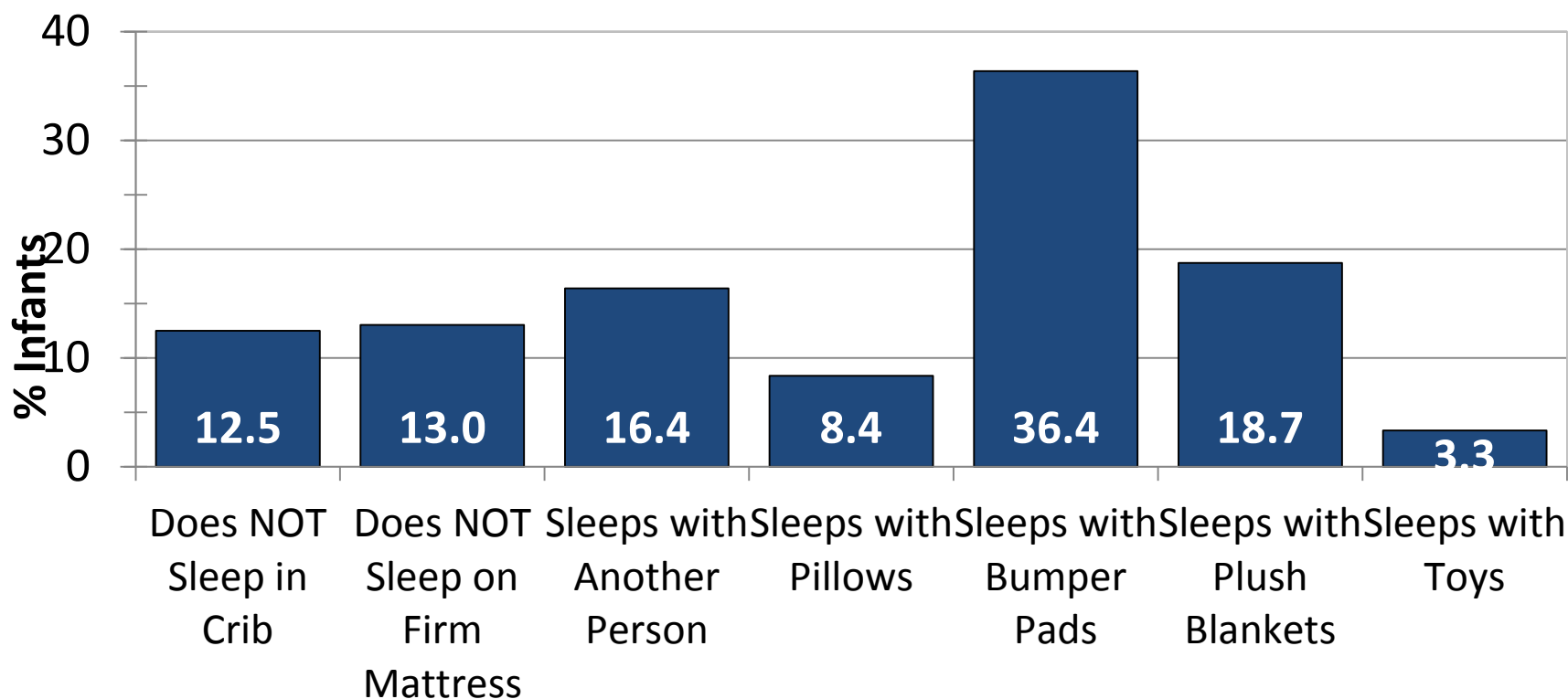
Data Source: Illinois Pregnancy Risk Assessment Monitoring System (PRAMS)

Percent of Illinois Infants NOT Put to Sleep on Back, 2009-2011



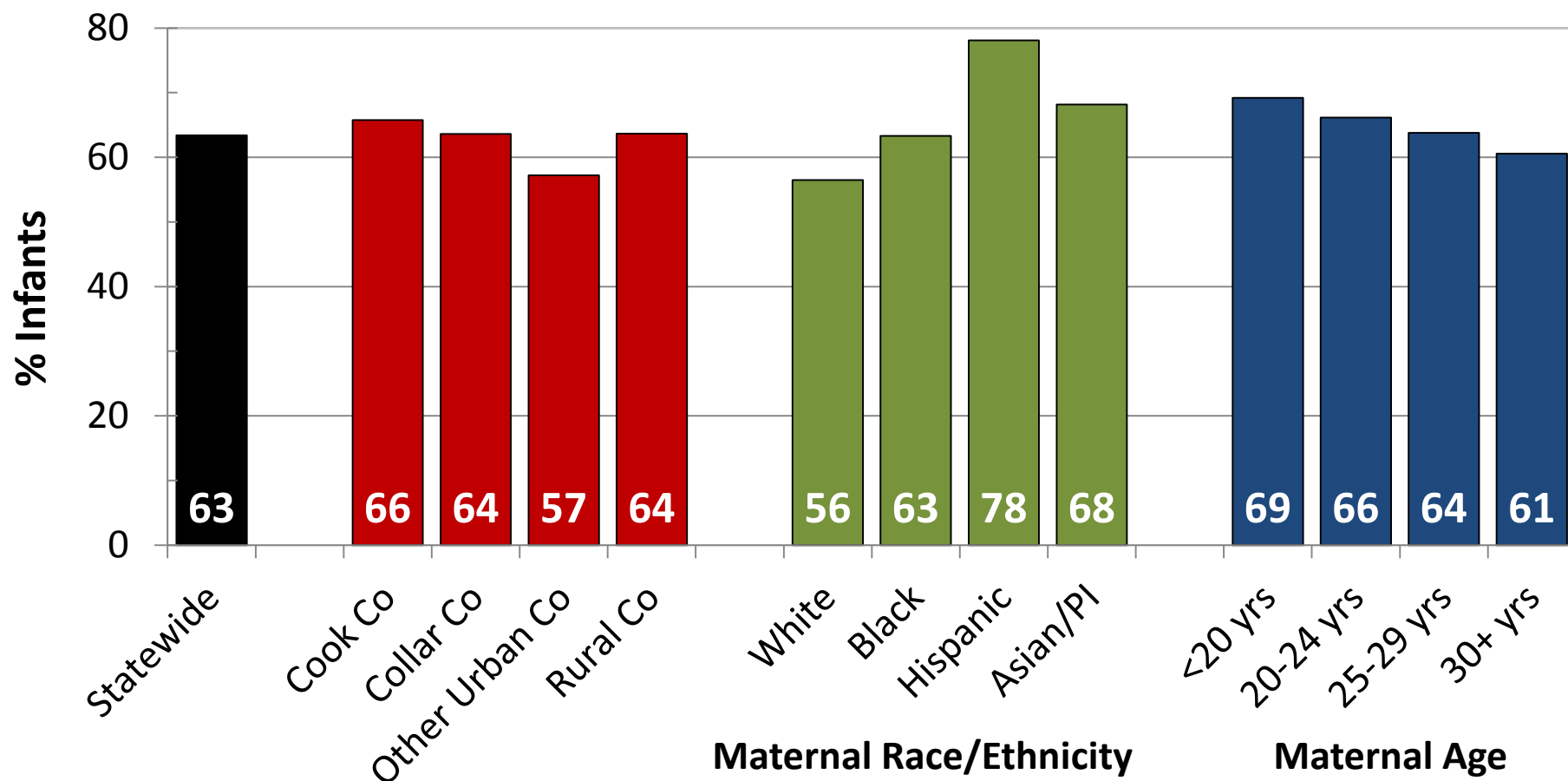
Data Source: Illinois Pregnancy Risk Assessment Monitoring System (PRAMS)

Percent of Infants in Unsafe Sleep Environments, 2009-2011



Data Source: Illinois Pregnancy Risk Assessment Monitoring System (PRAMS)

Percent of Infants Sleeping in Unsafe Environment, 2009-2011



Data Source: Illinois Pregnancy Risk Assessment Monitoring System (PRAMS)

Unsafe Sleep Practices Summary

- 1 in 4 infants are put to sleep in an unsafe position (not on back)
- 3 in 5 infants are put to sleep in an unsafe environment
- Racial/ethnic and age-based disparities in safe sleep practices
 - Shows need to target Minority and Young Mothers with safe sleep messages

INFANT MORTALITY AND SOCIAL DETERMINANTS OF HEALTH

Why Should Health Professionals Care about Social Determinants?

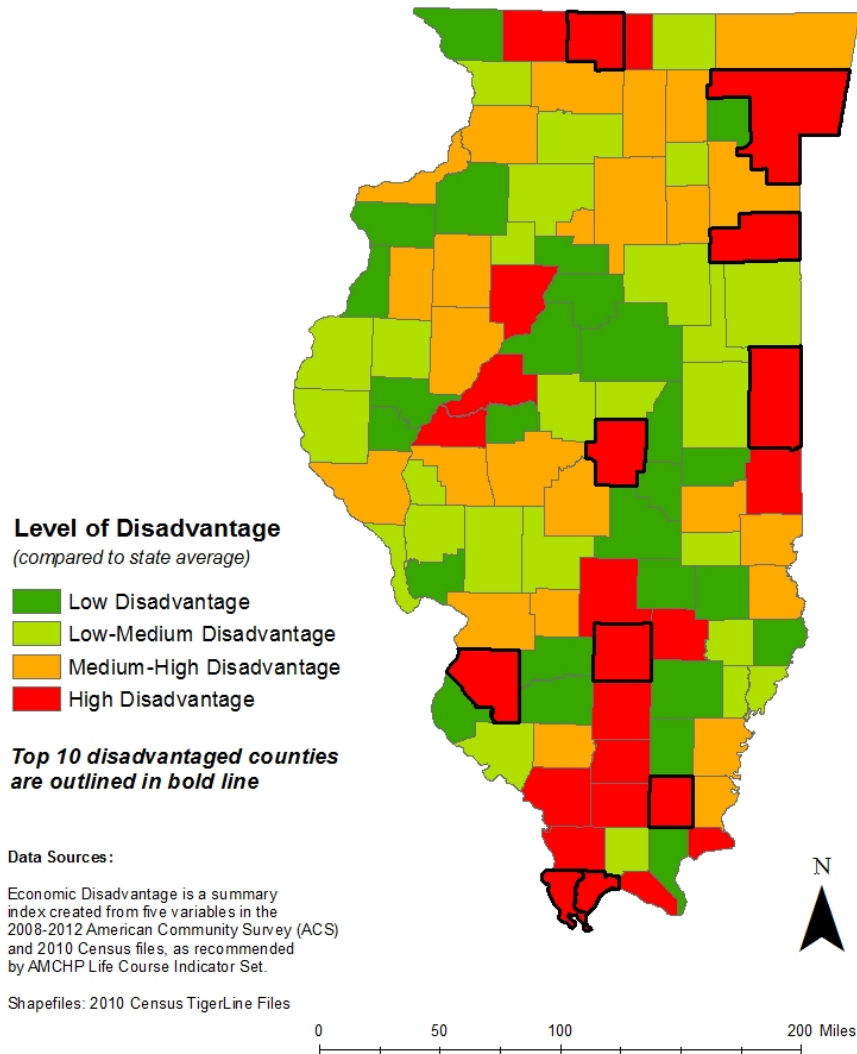
- Social Justice: All Americans deserve *an equal opportunity to make the choices* that lead to good health
- Social and physical environment factors are estimated to account for about 55% of population health*
 - Genes, biology, and health behaviors account for only about 25% of population health
 - Medical care accounts for 20% of population health

* <http://www.cdc.gov/socialdeterminants/FAQ.html>

Economic Disadvantage

- A standardized, composite index used to identify communities with high propensities towards poverty and related disadvantages
- Combines five concepts from Census data into one score
 - Unemployment
 - Poverty
 - Receipt of public assistance
 - Female-headed households
 - Percent of the population that are children

Economic Disadvantage in Illinois By County, 2008-2012



The 10 Most Disadvantaged Counties in Illinois:

- Alexander
- Cook
- Kankakee
- Macon
- Marion
- Pulaski
- Saline
- St. Clair
- Vermillion
- Winnebago

Economic Disadvantage & Birth Outcomes

Color	Level of Disadvantage	Infant Mortality Rate	Low Birth Weight births (<2500g)	Very Low Birth Weight births (<1500g)
	<i>Year</i>	<i>2009-2011</i>	<i>2010</i>	<i>2010</i>
	Low Disadvantage	5.0 per 1,000	7.0 %	1.11 %
	Low-Medium Disadvantage	5.5 per 1,000	7.4 %	1.35 %
	Medium-High Disadvantage	5.7 per 1,000	7.6 %	1.38 %
	High Disadvantage	6.9 per 1,000	8.8 %	1.60 %

Counties with high economic disadvantage have poorer health outcomes than those with low disadvantage

Economic Disadvantage & Risk Factors

Color	Level of Disadvantage	Teen Birth Rate per 1000 women ages 15-19	Less Than Adequate Prenatal Care	Homicide Rate: per 100,000 persons
	<i>Year</i>	<i>2010</i>	<i>2010</i>	<i>2009-2011</i>
	Low Disadvantage	19.0 per 1,000	17.2 %	1.9
	Low-Medium Disadvantage	22.5 per 1,000	15.2 %	2.3
	Medium-High Disadvantage	28.6 per 1,000	20.2 %	3.3
	High Disadvantage	39.8 per 1,000	26.4 %	9.8

Counties with high economic disadvantage have higher rates of teen birth, late/no prenatal care, and homicide

Infant Mortality and Economic Disadvantage

- High economic disadvantage in a community is related to:
 - Higher **infant mortality**
 - Higher rates of other **poor birth outcomes**: LBW, VLBW
 - Higher rates of factors predicting **risk behaviors** (like unsafe sleep practices) and IM: Teen Birth, Inadequate Prenatal Care
 - Higher rates of **violence/homicide**, which may influence MCH through chronic stress

Addressing SDOH in Infant Mortality

- Place matters!
 - Where we live has a profound affect on our health
- Making substantial changes in infant mortality requires considering how to intervene on social and structural factors
 - To either change the factor itself
 - Or to somehow “mediate” or block the impact of that factor

Questions?

Contact Information

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