

# **Disparities in Birth Outcomes:**

## **A continuing challenge in Wisconsin**

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**February 24, 2006**

# **In an Average Week in Wisconsin:**

- **1,349 babies are born**
- **148 babies are born preterm**
- **94 babies are born low birthweight**
- **8 babies die before reaching their first birthday**

*2004 Data*

# Objectives

- **Define racial/ethnic disparities in birth outcomes in Wisconsin**
- **Review evidence-based practices for prevention**
- **Describe Healthy Birth Outcomes Action Plan**

# Key Indicators of Perinatal Health

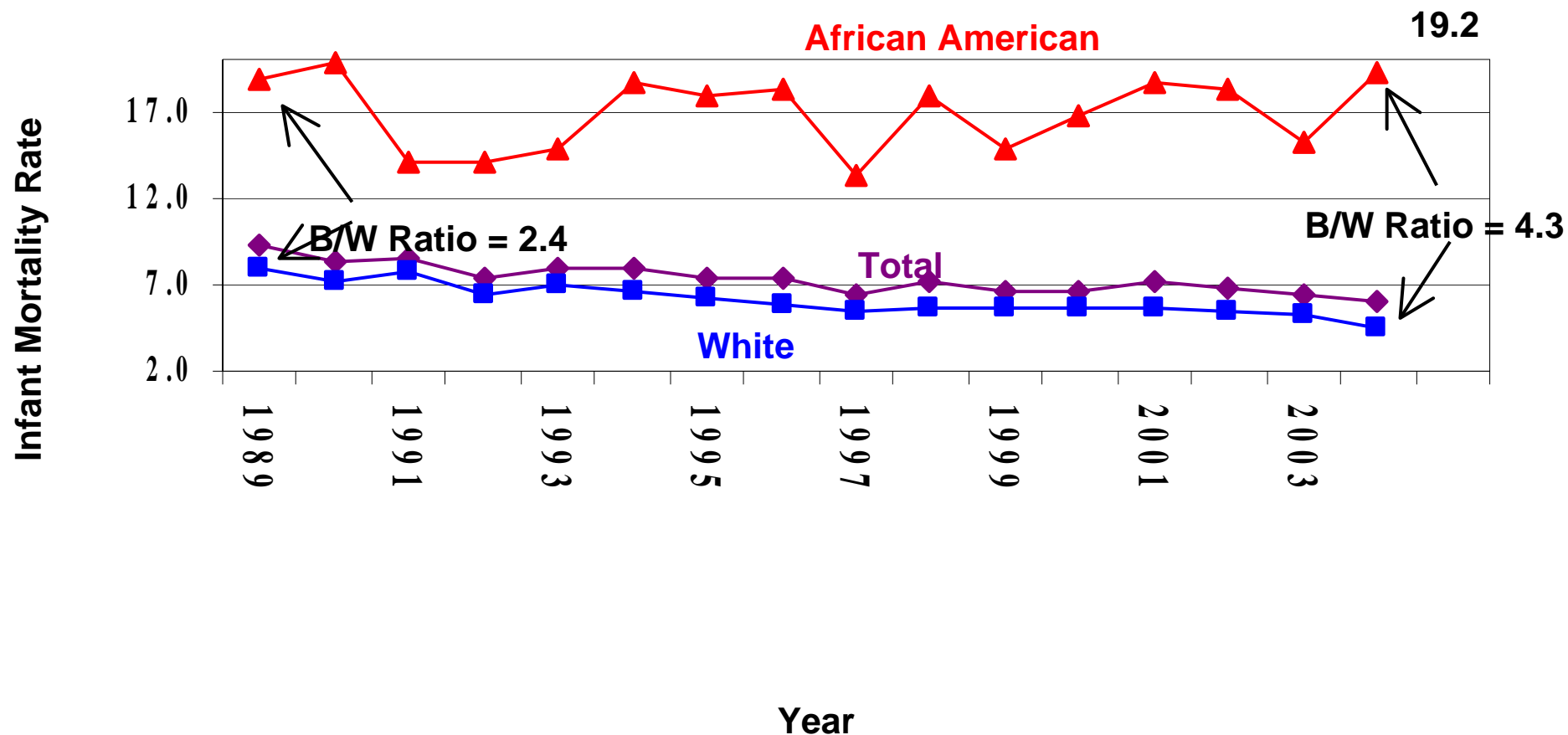
- **Infant mortality rate** (the number of infants who die before the first birthday/1,000 live births)
- Percent of babies born **preterm** (<37 weeks)
- Percent of babies born with **low birth weight** (<2,500 g; <5.5 lb)
- Percent of pregnant women who receive **prenatal care** that begins in the first trimester (<13 weeks)

# Infant Mortality Rates, by Country, 2004

Rank	Country	IMR Rate	Rank	Country	IMR Rate
1	Singapore	2.28	60	Sri Lanka	14.78
2	Sweden	2.77	61	United Arab Emirates	15.06
3	Hong Kong S.A.R.	2.97	62	Mauritius	15.57
4	Japan	3.28	63	Argentina	15.66
5	Iceland	3.31	64	Russia	16.01
6	Finland	3.59	65	Jamaica	16.63
7	Norway	3.73	66	Panama	17.14
8	Malta	3.94	67	Bahrain	17.91
9	Czech Republic	3.97	68	Jordan	18.11
10	Germany	4.2	69	Malaysia	18.35
11	France	4.31		<b>Wisconsin Black</b>	<b>19.2</b>
12	Macau S.A.R.	4.39	70	Qatar	19.32
13	Switzerland	4.43	71	Georgia	19.34
14	Spain	4.48	72	West Bank	20.16
15	Slovenia	4.5	73	Oman	20.26
	<b>Wisconsin White</b>	<b>4.5</b>	74	Thailand	20.83
16	Denmark	4.63	75	Bulgaria	21.31
17	Austria	4.68	76	Mexico	21.69
18	Australia	4.76	77	Colombia	21.72
19	Belgium	4.76	78	Solomon Islands	22.09
20	Canada	4.82	79	Albania	22.31

U.S. Census International Data Base, for countries with populations greater than 250,000

# Infant Mortality Rates: Total, White, and African American, Wisconsin, 1989-2004



# Infant Mortality Rates: Wisconsin's Rank (of reporting states)

<b>Race</b>	<b>1979-1981</b>	<b>1999-2001</b>	<b>2001-2002</b>
<b>White</b>	#10 (51)	#22 (51)	#19 (50)
<b>Black</b>	<b>#3 (34)</b>	#32 (34)	<b>#40 (40)</b>

# African American infant mortality rates, among reporting states, 2000-2002

US			13.6					
Rank	State	Black Rate	Rank	State	Black Rate	Rank	State	Black Rate
1	Washington	9.5	14	Florida	13.0	26	Mississippi	14.7
2	Oregon	10.4	15	Georgia	13.4	29	Delaware	14.9
3	Massachusetts	10.5	16	New Jersey	13.6	30	South Carolina	14.9
4	Kentucky	10.8	16	Virginia	13.6	31	Nebraska	15.0
4	Minnesota	10.8	18	Colorado	13.7	32	North Carolina	15.1
6	Texas	11.1	18	Louisiana	13.7	33	District of Columbia	15.3
7	New York	11.2	18	Nevada	13.7	33	Ohio	15.3
8	California	11.4	21	Indiana	13.9	35	Missouri	15.6
8	Iowa	11.4	22	Connecticut	14.3	36	Illinois	15.8
10	West Virginia	11.7	22	Arizona	14.4	36	New Mexico	15.8
11	Rhode Island	12.6	23	Pennsylvania	14.4	38	Michigan	16.9
12	Maryland	12.7	25	Oklahoma	14.5	39	Tennessee	17.0
13	Arkansas	12.8	26	Alabama	14.7	<b>40</b>	<b>Wisconsin</b>	<b>17.9</b>
			26	Kansas	14.7			



# Map of Milwaukee Infant Deaths 2000-2001

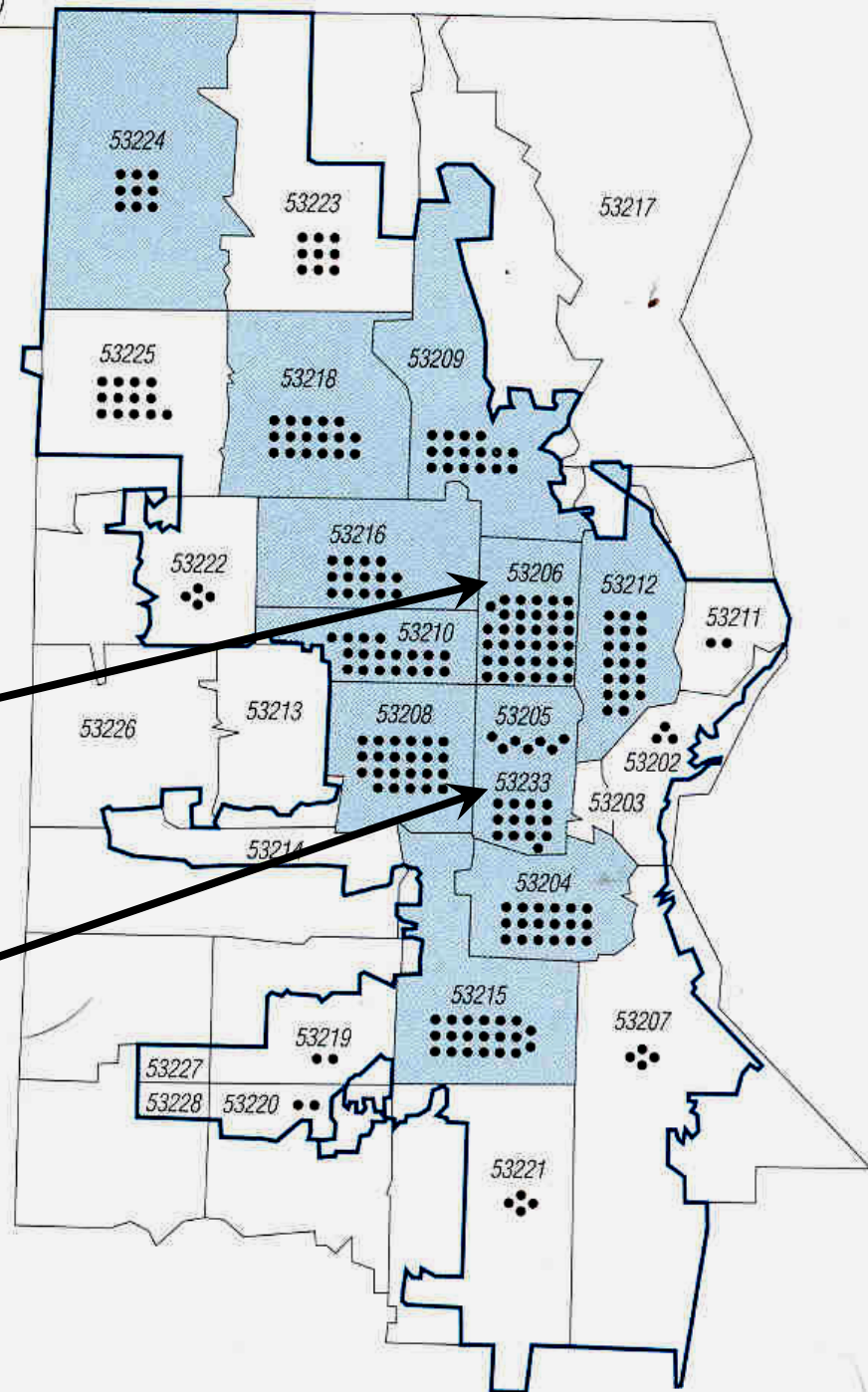
(N = 253)

Zip Code **53206** had the greatest  
number of infant deaths = 35  
Rate = 23.3

Zip Code **53233** had the highest  
Infant mortality rate = 36.9  
N = 13 infant deaths

Milwaukee Home Visitation Program  
Is in **53204, 33, 05, 06, 08, & 12**

2001-2002 FIMR Status Report, Milwaukee

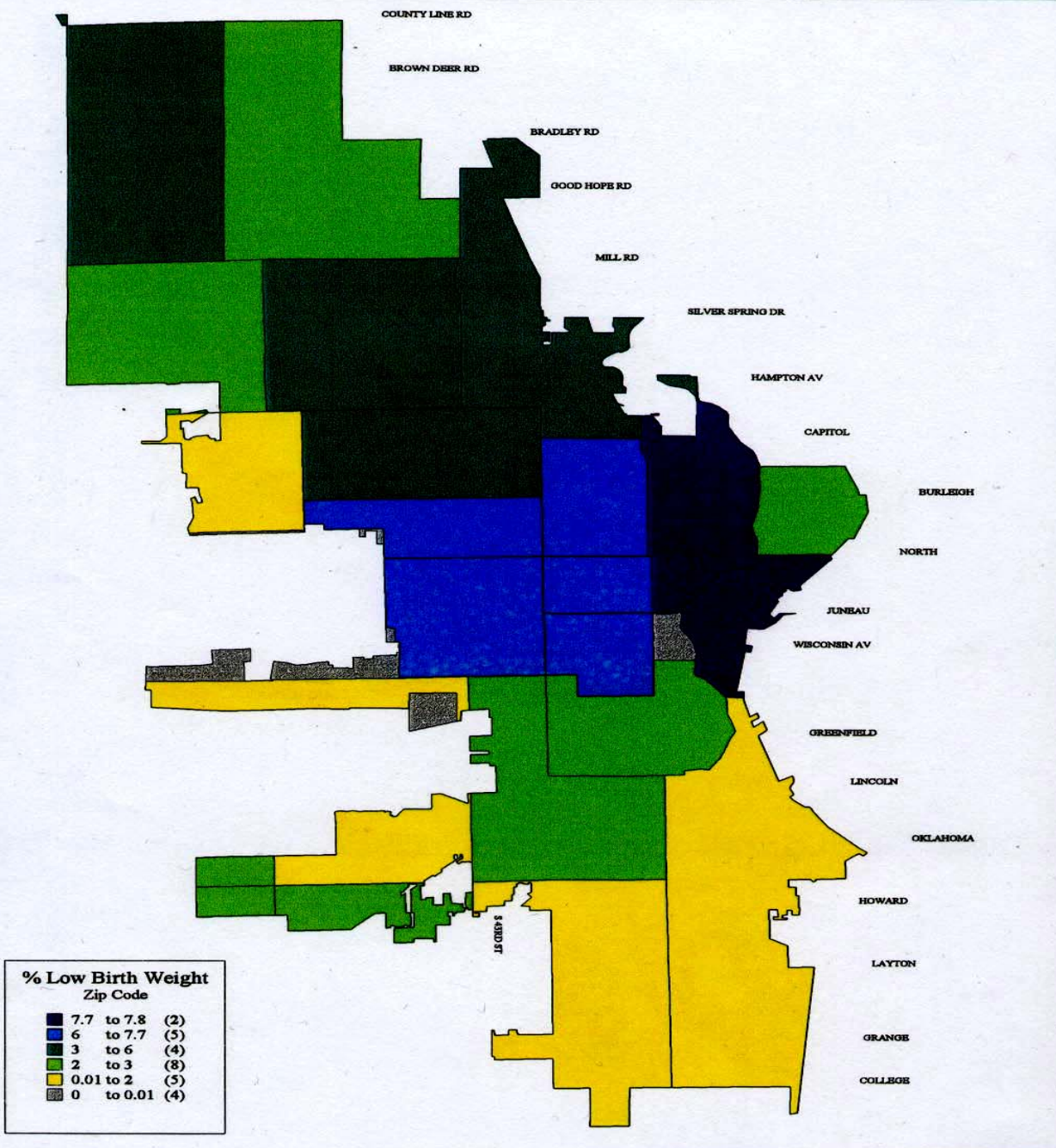


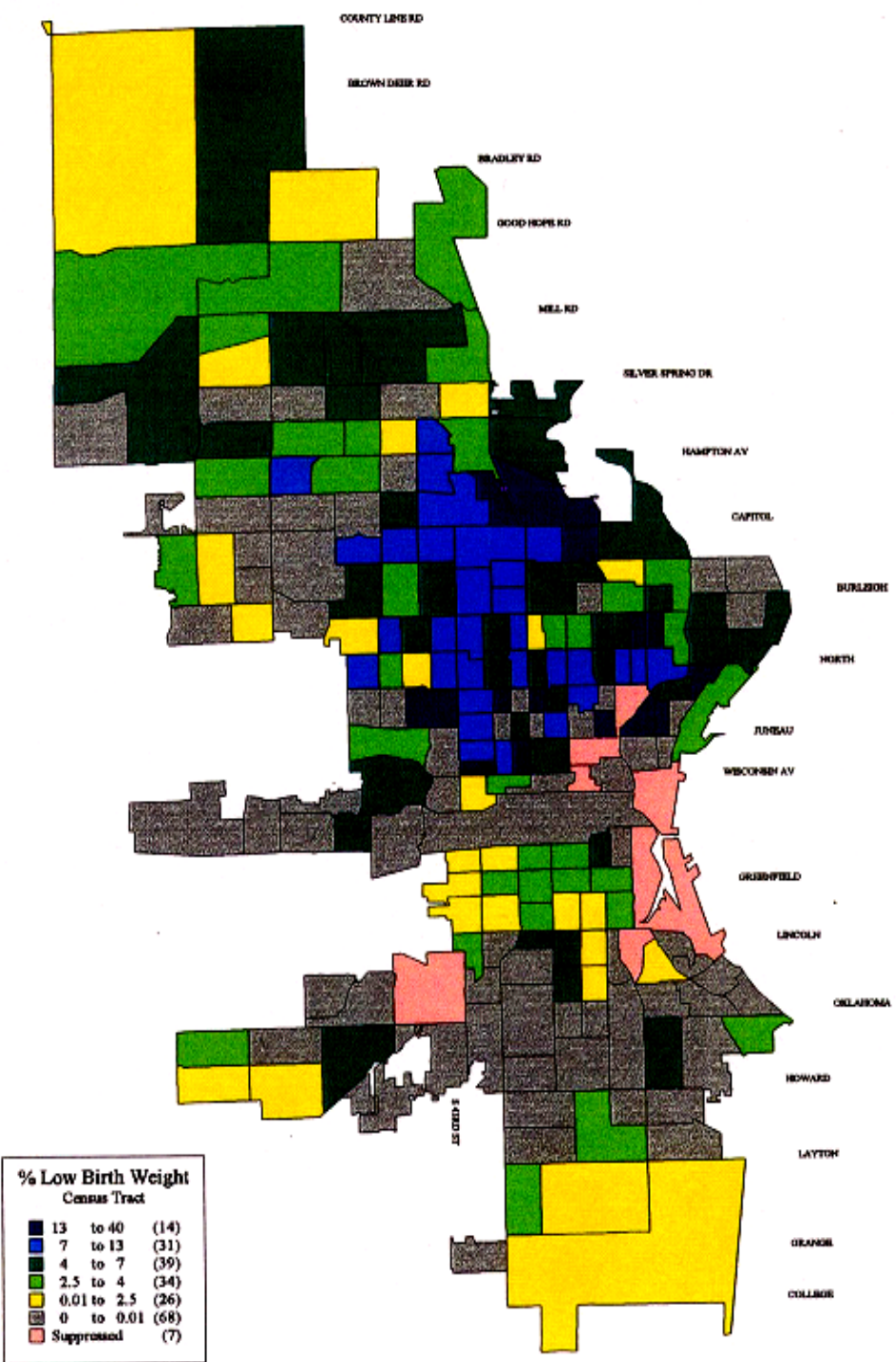
# Infant Mortality Rate/1,000 Live Births 1999-2003

City/County	White	Black	Hispanic	B/W Ratio
City of MKE Zip Code Group	7.62	17.51	8.53	2.29
Rest of City of MKE	5.55	15.43	8.75	2.78
MKE County	5.90	16.59	8.12	2.98
<b>All Wisconsin</b>	<b>5.56</b>	<b>16.79</b>	<b>6.58</b>	<b>3.02</b>

Using  
Geography  
to target  
with limited  
resources:

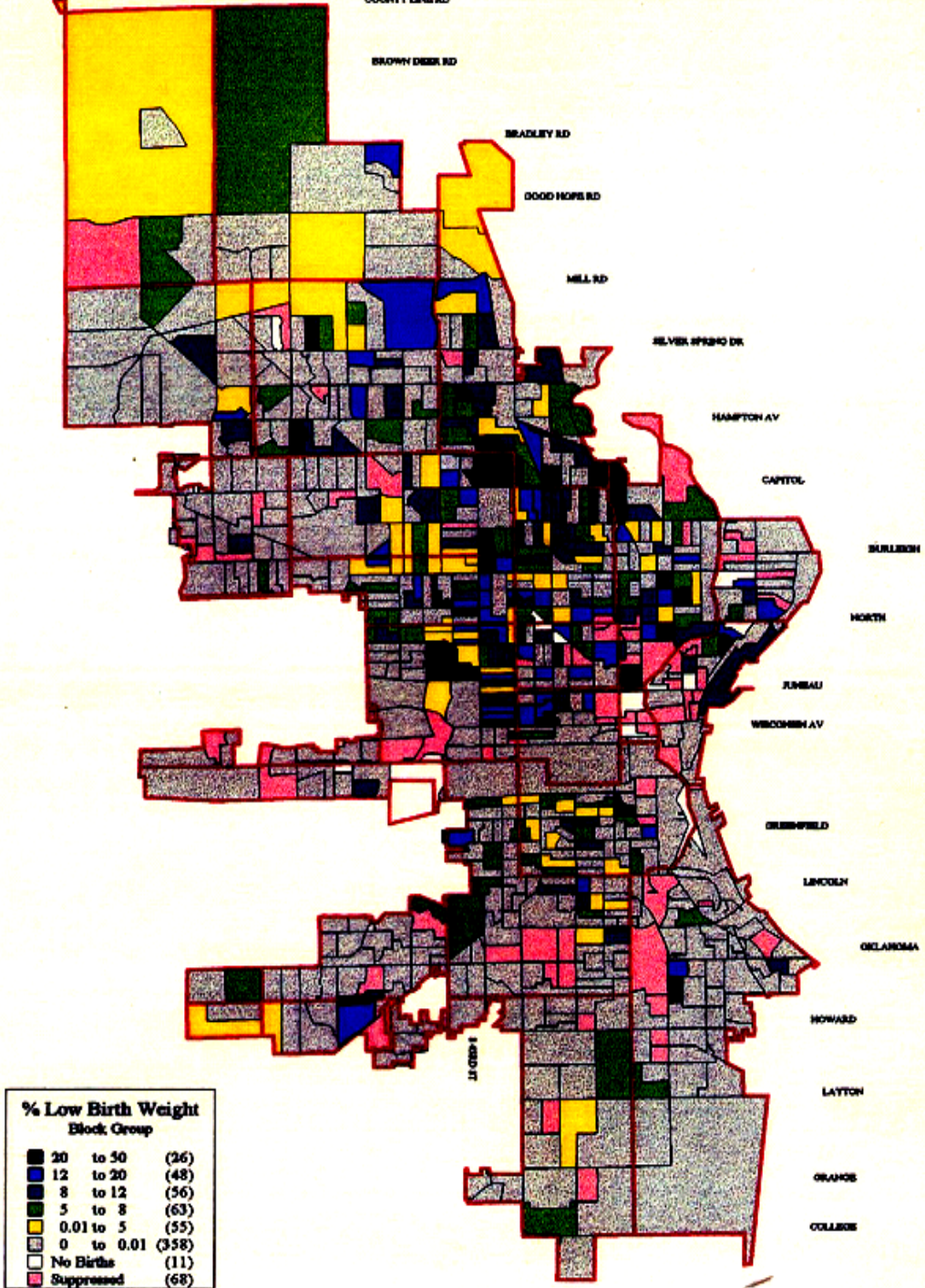
Zip codes





**More effective  
targeting with  
smaller  
geographical  
area:**

**Census Tract**

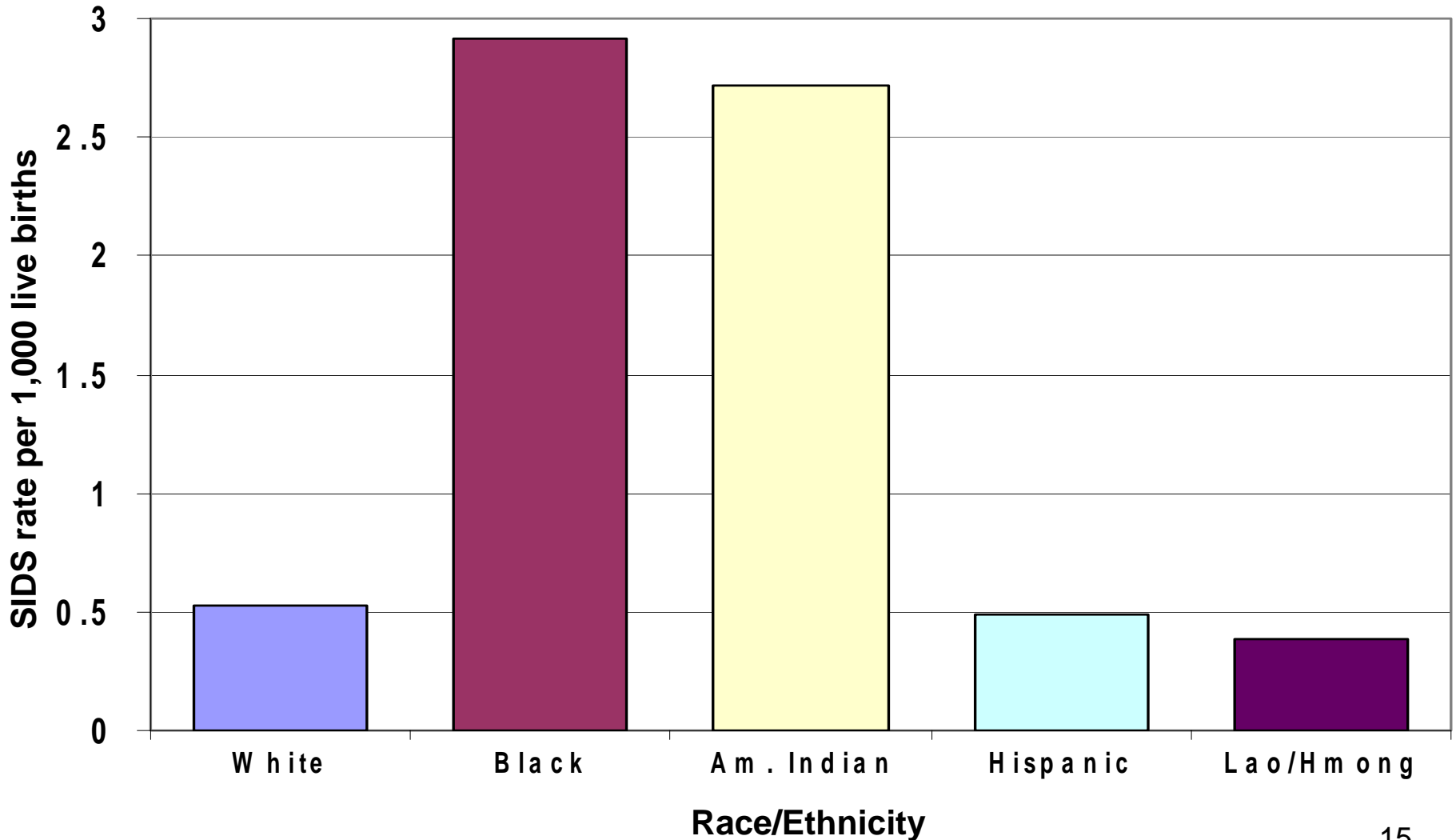


**Targeting at the neighborhood level:  
Census Blocks**

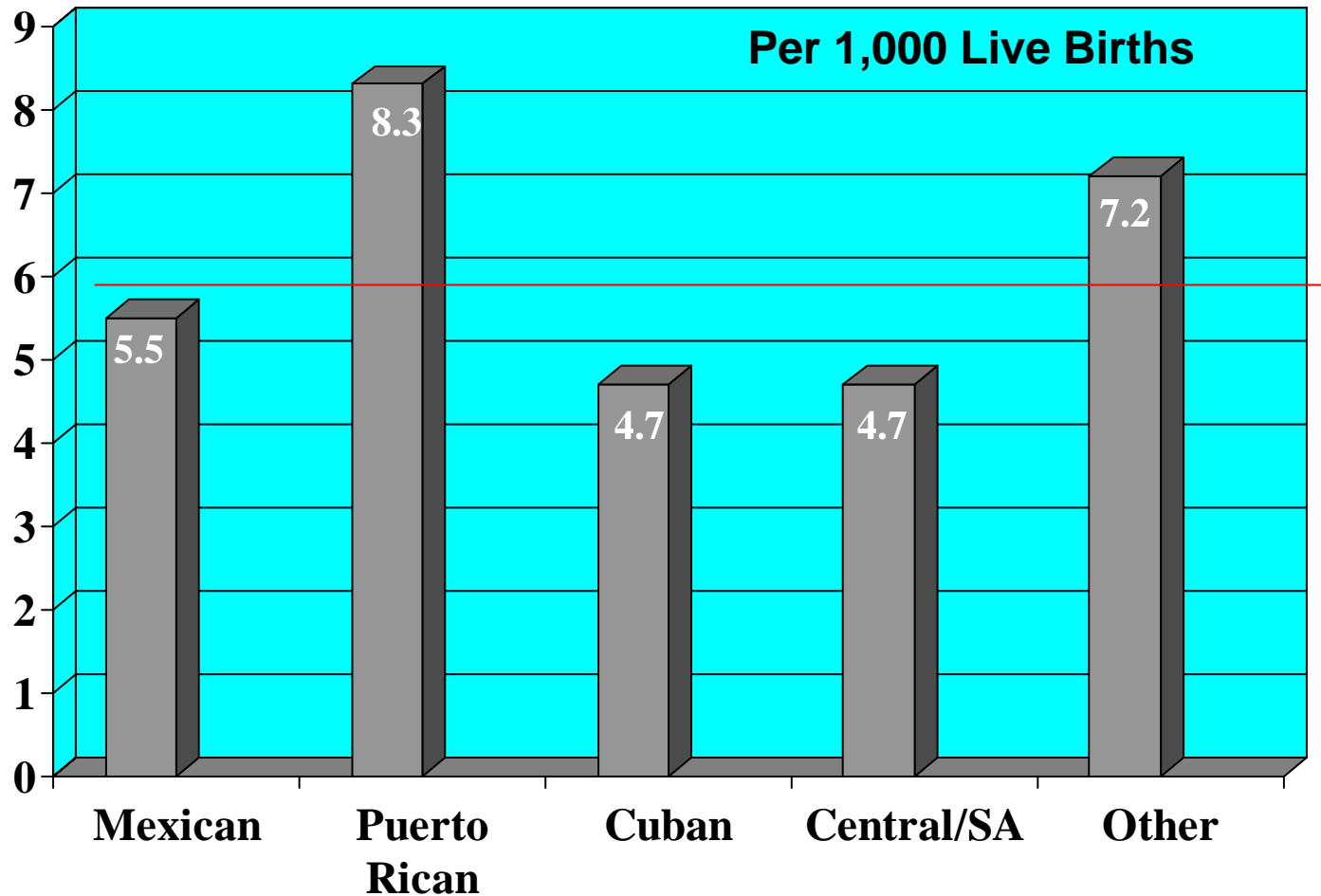
# Infant Mortality Rates, 2000-2004

<b>City/County</b>	<b>White</b>	<b>Black</b>	<b>Hispanic</b>	<b>BW Ratio</b>
<b>Dane</b>	4.15	12.18	4.38	<b>2.9</b>
Madison	3.49	13.41	4.87	<b>3.8</b>
<b>Kenosha</b>	4.79	14.04	5.20	<b>2.9</b>
<b>Racine</b>	6.73	26.51	7.02	<b>3.9</b>
<b>Rock</b>	5.55	20.41	4.89	<b>3.7</b>
Beloit	6.83	24.53	7.98	<b>3.6</b>
<b>Wisconsin</b>	5.32	17.67	6.07	<b>3.3</b>

# SIDS in Wisconsin, 2000-2004

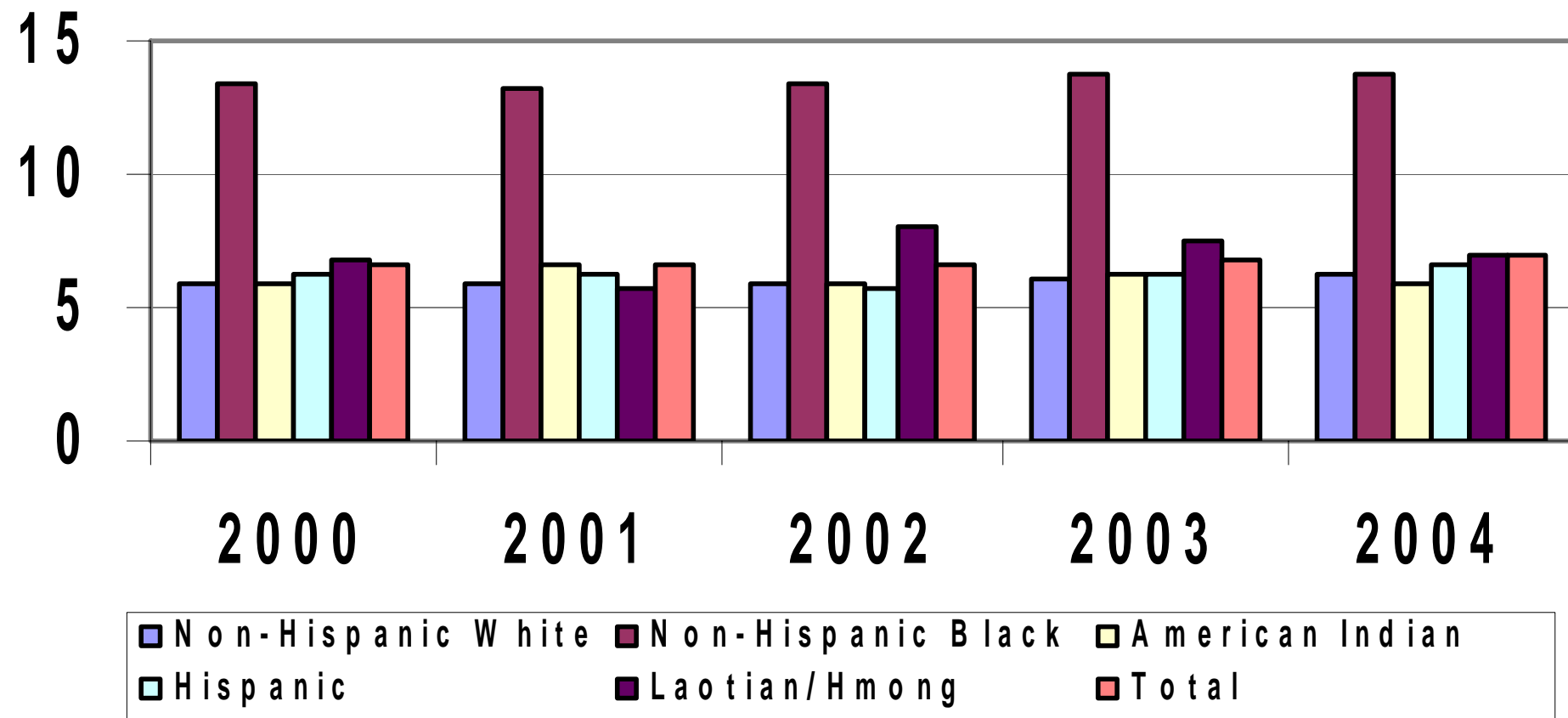


# Racial & Ethnic Disparities Infant Mortality, Hispanic





# Percent of LBW Infants by Race/Ethnicity



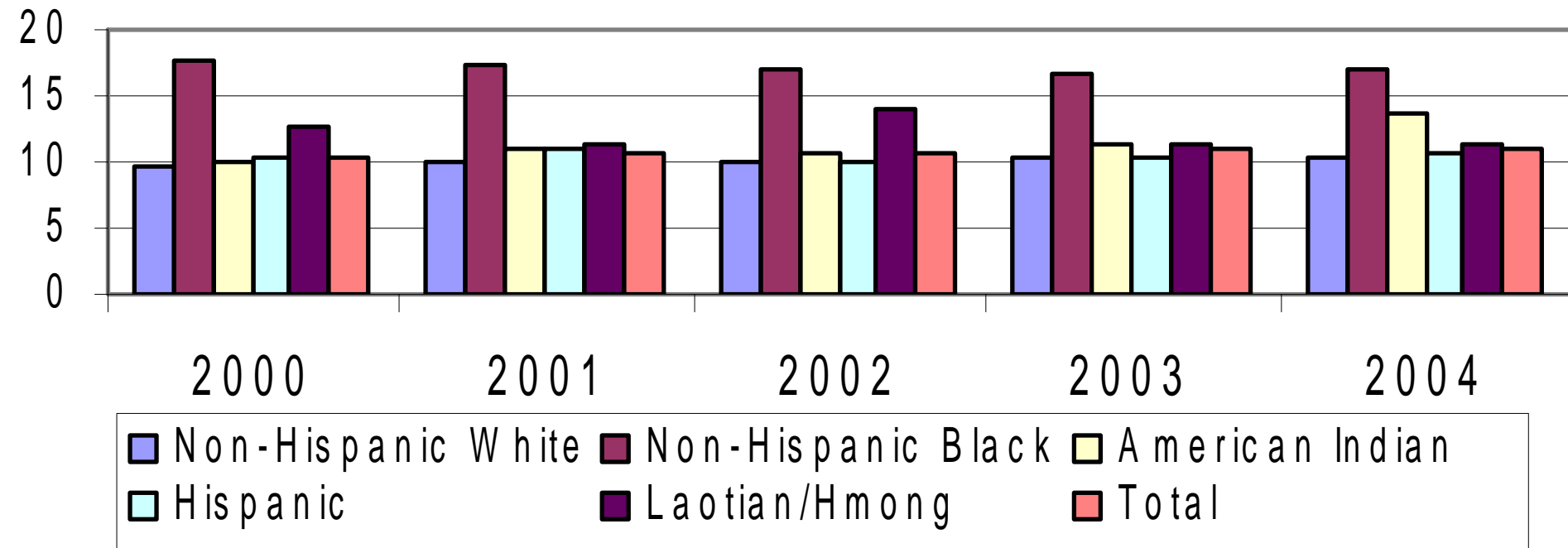
# Preterm Births in Wisconsin

- In 2004, there were 7,703 preterm births in Wisconsin, representing 11.0% of live births.

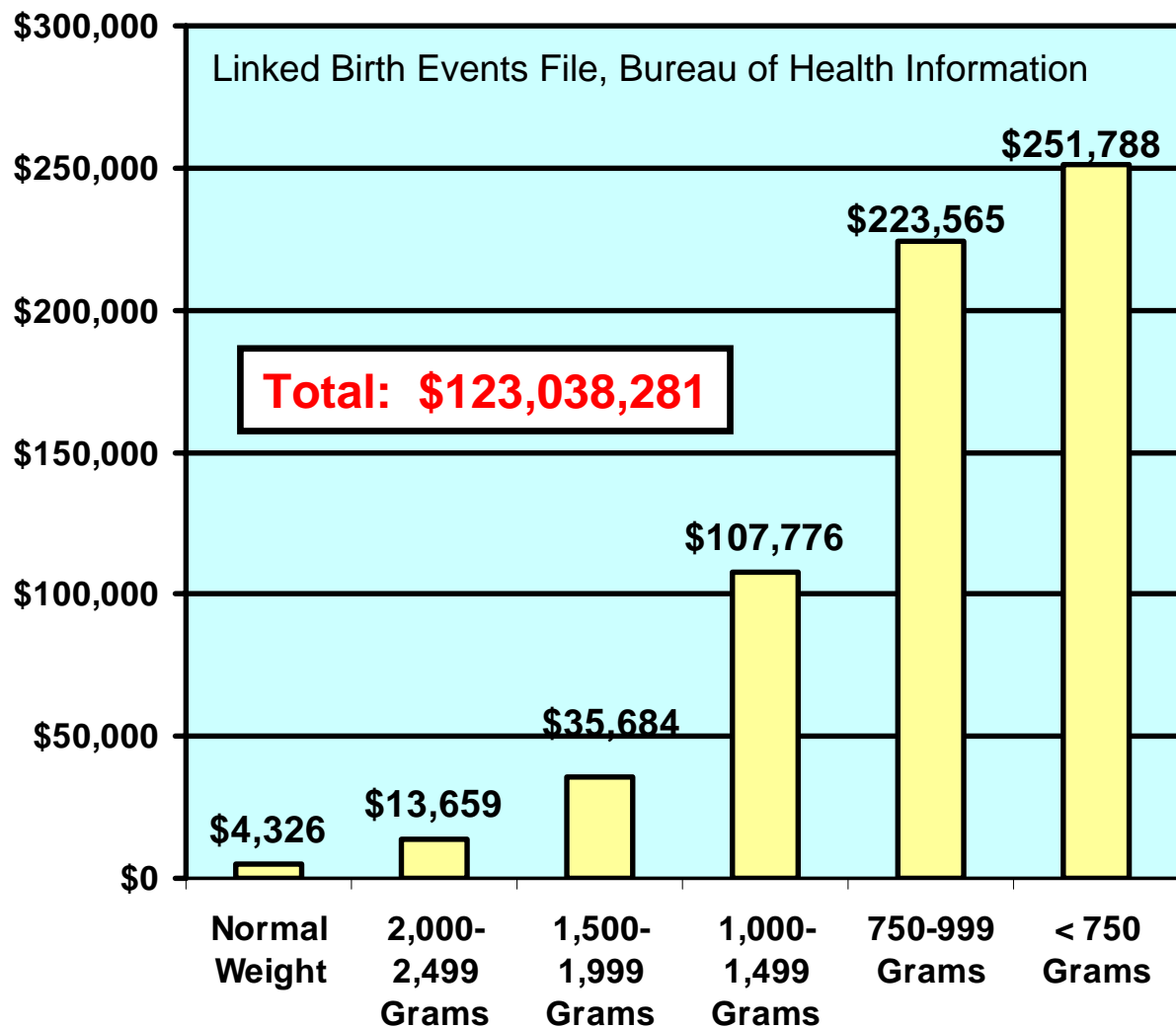
Higher percentages of premature infants were born to:

- **African American** women 17.1%
- **Teen moms** less than 18 years 16.0%
- Women who were **unmarried** 13.4%
- Women who **smoked** during pregnancy 13.0%
- Women with **less than a high school education** 12.6%

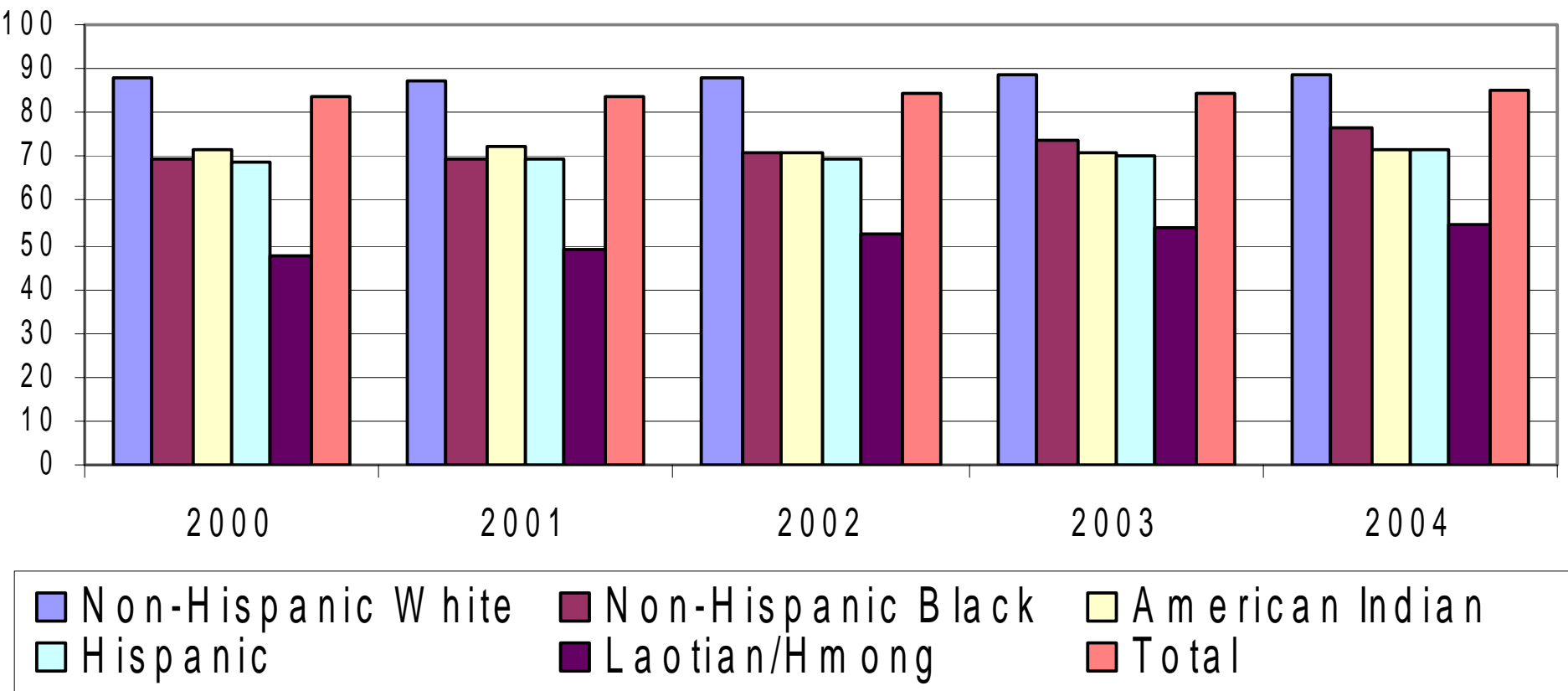
# Percent of Live Births that are Preterm, by Race and Ethnicity, Wisconsin



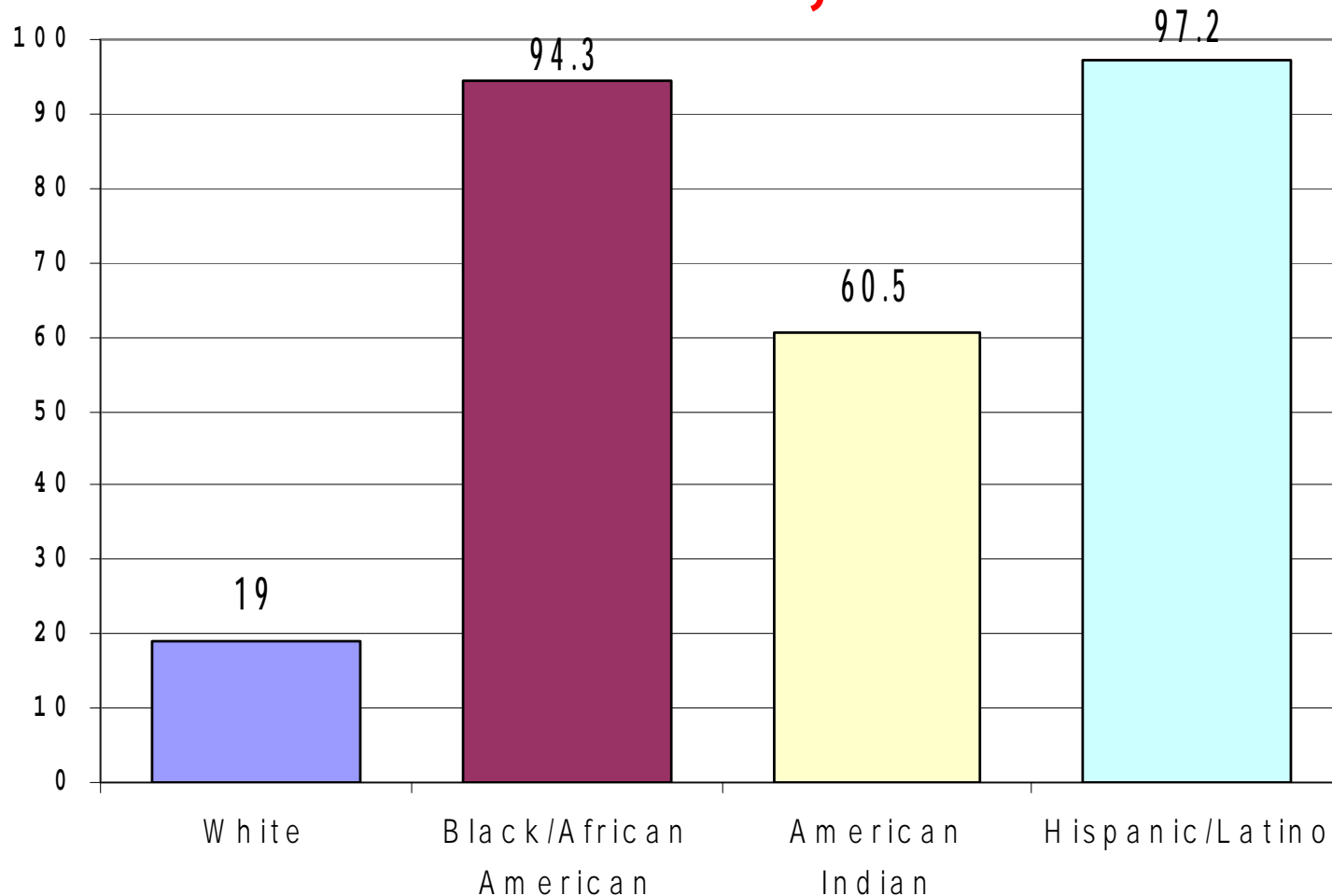
# Birth Weight and Infant Hospitalization Charges During the First Year of Life 2001 Medicaid Births in Selected Counties (Dane, Kenosha, Milwaukee, Racine, and Rock Counties)



# Percent of Mothers Who Received 1<sup>st</sup> Trimester Prenatal Care, Wisconsin



# Birth Rate per 1,000 Females Age 15-19 years by Race/Ethnicity, Wisconsin, 2004



## Infant Mortality Rates: Total, White, and African American by Maternal Age, Wisconsin, 2000-2004

Age	Total	White	African American
< 20 years	11.62	8.81	19.84
20-29 years	6.61	5.44	16.79
30-39 years	5.28	4.64	16.11
≥ 40 years	7.16	5.29	--

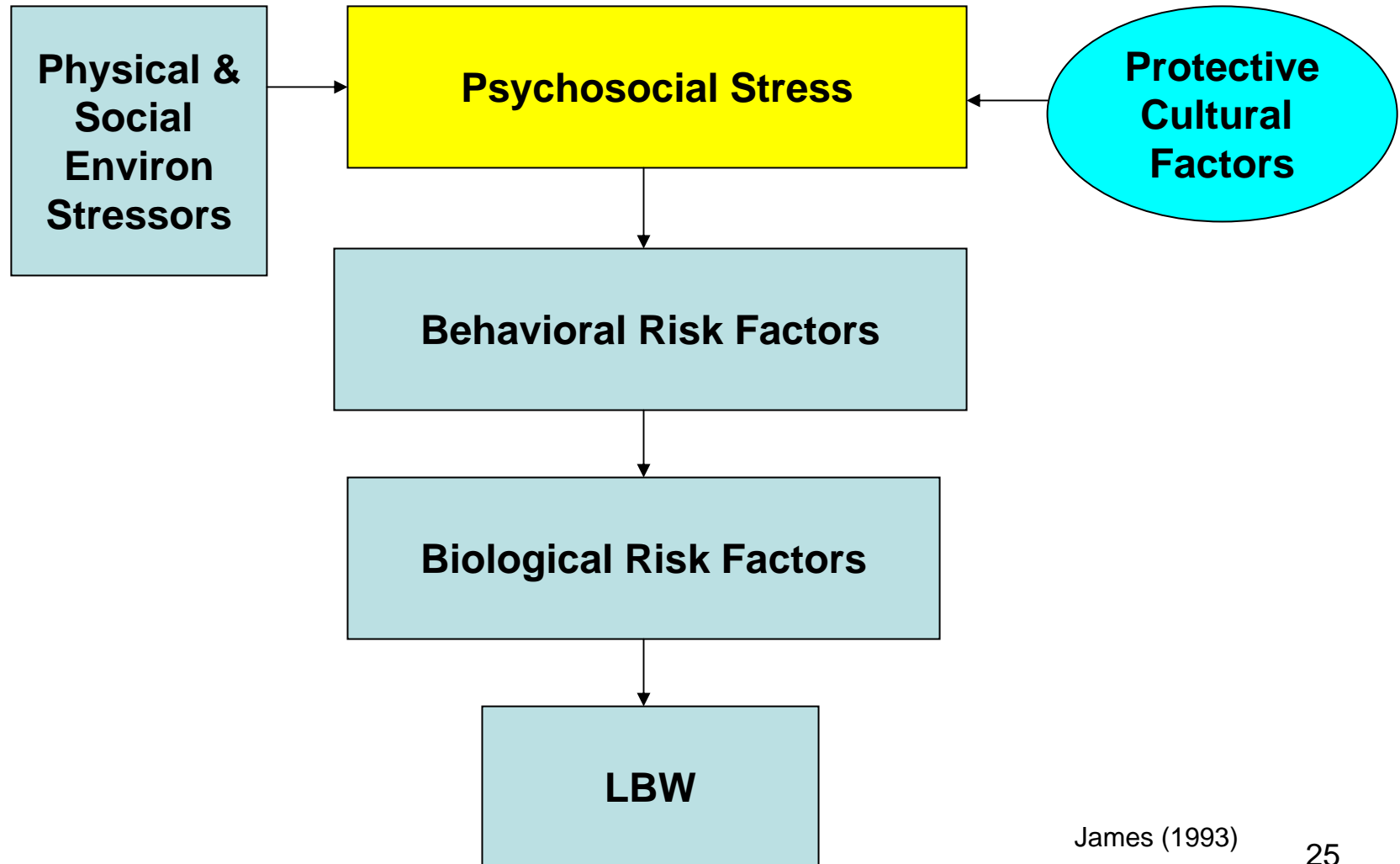
# Life Course Perspective

- **Perhaps the best way to understand the racial and ethnic disparities in birth outcomes is from a “life course perspective.”**
- **The life course perspective takes a more holistic, longitudinal approach to the problem of poor birth outcomes, which spans generations.**



# Stress and Preterm Birth

## *Culture*



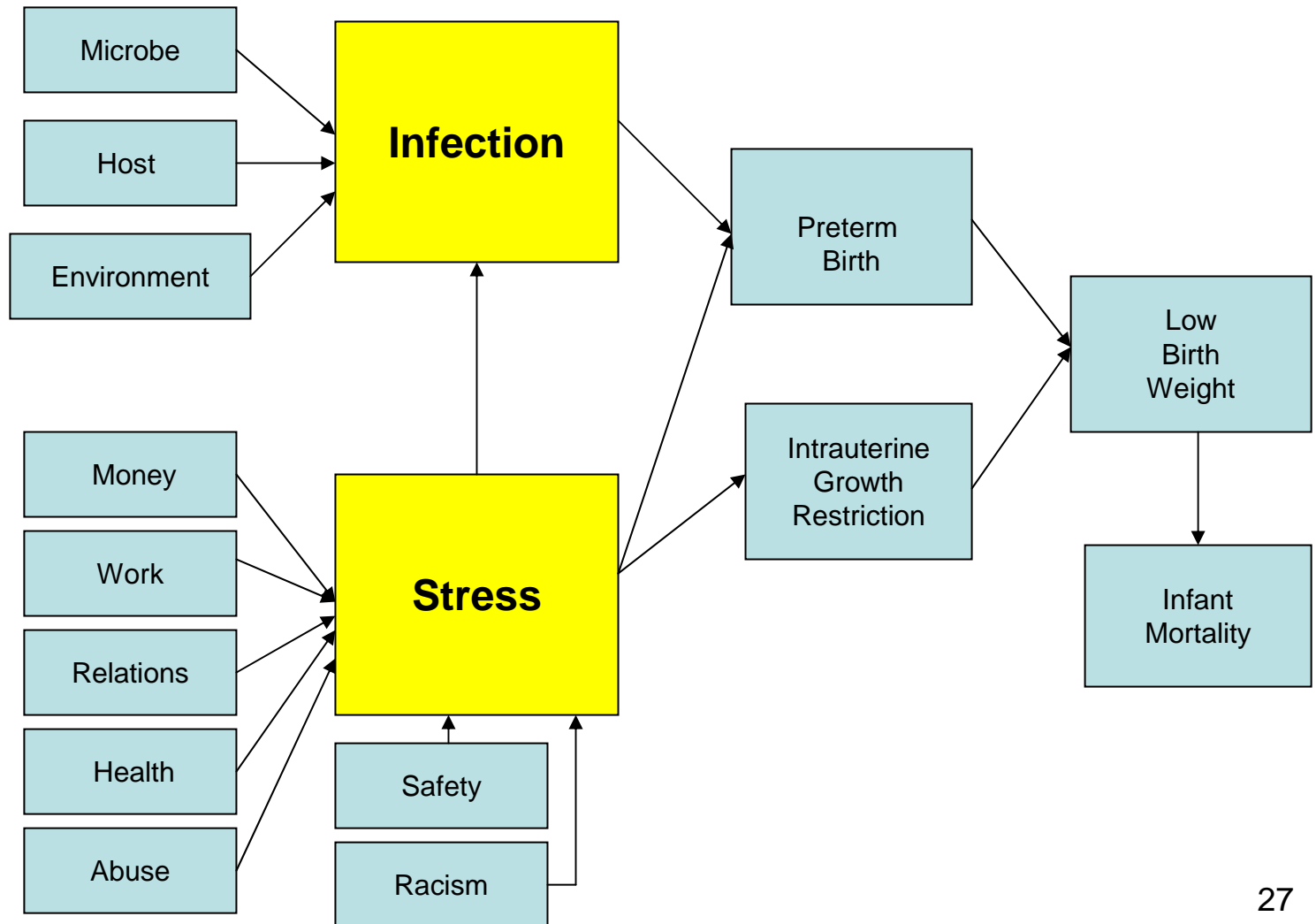
# Life Factors that Affect Infant Mortality

## POVERTY

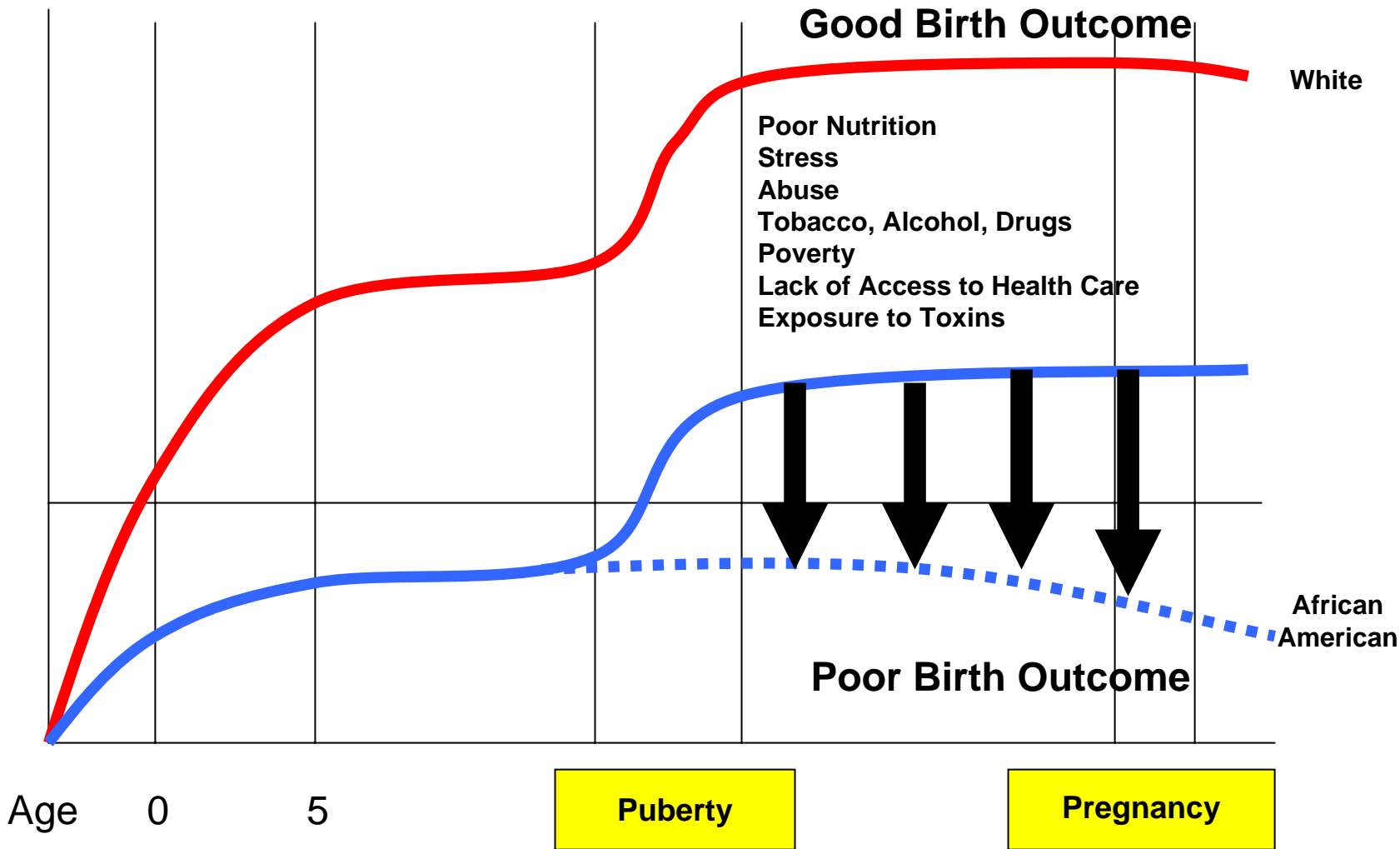
– In Wisconsin, percent poverty for  
kids <5 years old:

» White	7%
» Black	44%
» American Indian	32%
» Hispanic	26%
» Asian	17%

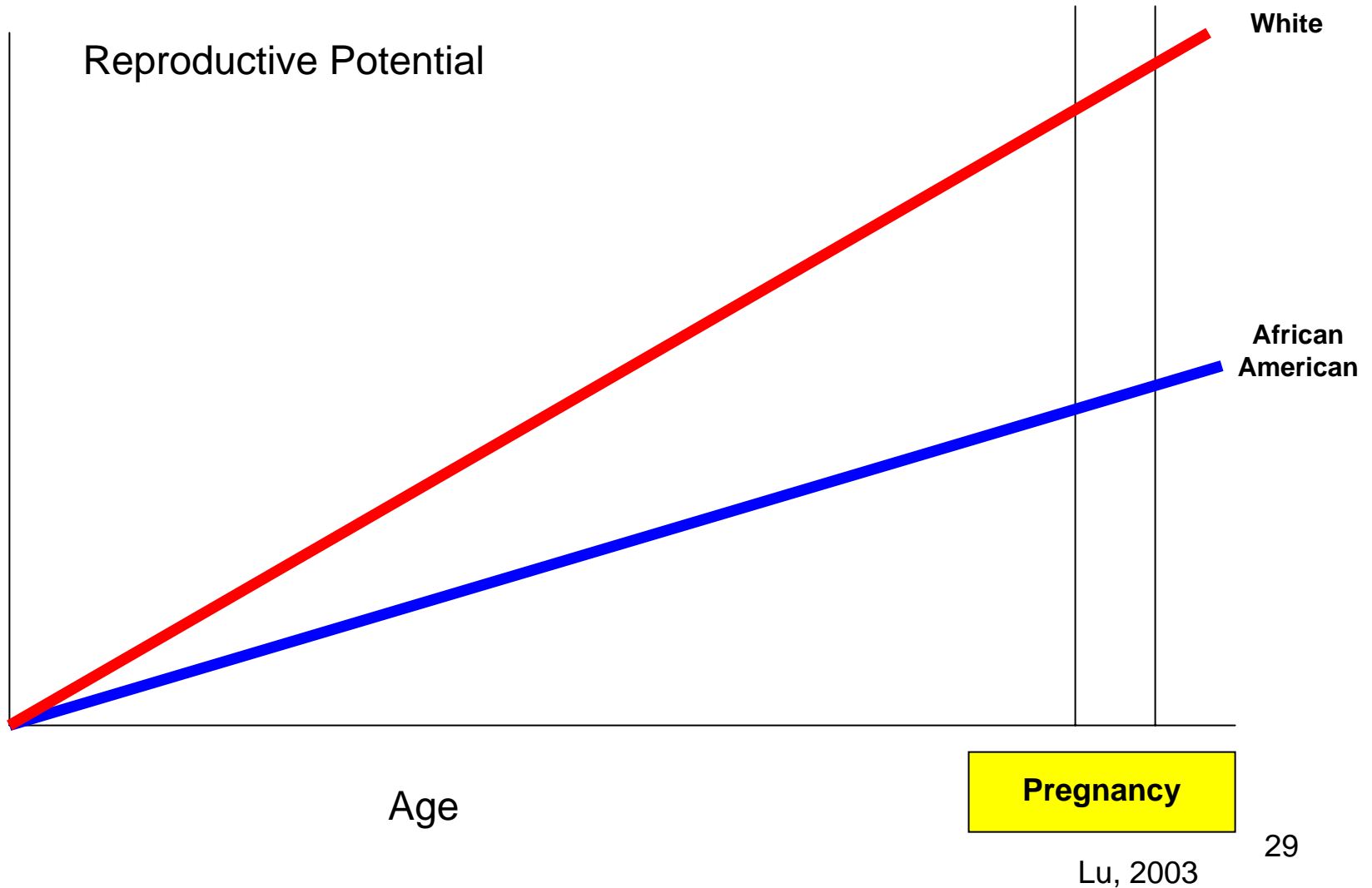
# Pathways to Preterm Birth



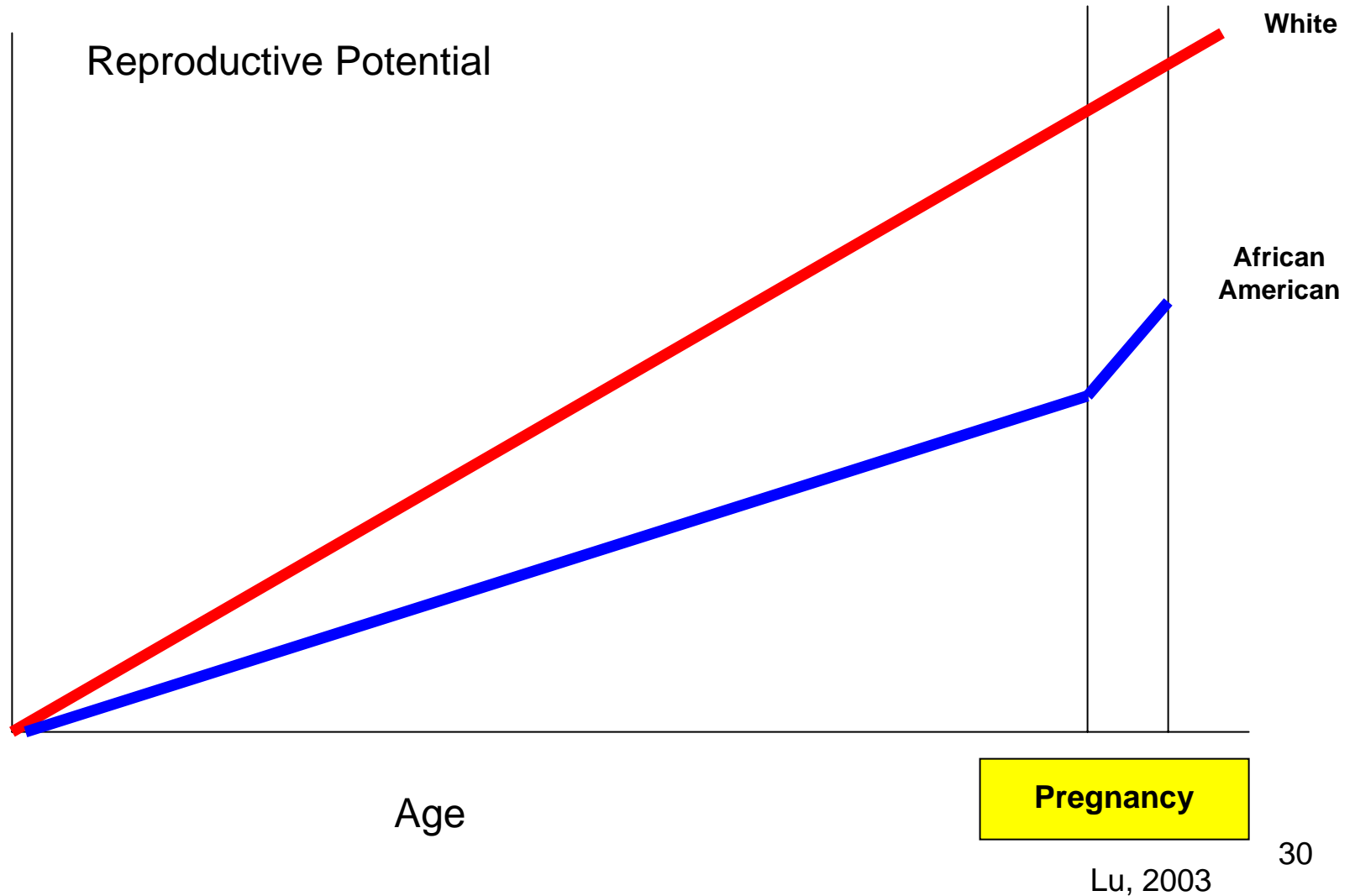
# Life Course Perspective



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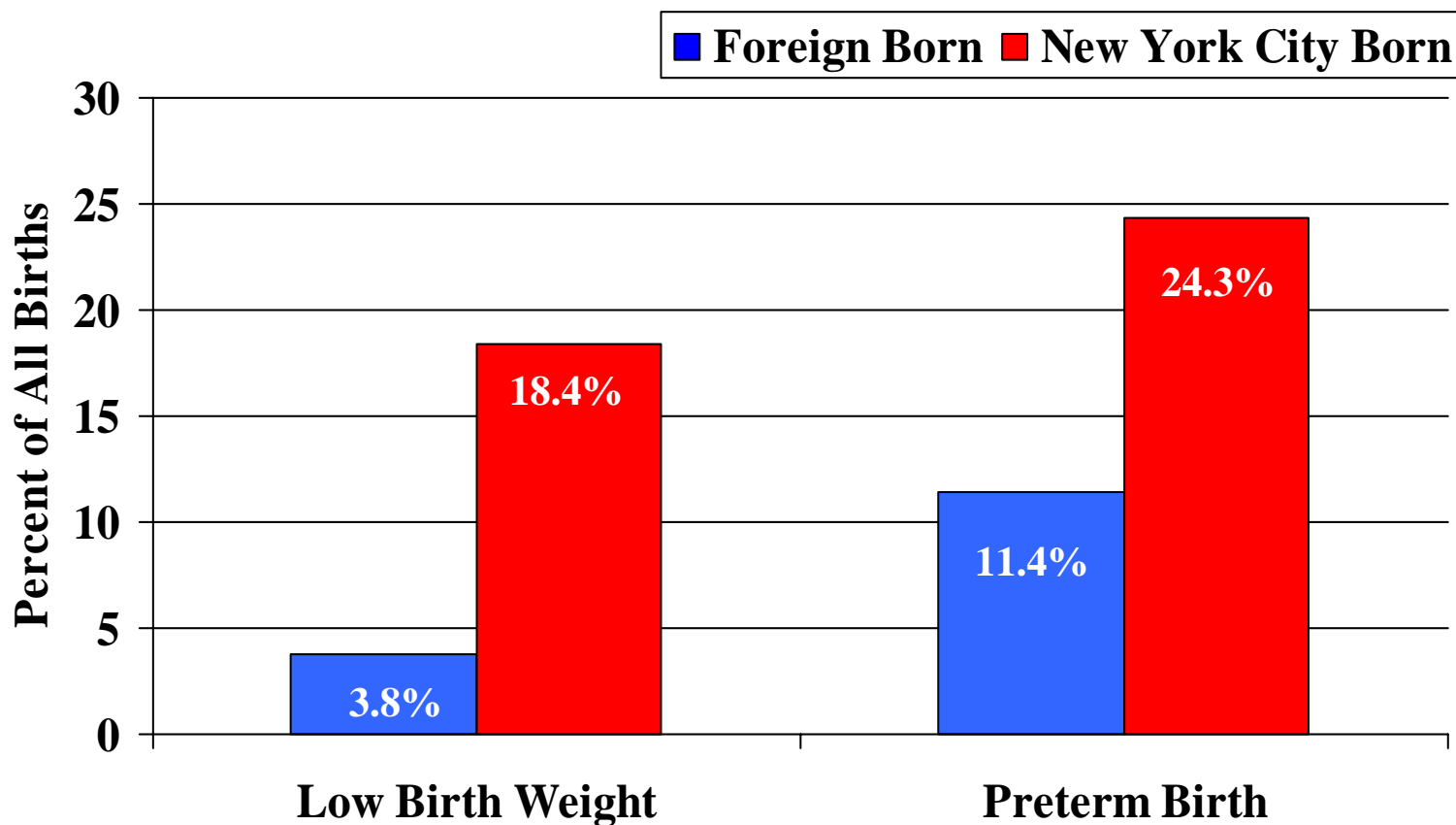


# Racial and Ethnic Disparities

## Intergenerational Factors

- Perinatal mortality and LBW
  - related to social class of father & maternal grandfather
  - lowest among women born into the highest class & married within the highest class
  - highest among women born into the lowest class & married within the lowest class
  - upwardly mobile women (born low but marry high) had birth outcomes that were in-between

# Low birth weight & preterm birth is lower among foreign-born African Americans

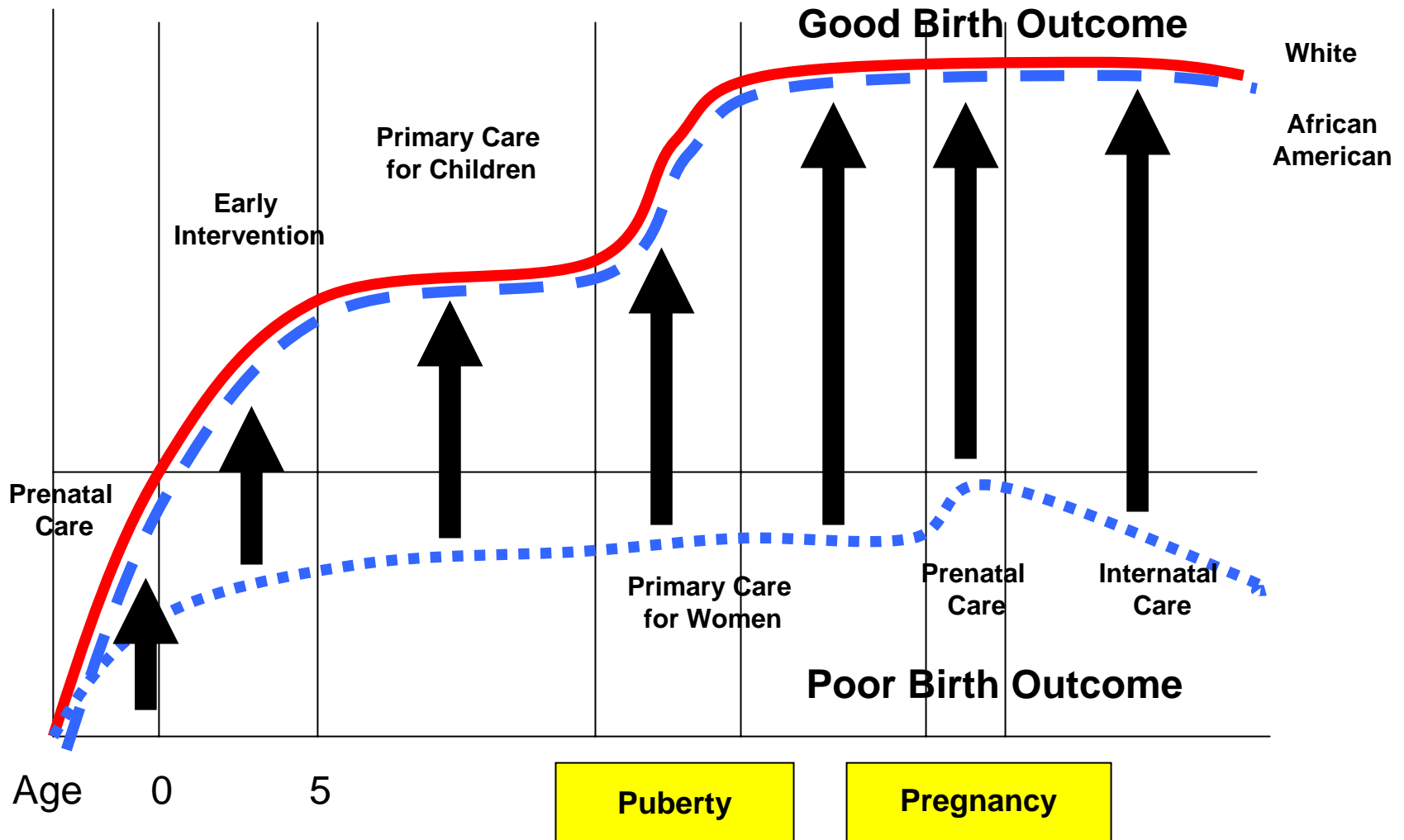


African Americans Residing in Harlem, NY

Valanis 1979



# Life Course Perspective



# Wisconsin's Leading Causes of Infant Mortality, 2000-2004

Cause of death	Total	White	Black
Congenital Malformations/Birth Defects	19.8%	<b>22.2%</b>	12.1%
Perinatal: Disorders related to Preterm Birth & LBW	<b>20.0%</b>	16.4%	<b>28.2%</b>
SIDS (Sudden Infant Death Syndrome)	11.6%	9.9%	16.5%
Perinatal: Maternal Complications of Pregnancy	4.6%	4.4%	5.1%
Perinatal: Newborn Complications of Placenta/Cord/Membranes	3.6%	3.8%	3.3%
Respiratory Distress Syndrome (RDS)	3.3%	3.4%	3.0%

# Interventions

**Must be:**

- **family-centered**
- **community-based**
- **culturally-competent**
- **coordinated and collaborative**

**Must also be evidence-based  
or a best practice**

# **Evidence-Based or Best-Practice Interventions**

- **Psychosocial Support and Decreased Isolation**
- **Maternal-Infant Bonding**
- **Infant Mental Health**
- **Depression Screening and Treatment**

# **Evidence-Based or Best-Practice Interventions**

## **Behavioral-Risk Reduction:**

**Tobacco Use – low birth weight**

**Alcohol Use – fetal alcohol spectrum  
disorders**

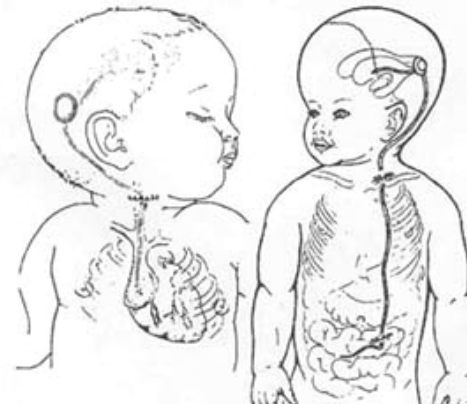
# **Evidence-Based or Best-Practice Interventions**

## **Behavioral-Risk Reduction:**

- **Prescription Medication**
- **Over-the-Counter Drugs**
- **“Recreational” Drugs**

# Evidence-Based or Best-Practice Interventions

- **Nutritional support**
- **Breast Feeding**
- **Prevention of birth defects with folic acid and other vitamins/minerals**



# **Evidence-Based or Best-Practice Interventions**

## **Medical Conditions:**

- **Diabetes and Gestational Diabetes  
(diabetes of pregnancy)**
- **Hypertension**
- **Infections**



# **Evidence-Based or Best-Practice Interventions**

## **Diagnosis and Treatment of Infections:**

- **Periodontal Disease**
- **Sexually-Transmitted Disease (STDs)  
and HIV/AIDS**
- **Urinary Tract Infections**

# **Risk Factors for Sudden Infant Death Syndrome**

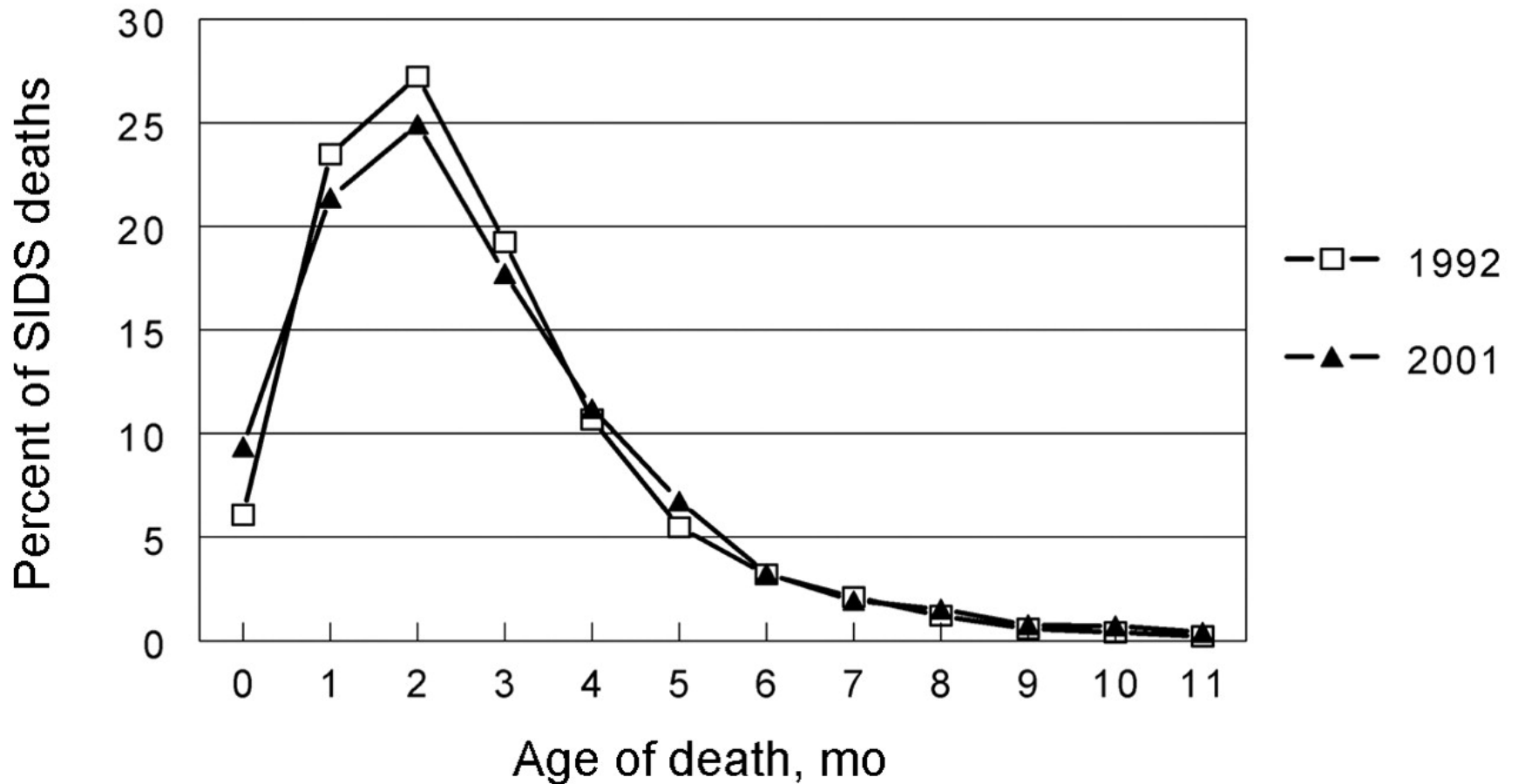
- **maternal smoking during pregnancy**
- **late or no prenatal care**
- **young maternal age**
- **preterm birth and/or low birth weight**
- **male gender**
- **higher rates are found in black and American Indian/Alaska Native**

# **Risk Factors for Sudden Infant Death Syndrome**

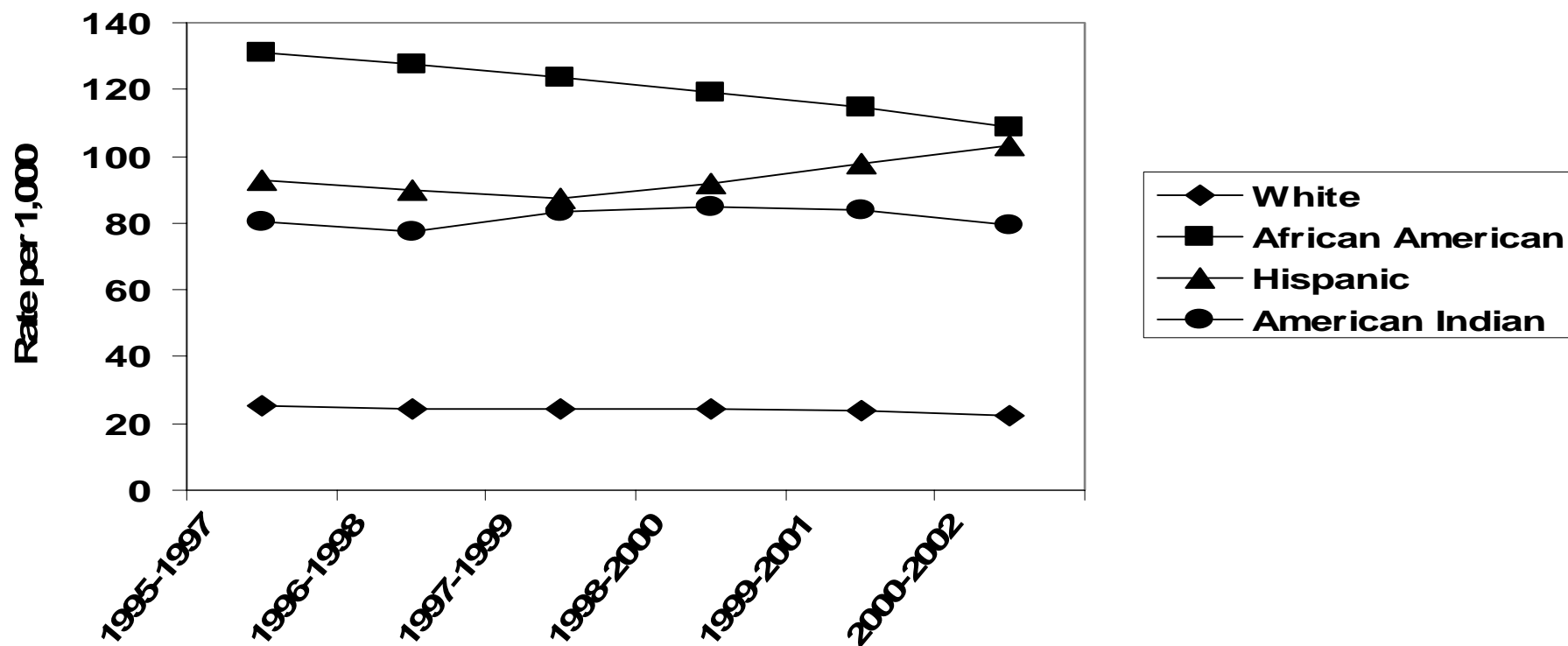
## **Unsafe Sleep Environment:**

- **prone (face down) sleep position**
- **sleeping on a soft surface**
- **sleeping with soft objects or loose bedding**
- **overheating**
- **smoking in household**
- **probably “co-bedding”**

# SIDS by Month of Age

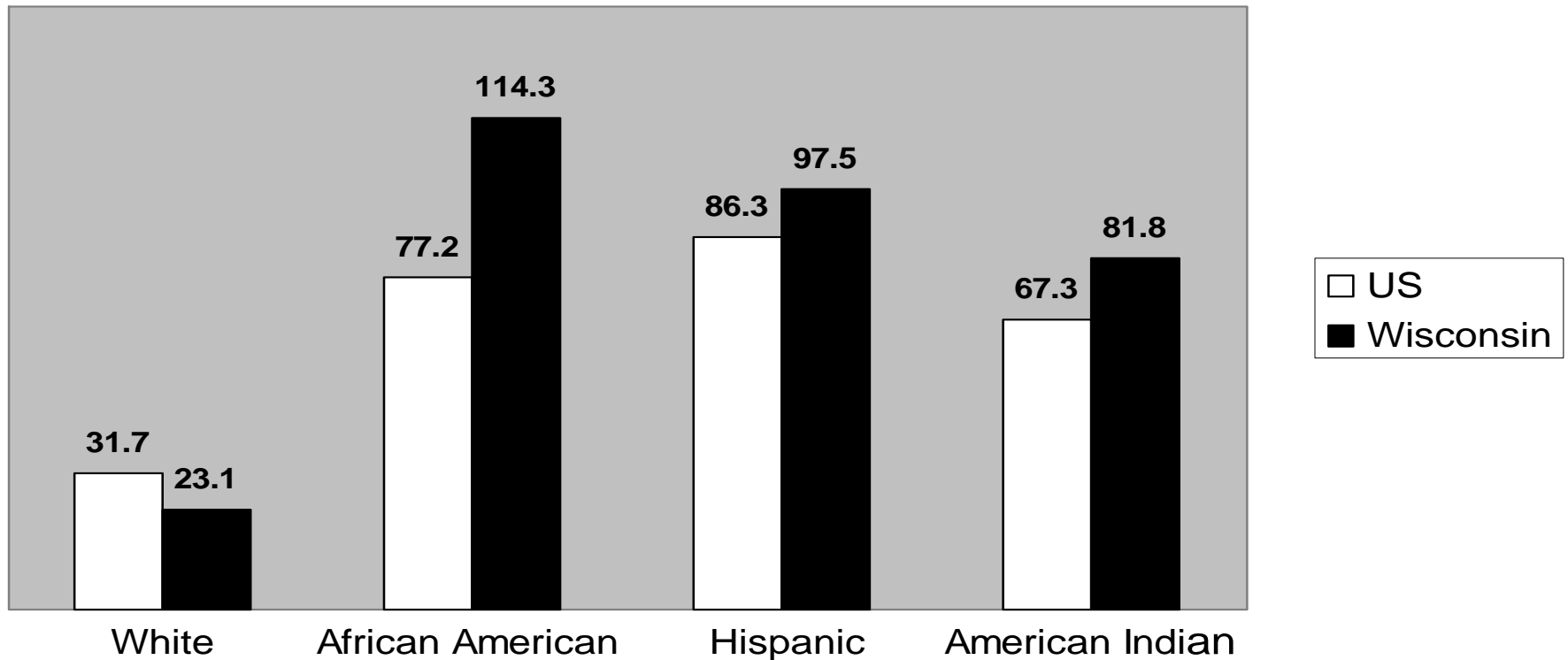


# Teen Births, by Race, Wisconsin



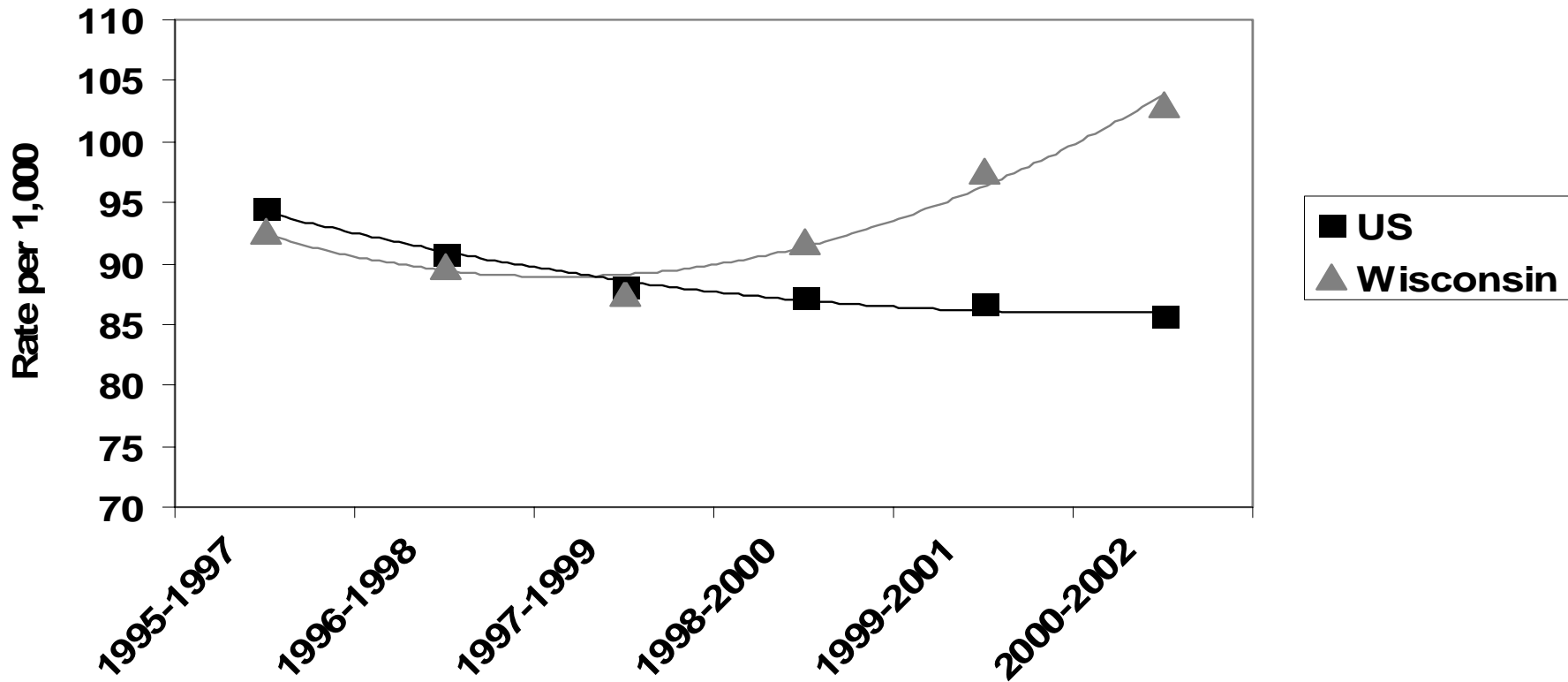
**Figure 1.** Wisconsin birth rates per 1,000 females age 15-19 years by race/ethnicity, 3-year moving averages, 1995-1997 to 2000-2002.

# Teen Births, Wisconsin and US



**Figure 2.** Birth rates per 1,000 females age 15-19 years by race/ethnicity, US and Wisconsin, 1998-2002.

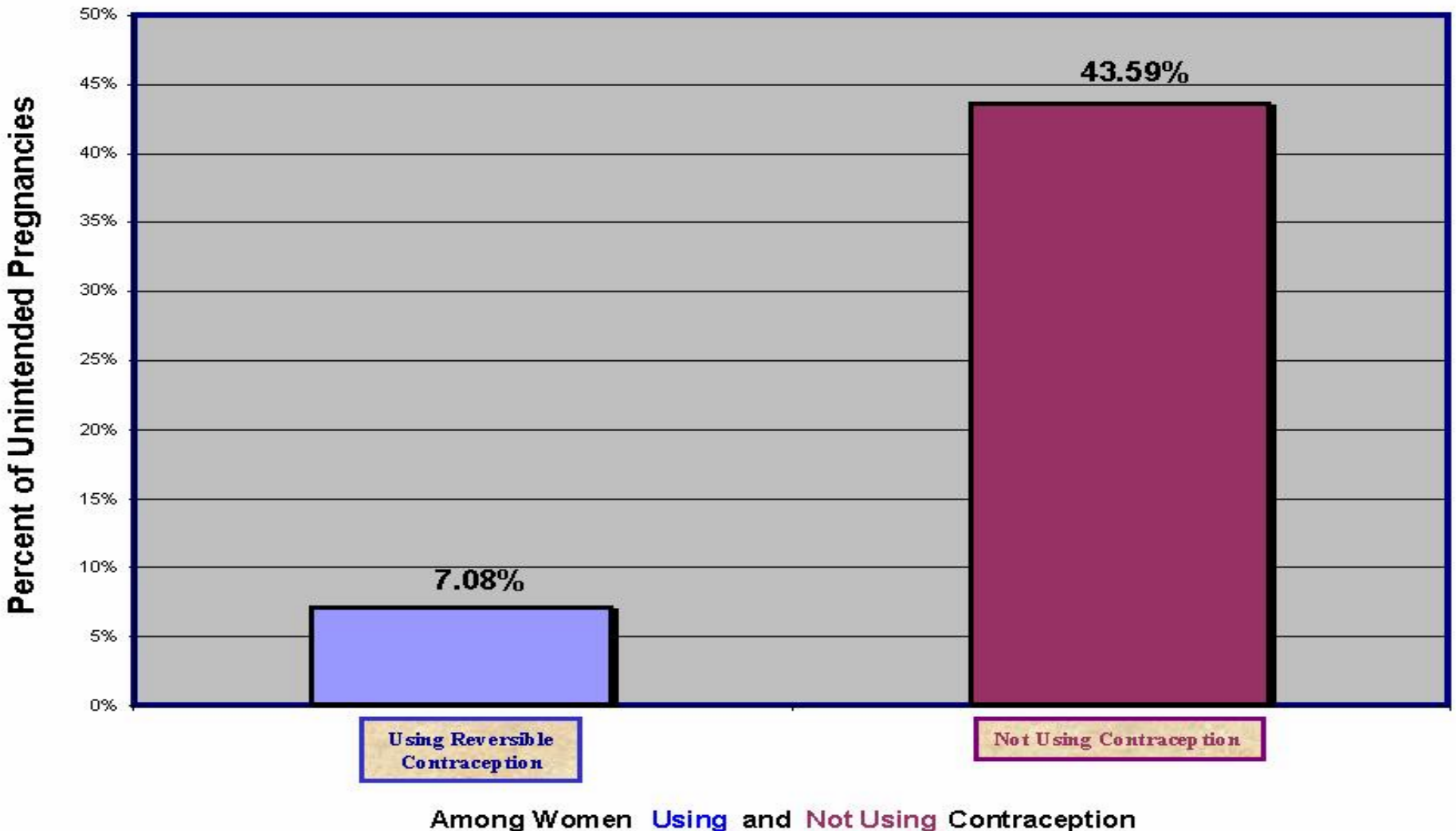
# Teen Births, Hispanic



**Figure 4.** Birth rates per 1,000 Hispanic females age 15-19 years, 3-year moving averages, US and Wisconsin, 1995-1997 to 2000-2002.

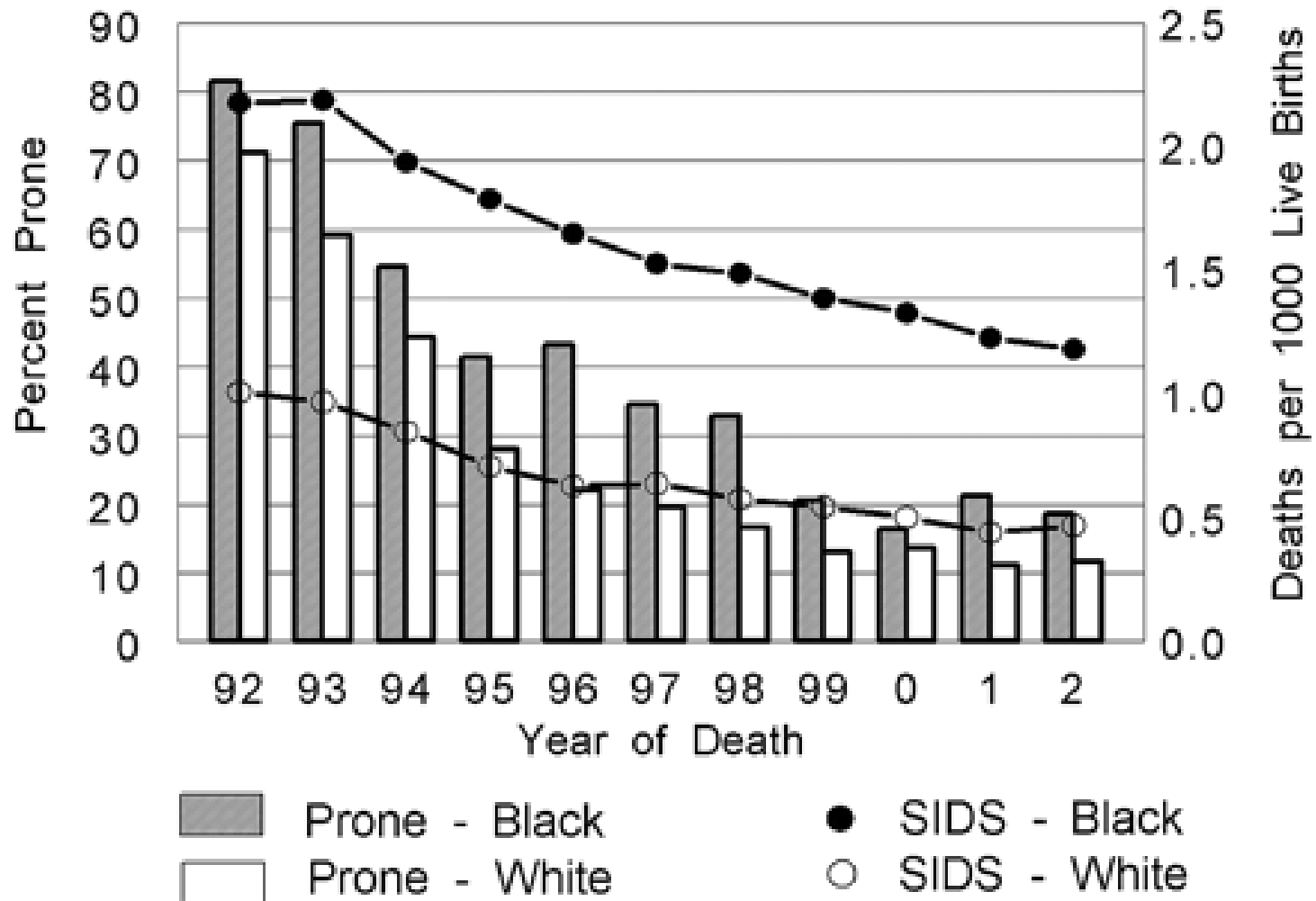
# Unintended Pregnancy

Contraceptive Use and and Unintended Pregnancy





# SIDS and Sleep Position by Race



# Evidence-Based or Best-Practice Interventions

## Safe Sleep:

- “Back to Sleep”
- Firm surface
- No soft objects or loose bedding
- No overheating
- NO smoking in environment of sleeping baby
- Probably no co-bedding

# **Elimination of Racial and Ethnic Disparities in Birth Outcomes**

**A 5-Year Action Plan for  
Wisconsin**

# Goals

**Communication & Outreach**

**Quality Improvement**

**Community & Evidence-Based  
Practices**

**Data**

# Communication & Outreach

- Develop a 5-year plan
  - Engage key stakeholders
  - Periodic evaluations and revisions

# Communication & Outreach

- Community
  - Consumer participation
  - Culturally-appropriate education campaign
  - Messages that lead to desired and endorsed behavior change

# Communication & Outreach

- Key Partner Relationships
  - Foster and facilitate effective collaboration
  - With partners, seek additional public and private funding

# Quality Improvement

- Enhanced Coordination
  - Department-wide workgroup
  - Smoking and alcohol cessation
  - Oral health
  - Teen pregnancy



# Quality Improvement

- Assessment, Assurance, and Policy Development
  - Services for mothers, children, and families
  - WIC, Nutrition Education, and FoodShare
  - STDs
  - HIV testing during pregnancy

# Quality Improvement

- Access
  - Medicaid eligibility and coverage
  - New web-based tool
  - Acceptance and education for temp cards
  - Access to new BadgerCare prenatal benefit for incarcerated pregnant women
  - Develop pay-for-performance for healthy birth outcomes

# Community and Evidence-Based Practices

- Consumer Involvement
  - Work with community members and opinion leaders to foster trust and remove barriers
  - Leverage minority health grant dollars for innovative, local prevention programming

# Community and Evidence-Based Practices

- Trusted Gateways
  - Dedicated personnel from Wisconsin's Minority Health and Maternal and Child Health Programs
  - Expand First Breath and integrate with My Baby and Me
  - Fetal and Infant Mortality Review
  - Milwaukee Comprehensive Home Visiting

# Community and Evidence-Based Practices

- Policy/System Changes
  - Educate policy makers at high levels to promote shared agenda
  - Work with DWD on education, employment and fatherhood for Milwaukee Home Visiting Project
  - Provider education on evidence-based practices to reduce low birthweight and prematurity

# Data

- DHFS Data Workgroup
  - Assess needs, conduct monitoring, coordinate with partners
  - Fact sheets
  - Leverage vital records, hospital discharge, Medicaid, and other key databases

# Data

- Collaborative Partner Data Workgroup
  - **Identify data and research needs**
  - **Data Sharing Agreements**
  - **Prioritize research and evaluation projects**
  - **Identify and implement strategies and secure funding**

# Data

- Key Program Evaluation
  - Prenatal Care Coordination (PNCC) benefit
  - Milwaukee Comprehensive Home Visiting Project
  - Identify other key DHFS programs



# Data

- Dissemination of Information
  - Internet site:  
<http://dhfs.wisconsin.gov/healthybirths/>
  - Presentations at national, state, and local forums
  - Assure knowledge is used for purpose of community health improvement

# Summary

## **Elimination of Racial and Ethnic Disparities in Birth Outcomes**

- **Data should lead to awareness and action.**
- **Action should be evidence-based or best practices.**
- **The Action Plan, through partnerships, will lead to the elimination of disparities in birth outcomes.**