

Racial Disparities in birth outcomes: *Moving beyond traditional risk factors to explore social status adversity*



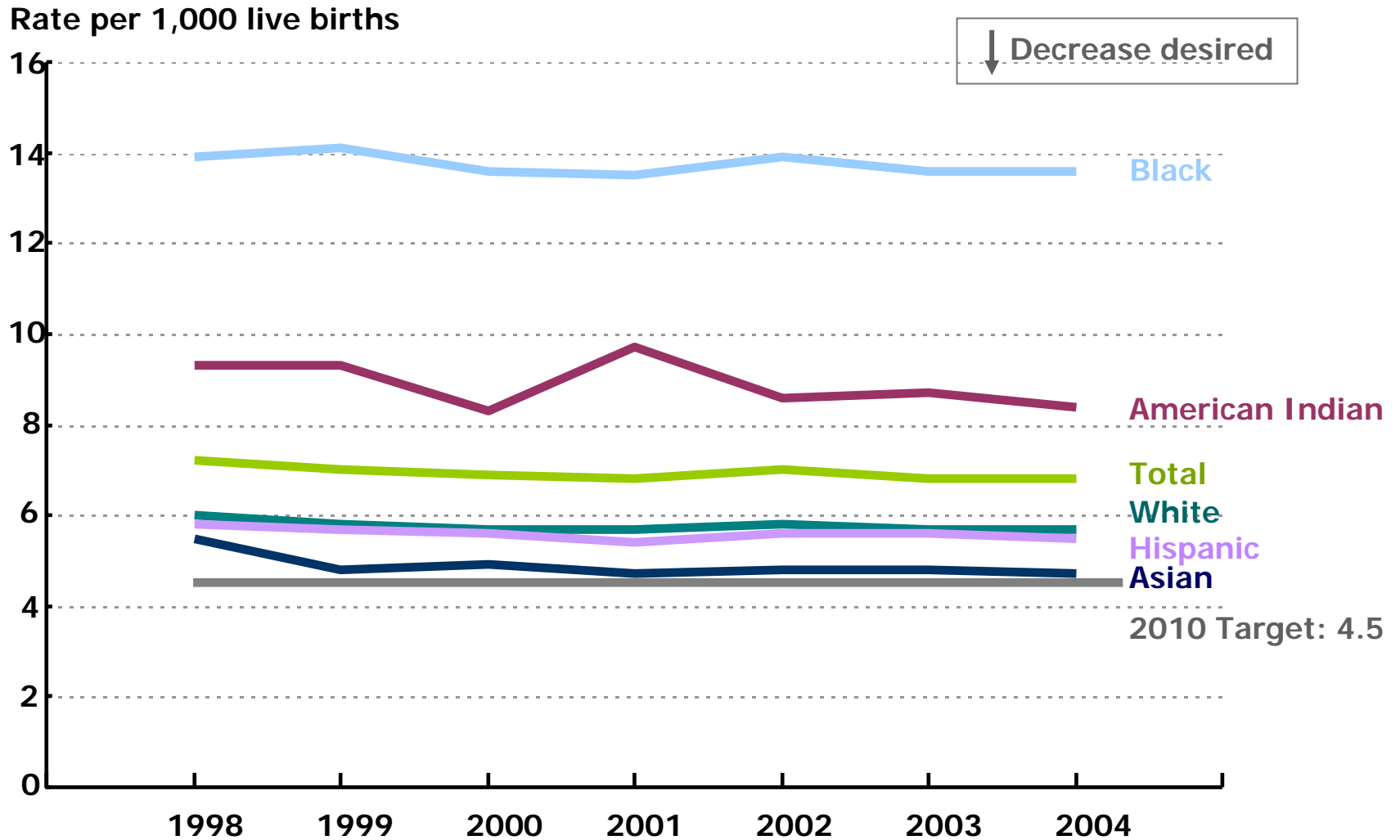
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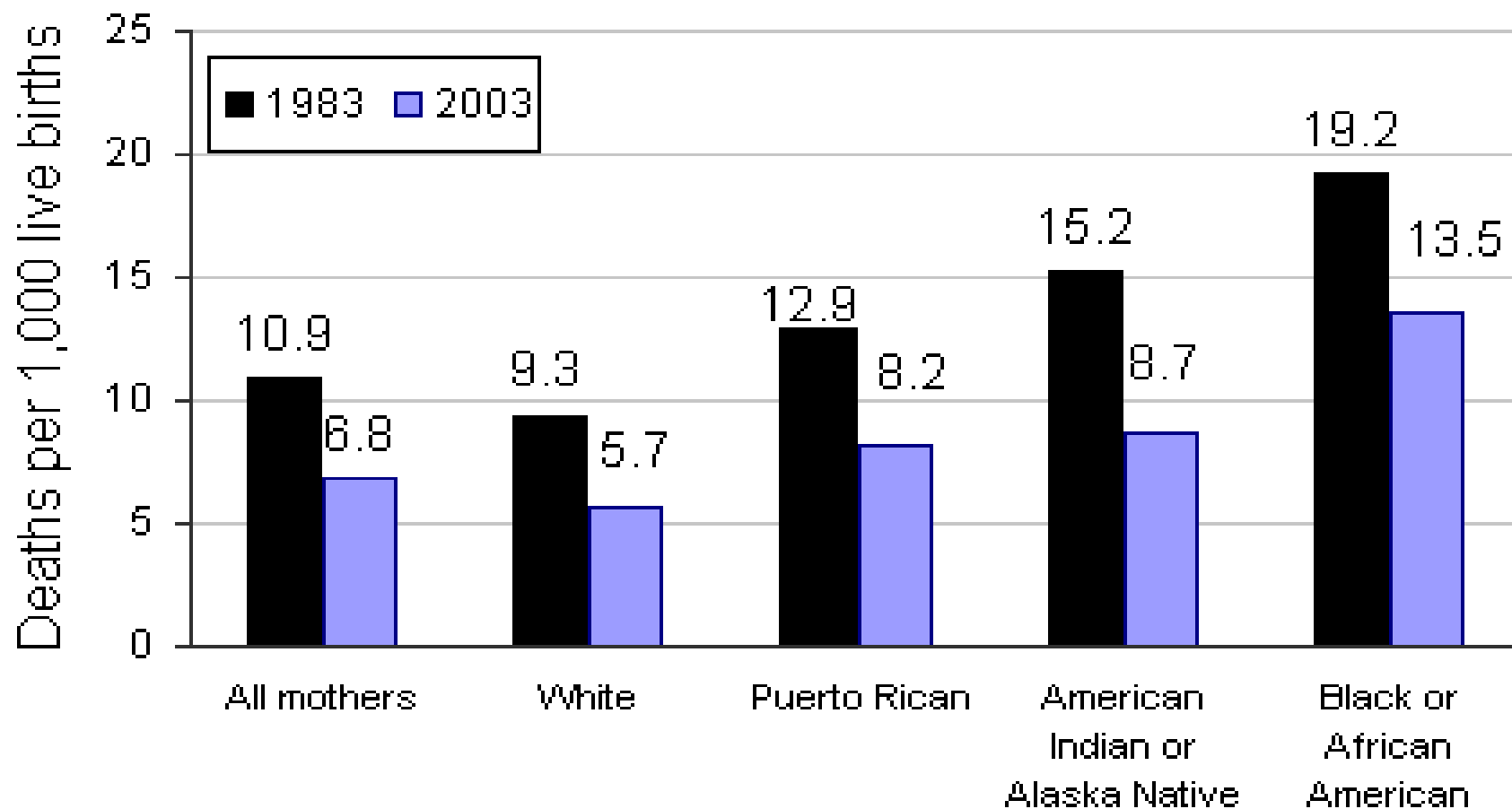
Infant Mortality



Note: Includes all deaths <1 year. American Indian includes Alaska Native. Asian includes Pacific Islander. The categories black and white exclude persons of Hispanic origin. Persons of Hispanic origin may be any race. For 1940-79, infant deaths are classified by their race as reported on the death certificate. For 1980-2004, infant deaths are classified by race of mother.

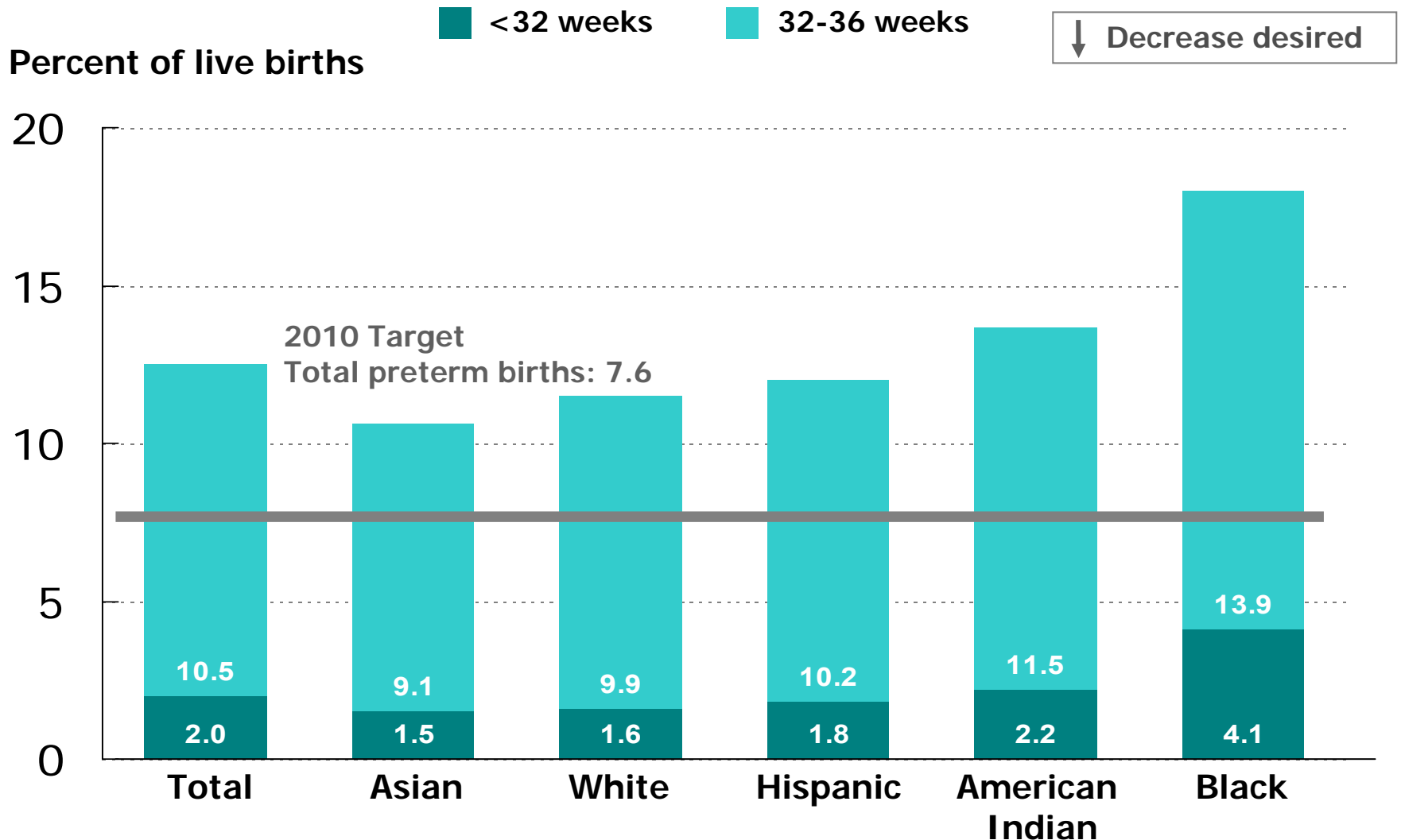
SOURCE: National Vital Statistics System (NVSS), NCHS, CDC.

Infant Mortality by Mother's Race/Ethnicity Change from 1983 to 2003



Source: Health, United States, 2006. Nat. Center for Health Statistics, U.S. Dept of Health&Human Services

Preterm Births, 2004

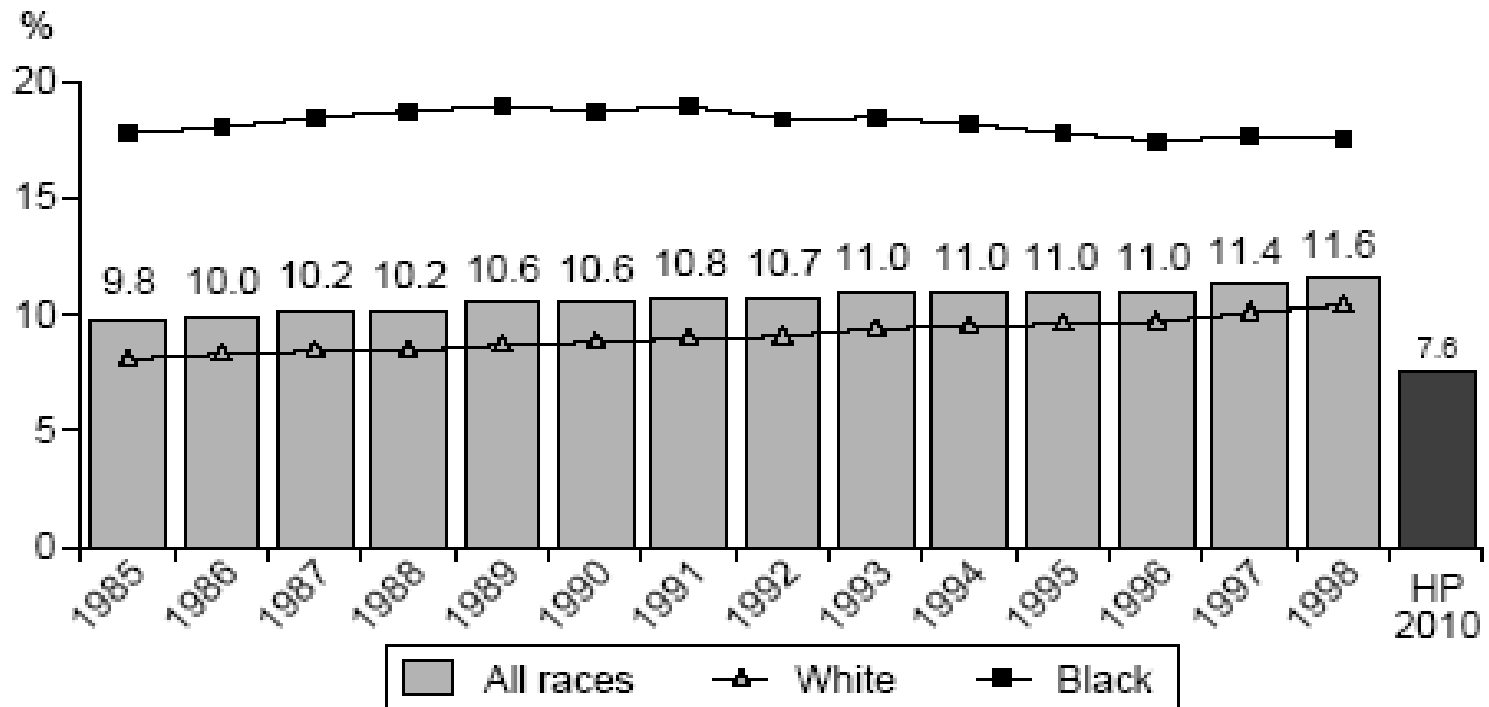


Note: American Indian includes Alaska Native. Asian includes Pacific Islander. The categories black and white exclude persons of Hispanic origin. Persons of Hispanic origin may be any race.

SOURCE: National Vital Statistics System (NVSS), NCHS, CDC.

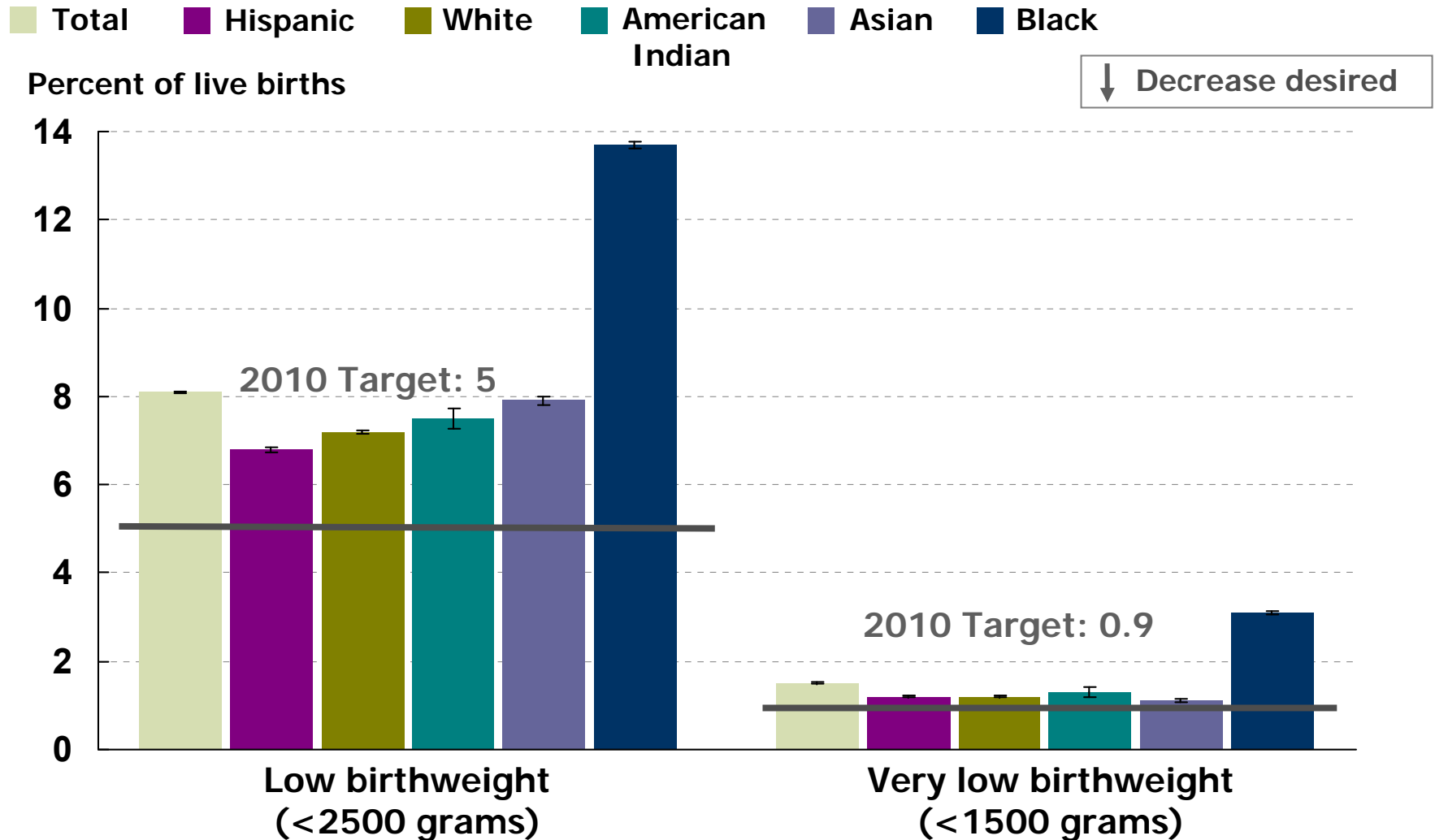
Obj. 16-11 a, b, & c

US Preterm Birth Rate



Source: National Center for Health Statistics, final natality data. Prepared by the March of Dimes Perinatal Data Center,

Low and Very Low Birthweight Infants, 2004



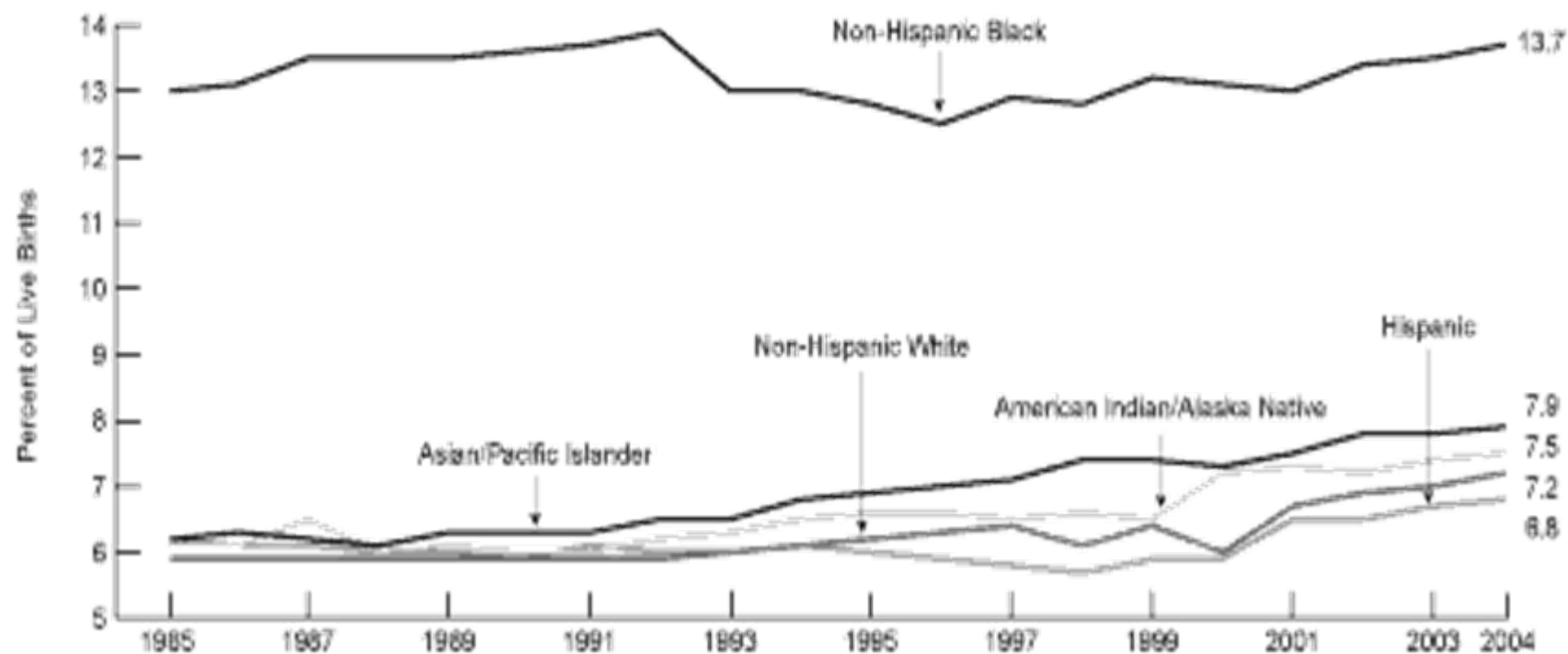
┆ = 95% confidence interval. Note: American Indian includes Alaska Native. Asian includes Pacific Islander. The categories black and white exclude persons of Hispanic origin. Persons of Hispanic origin may be any race.

SOURCE: National Vital Statistics System (NVSS), CDC, NCHS.

Obj. 16-10a & b

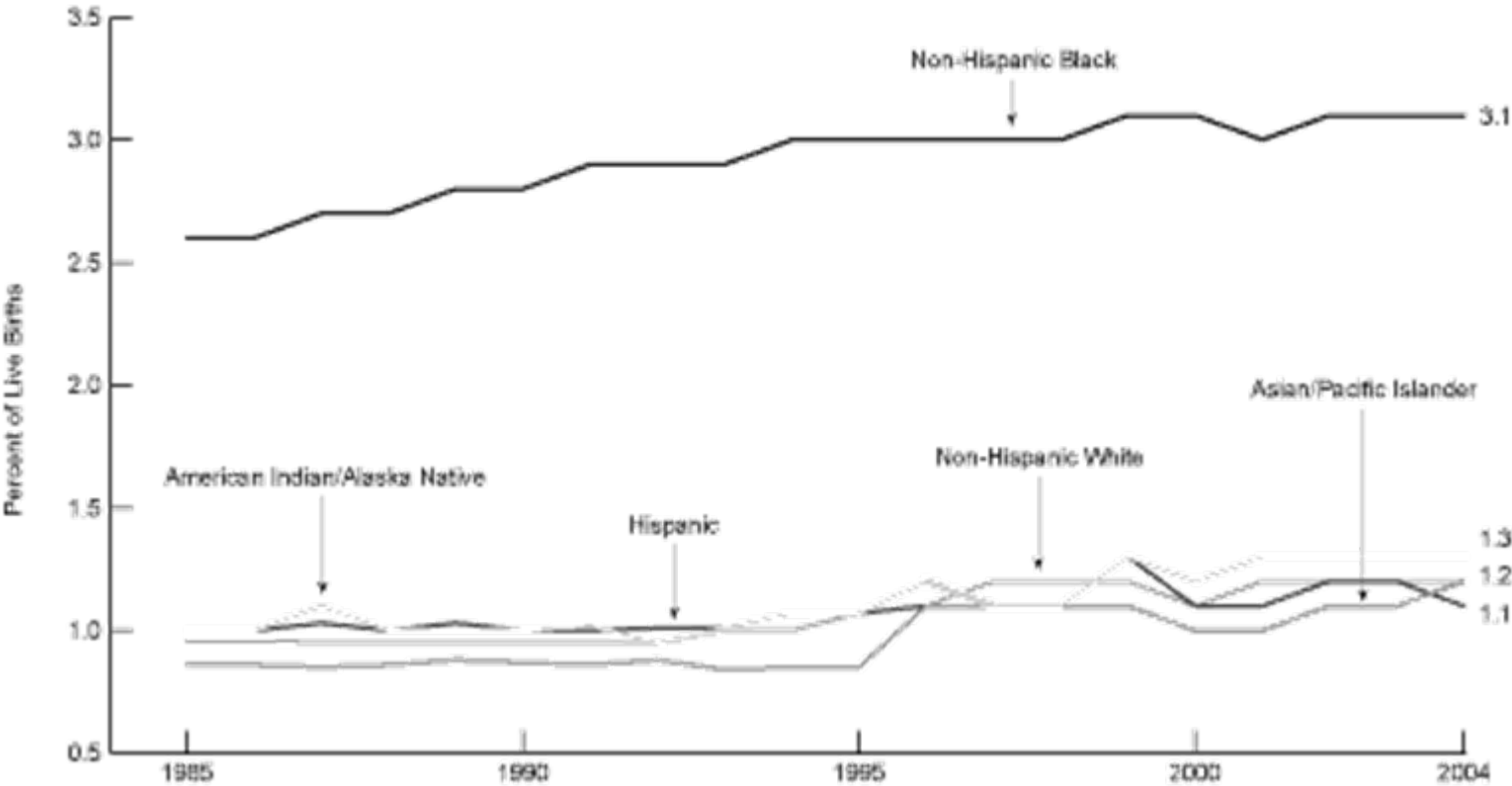
Low Birth Weight Among Infants, by Race/Ethnicity: 1985-2004*

Source (1,5): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



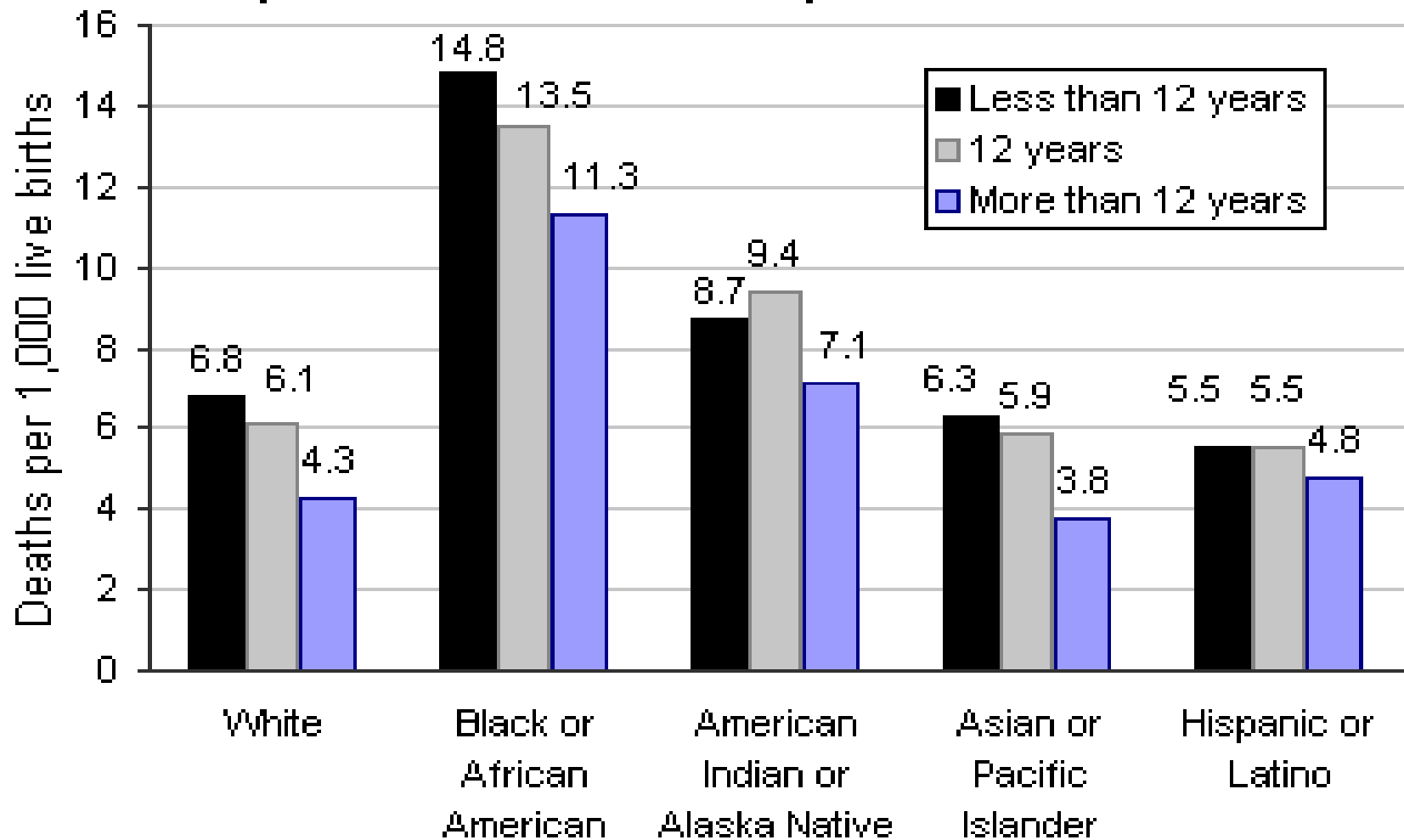
*1985-88 data are based on the race of the infant, data from following years are based on the race of the mother.

Very Low Birth Weight Among Infants, by Race/Ethnicity: 1985-2004*



*1985-88 data are based on the race of the infant; data from following years are based on the race of the mother.

Infant Mortality in 2003 by Mother's Race/Ethnicity and Level of Education

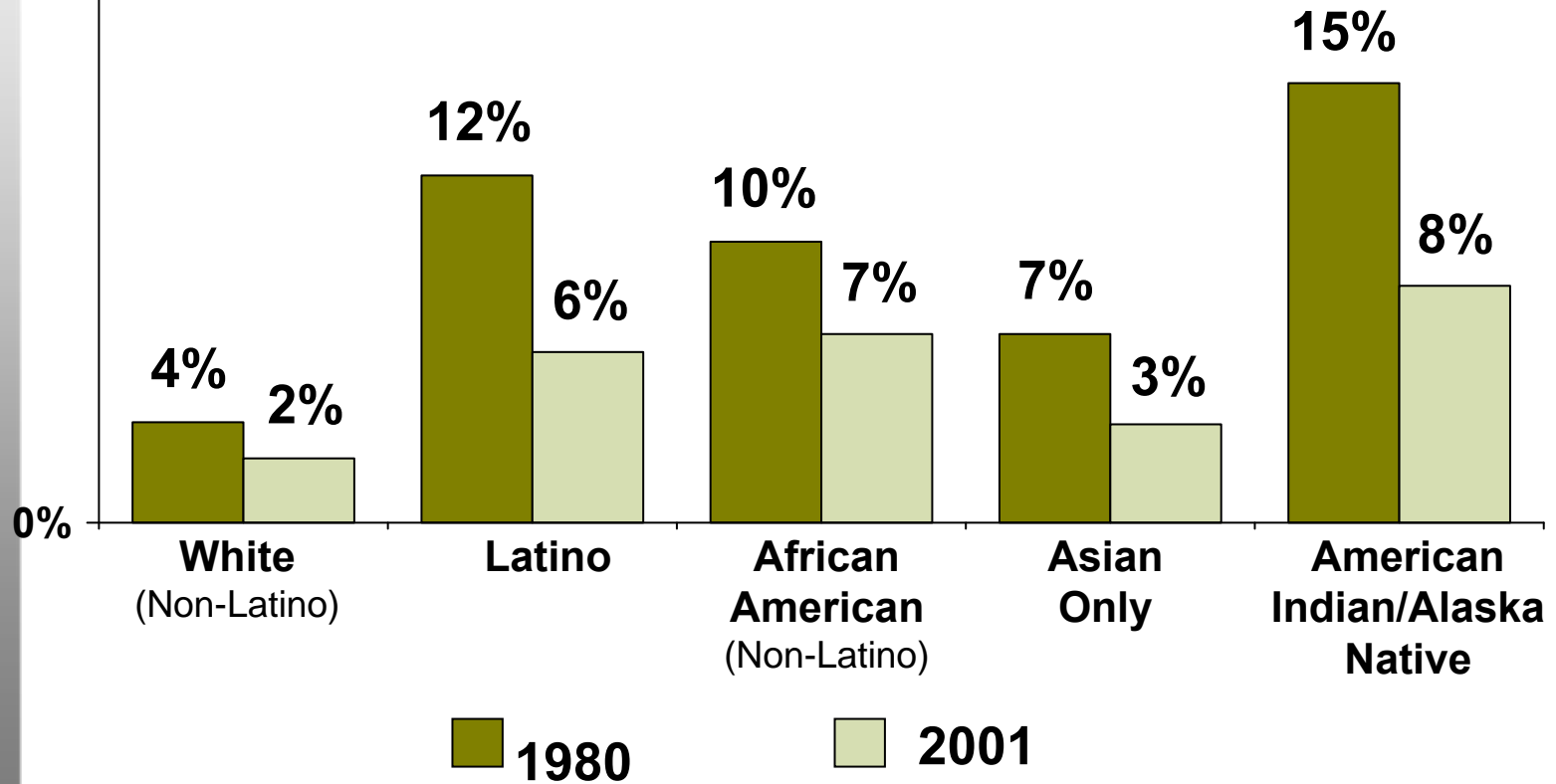


Source: Health, United States, 2006. Nat. Center for Health Statistics, U.S. DHHS

Late or No Prenatal Care, by Race/Ethnicity, 1980 and 2001

Percent of live births

20%



DATA: National Center for Health Statistics, National Vital Statistics System.

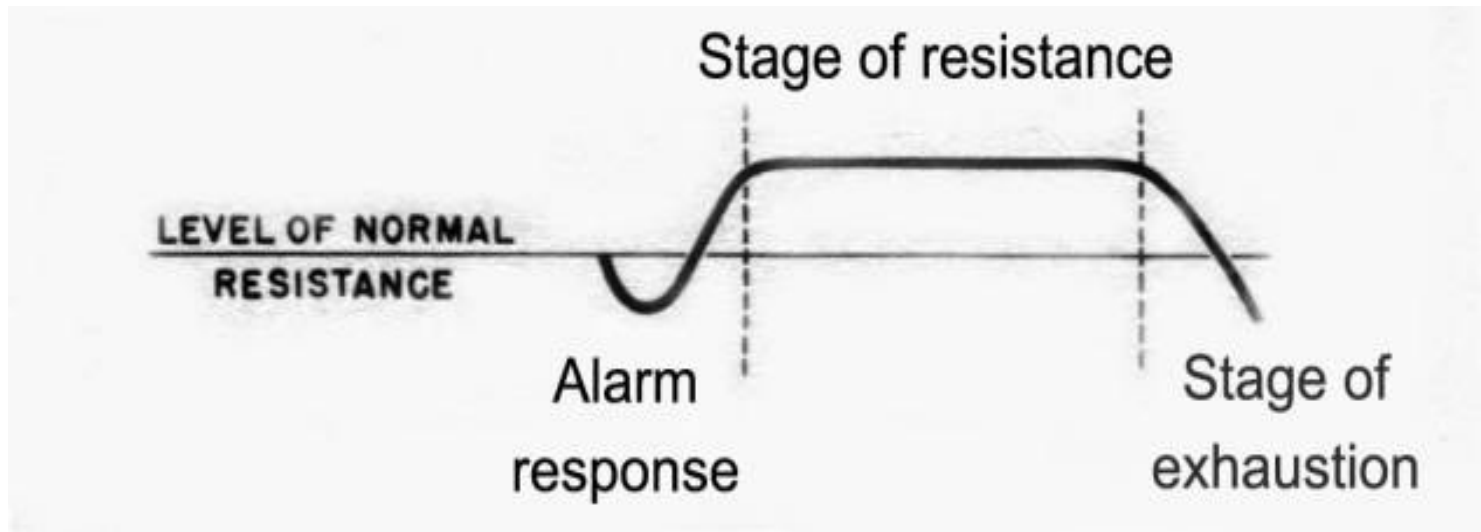
SOURCE: *Health, United States*, 2003, Table 6.



Racial disparities in birth outcomes

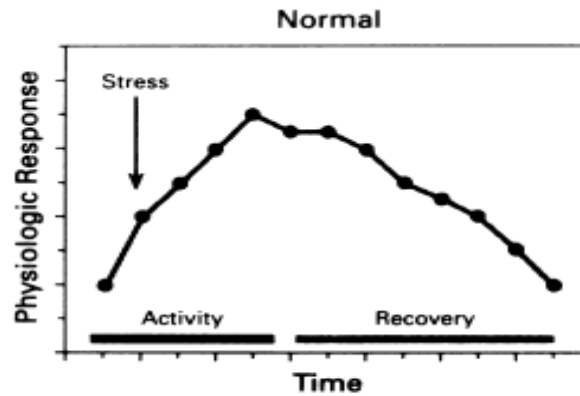
- Disparity not fully explained
 - ❖ Known risk factors explain ~50% of the risk differential
 - ❖ Disparity is greater at higher SES
- Role of social context and the ecological model
 - ❖ “Eco-social”
 - ❖ Contextual factors → pregnancy outcomes
Ex: area poverty, individual SES, unemployment, racial density
- Chronic stress
 - ❖ Compromised immune and other bodily systems
 - ❖ Toxic fetal environment via stress hormones
 - ❖ Health behavior
 - ❖ LBW, preterm delivery, birth defects, miscarriage

Stress: General Adaptation Syndrome (GAS)



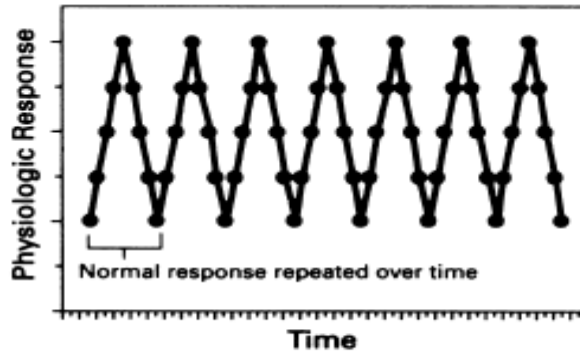
Selye (1954)

Allostatic Load

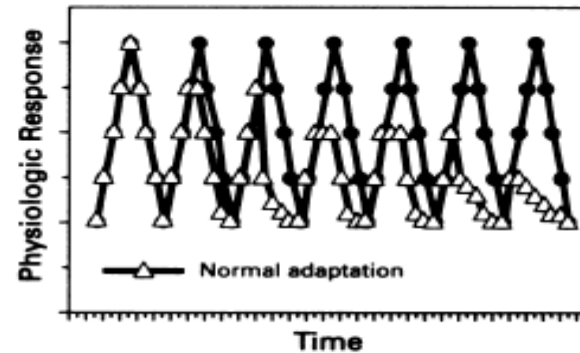


Allostatic load

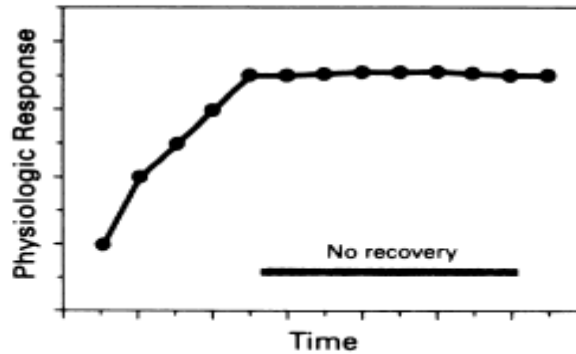
Repeated "hits"



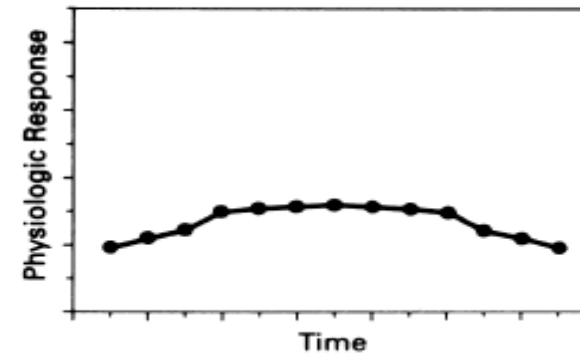
Lack of adaptation



Prolonged response



Inadequate response

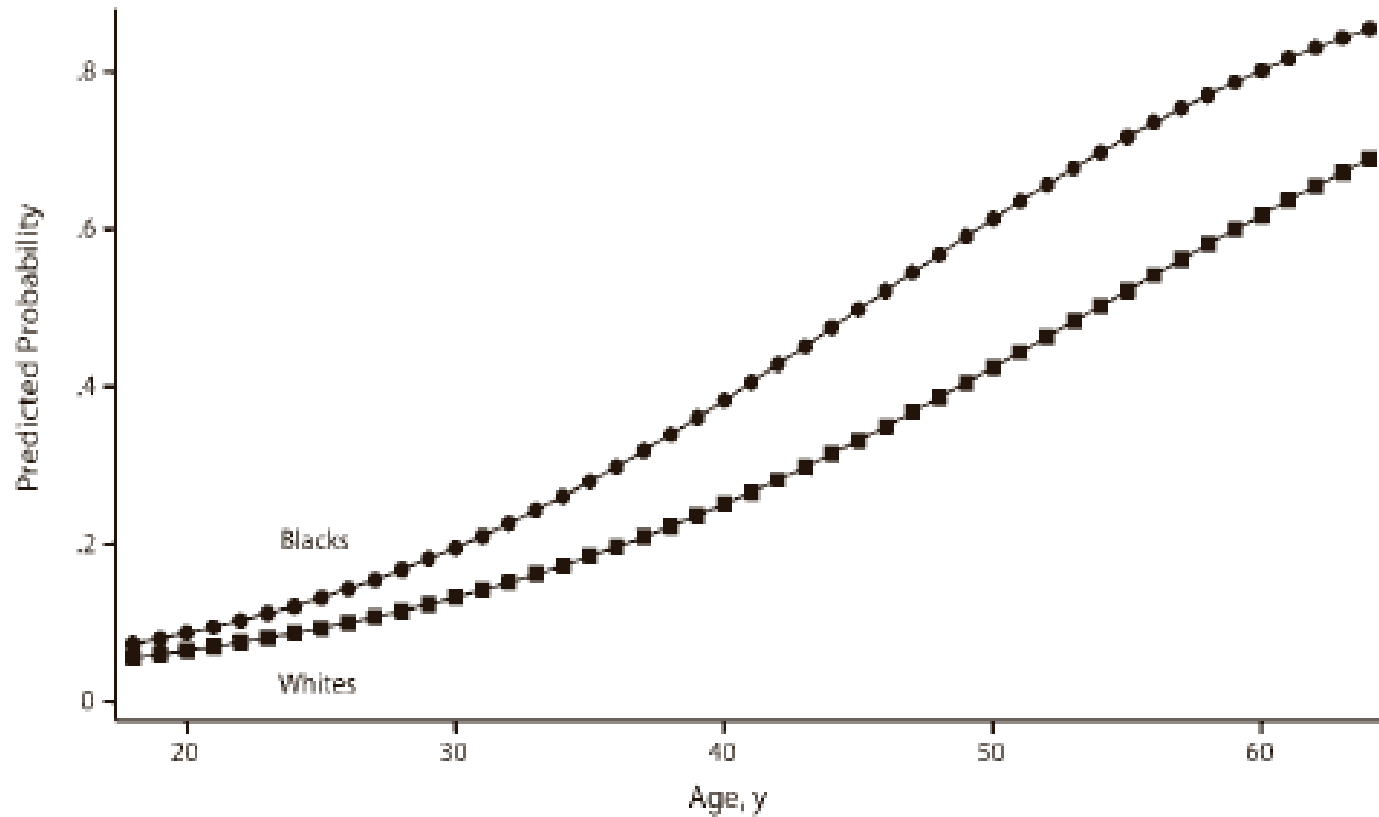




How stress affects the body I

- **Stress as a multidimensional construct** (ecological = individual x environment) (Lazarus & Folkman 84)
 - ❖ exposure
 - ❖ appraisal
 - ❖ response
- **Adaptational responses to stressors → allostatic load**
 - ❖ Over-circulation/prolonged exposure to stress hormones (McEwen 98)
 - ❖ Black women have 3X higher levels of allostatic load and premature physiologic aging during reproductive years compared to white women (Geronimus 06)
 - ❖ Compromised immune system and other bodily systems
- **Accelerated decline in African American women's reproductive health with aging** (Geronimus 99; Rich-Edwards et al 03)

“Weathering” & Allostatic Load





How stress affects the body II

- **African Americans show increased cardiovascular reactivity to racism in lab settings** (Harrell et al 03)
 - ❖ Shorter gestational length and lower birthweight associated with greater blood pressure reactivity to lab stressors in low-risk pregnant women (McCubbin et al 96)
- **African American women highest rates of hypertensive disorders and bacterial vaginosis during pregnancy** (Samadi & Mayberry 98; Goldenberg et al 96; Culhane et al 01)
 - ❖ both associated with chronic stress in pregnant women.
- **Racism-related stress → unhealthy coping behaviors**
 - ❖ Smoking (Landrine & Klonoff 2000)
 - ❖ Alcohol consumption (Yen et al 1999)



Perceived racism and pregnancy outcomes

- ~11 studies examining relationship between perceived racism and pregnancy outcomes
 - ❖ 3X higher odds of VLBW (Collins et al 2000; Collins et al 2004)
 - ❖ Increased risk of preterm birth (Rosenberg et al 2000; Dole et al 2003)
- Feeling a need to protect children from racism and racism in the workplace → distress (Jackson et al 2001)
 - ❖ Hypothesized: perceived racism prior to and during pregnancy → adverse pregnancy outcomes
- Other studies
 - ❖ Psychosocial stress → LBW among blacks (Orr et al 1996)
 - ❖ Hypothesized: racism and psychosocial factors (e.g., coping style) → adverse pregnancy outcomes (David and Collins 1991)

Measures of Racism (MORS)





MORS research objectives

- To better understand the range of life-course experiences of perceived racism among African-American women of childbearing age.
- To systematically develop a reliable and validated measure of perceived racism as a tool for pregnancy outcome studies.



Conceptual framework (abbreviated)

- **Levels of Racism** (Jones 2000)

- ❖ Internalized: acceptance of negative stereotypes/images
- ❖ Personally-mediated: acute and chronic/ episodic interpersonal experiences
- ❖ Institutional: differential access to goods, services, and opportunities

- **Stress and coping**

- ❖ **Exposure** AND emotional/behavioral **response** (McNeilly et al 1996; Krieger 1990; Harrell 2000)
- ❖ Exposure, appraisal, response framework (Selye 1956)
- ❖ Stress-response process (e.g., CRH and HPA axis) (McEwen 98)

- **Life-course** approach (Lu and Halfon 2003)



Existing racism measures

- How well do existing measures capture
 - Levels of racism
 - Emotional/behavioral stress & coping response
 - Lifecourse exposure
 - Validity and reliability
- Take home point! Of the measures we found...
 - Some capture all 3 levels of racism
 - Some capture stress AND coping response
 - Some capture lifecourse experience/exposure
 - Some have been psychometrically tested
- None adequately cover all aspects of conceptual framework.



Methods: Study partners and procedures

- **Measures of Racism Working Group:**
 - ❖ UCSF Center on Social Disparities in Health
 - ❖ CDC partners
 - ❖ Berkeley and Sacramento Divisions of Public Health; and the San Francisco Department of Public Health
 - ❖ Organized community groups (BIH, WIC, Youth Alive, etc.)
- **Five phases**
 1. Literature review and development of conceptual framework
 2. Focus groups for initial constructs/domains and questions
 3. Analysis to develop measures for testing
 4. Psychometric testing (reliability and validity)
 5. Recommend measures



Methods: Study participants

- 8 focus groups of 5 to 10 African American participants each (N=43)
 - ❖ 2 teen groups: Oakland and Sacramento
 - ❖ 6 adult groups: Berkeley, Sacramento, San Francisco, Oakland
- Low and moderate/high-SES black women with children < 15 years old
- Low and moderate/high-SES black teens (13-18 yrs)
- Northern California region: Berkeley, Sacramento, Oakland, San Francisco
- SES markers: participation in programs for low-income (e.g., WIC, BIH), professional groups/networks, private school



Methods: focus groups

- Semi-structured focus group guide
 - ❖ Levels of racism
 - ❖ Stress and coping
 - ❖ Life-course
- Probes
 - ❖ Domains (e.g., work, school)
 - ❖ Frequency, chronicity, intensity
 - ❖ Person v. group experiences



Methods: Analysis

- Six coders independently analyzed 8 transcripts for thematic content
 - ❖ Coding: manual and software (Atlas.ti v5)
 - ❖ Unit of analysis: words and phrases
 - ❖ Coding layers: edge coding, thematic coding, pattern coding
- Codebook development: consensus building
- Re-analyze data using software and codebook
 - ❖ Frequencies of agreement
 - ❖ Commonalities between themes
 - ❖ Pull out language describing themes
 - ❖ Use language for item development



Results: Major themes

1) **Lifestage:** chronic and pervasive across the lifecourse

- Childhood
- Adolescence
- Adulthood

2) **Type of experience**

- Direct: experienced personally by the respondent
- Vicarious: experiences reported to the respondent by others or experiences witnessed by the respondent

3) **Level of experience**

- Personally-mediated
- Internalized
- Institutional



Lifestage: Childhood

“I think that the most difficult thing that, that I faced was when I was **eight years old**, and when ***I had to learn*** that um, **we weren't all equal**, that there was difference. I, I, I don't even think I knew the difference between black and white. I just saw kids as kids and havin' fun, and goin' out and playin' and everything... I used to play with this white girl everyday, like she was like my best friend...she would always come to my auntie's house. And then, there was one time where I went to her house, and she said, 'Well, my parents said we can't allow anybody black in the house.' And..., ***that's somethin' that always, um, stayed with me my whole life ...and that was really, for a little kid... heartbreaking, you know? And that's when I first learned that there is a difference you know, with the colors. I thought about it a lot. I still think about it.***”

-SF, low SES



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Type of experience: Vicarious

*“I’m stressed because now that my kids are getting older...they go through it all the time... I take that in internally. It’s subtle, it’s not out in the open like slavery days, it’s like hidden, but you feel it still. So I feel like I feel it everyday...as adults it seems like I could overlook it a little bit and not think about it everyday. But you have kids coming home everyday, oh he called me a nigger or black. **That affects you as a parent... I go through the hurt when they go through the hurt.**”*

- Sac, high SES



Results: Major themes

1) **Lifestage:** chronic and pervasive across the lifecourse

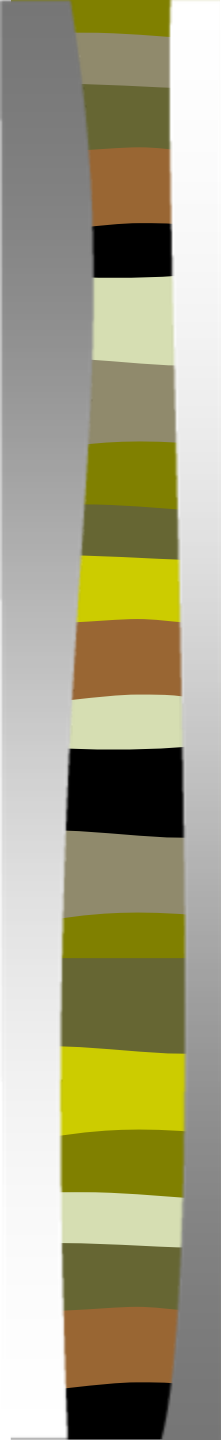
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Level of racism: internalized and institutional

- “...I would wonder why isn’t my hair like that, and some little girl said **cause you’re black and you all have nappy hair**...and I was like I want my hair straight. **I used to wish I was mixed so that I could have long pretty hair like all the white girls, and it made me feel like I was a nobody.**”
- Sac, low SES
- “There are too many liquor stores in a black neighborhood. [In] **other neighborhoods there are grocery stores.**”
- Berk, high SES
- “The majority of African-Americans live in **impoverished... neighborhoods**, and ... I notice that those **schools are really low quality** in the impoverished neighborhoods, or the neighborhoods **where there’s people of color...**”
- SF, low SES



Results: Major themes (cont.)

- 4) **Domain of experience:** chronic and pervasive across contexts
 - School, work, housing, everyday social interactions, neighborhood, law enforcement, media, etc.
- 5) **Vigilance:** anticipation of future racism events
 - Cognitive: mental preparation
 - Behavioral: behavioral preparation (e.g., impression management)
- 6) **Reactions to racism:** behavioral and/or cognitive reaction to racism experience
 - Active: specific actions taken as a result of racism experiences
 - Passive: NOT taking a specific action or conscious non-response/suppression of an action tendency or behavior



Vigilance: cognitive/emotional/ behavioral

- *“...it’s like you get tense. Because you know...I know this person is going to say something that’s going to make me, my heart rate [go up], or maybe have to hold back my tears while I’m talking to them. I don’t want them seeing me crying, cause I don’t want them thinking I’m sad, I’m not sad, I’m mad... you just get tense, cause **you know you have to brace yourself** for something stupid that they’re gonna say... with a White person, you know that some level of racism is going to hop out of their mouth... **And so you have to prepare your body for that.**”*
- Oak, high SES
- *“To this day when I’m talking to people **other than black I say** ‘father’ instead of ‘fathers’”*
- Berk, high SES
- *“**I prepare myself** ...it’s like I will take forever to find me **something to wear** because **I feel I’m not going to be treated right** when I go shopping...and I feel I shouldn’t have to do that, but **I do that because I’m treated different.**” - Sac, high SES*



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Reaction: Passive

- “Realistically, it’s going to affect you...it does bother you, you just ***put it in a different place.***”
- Berk, low SES
- “I think that when it happens to you so much that you not necessarily *learn to accept it*, but ***you learn*** to not trip off of it no more.”
- Oak, low SES
- “You’ve just got to ***work harder*** I guess.”
- Oak, low SES
- “*I don’t think I really think about it. I just know **it’s the skin you’re in.** It’s just another part of your life.*”
- SF, low SES



Physical response

- “My **heart starts beating fast.**” - SF, low SES
- “**My stomach.** My, like my baby. I know **my baby is stressed out.** My stomach is **in a knot** when I come over here.”
 - SF, low SES
- “I get a **stomach ache, I’ve broken out.**”
 - Oak, high SES



Overarching patterns

- Chronic and pervasive nature of racism experiences
- Racism experiences are impacted by or filtered through African American women's role identities



What does this all mean?

- Racism represents a chronic and pervasive stressor among African American women
- Epidemiologic studies on racism and birth outcome disparities with more comprehensive assessment of African American women's racism experiences
- Understanding the psycho-physiologic pathways
- Identification of logical points of intervention. What are the downstream factors associated with racism experiences?
- Program implications:
 - Support for women during pre-pregnancy phase
 - Programs supporting black women at various lifestages (not necessarily associated with pregnancy)
 - Provider training (monitoring and assessment – what to look for)



Acknowledgements

Core Research Team:

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