
Racial and Ethnic Disparities in Birth Outcomes: The Life Course Perspective

Presented by
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DELAWARE HEALTH AND SOCIAL SERVICES

Division of Public Health

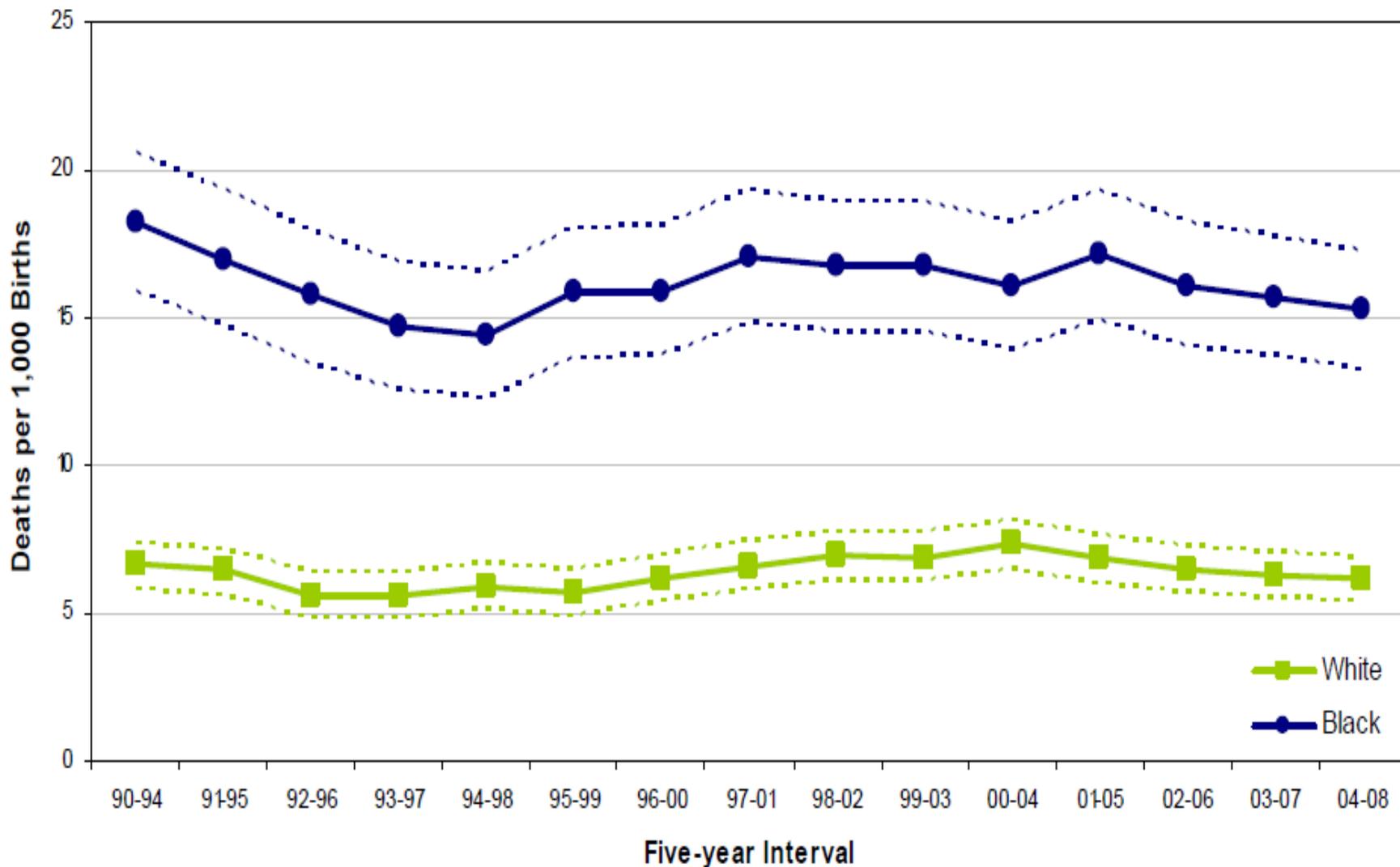
Center for Family Health Research and Epidemiology

Racial and Ethnic Disparities in Birth Outcomes: The Life Course Perspective

Today, we will do the following:

1. Define the life course perspective.
2. Discuss the key theories that influence the life course perspective.
3. Explain racial and ethnic disparities in infant mortality using the life course perspective framework.
4. Describe the "12-Point Plan" to reduce disparities in infant mortality in the African American community.

Five-year Average Black and White Infant Mortality Rates with Confidence Intervals
Delaware, 1990-2008



Source: Delaware health Statistics Center

What is the Life Course Perspective?

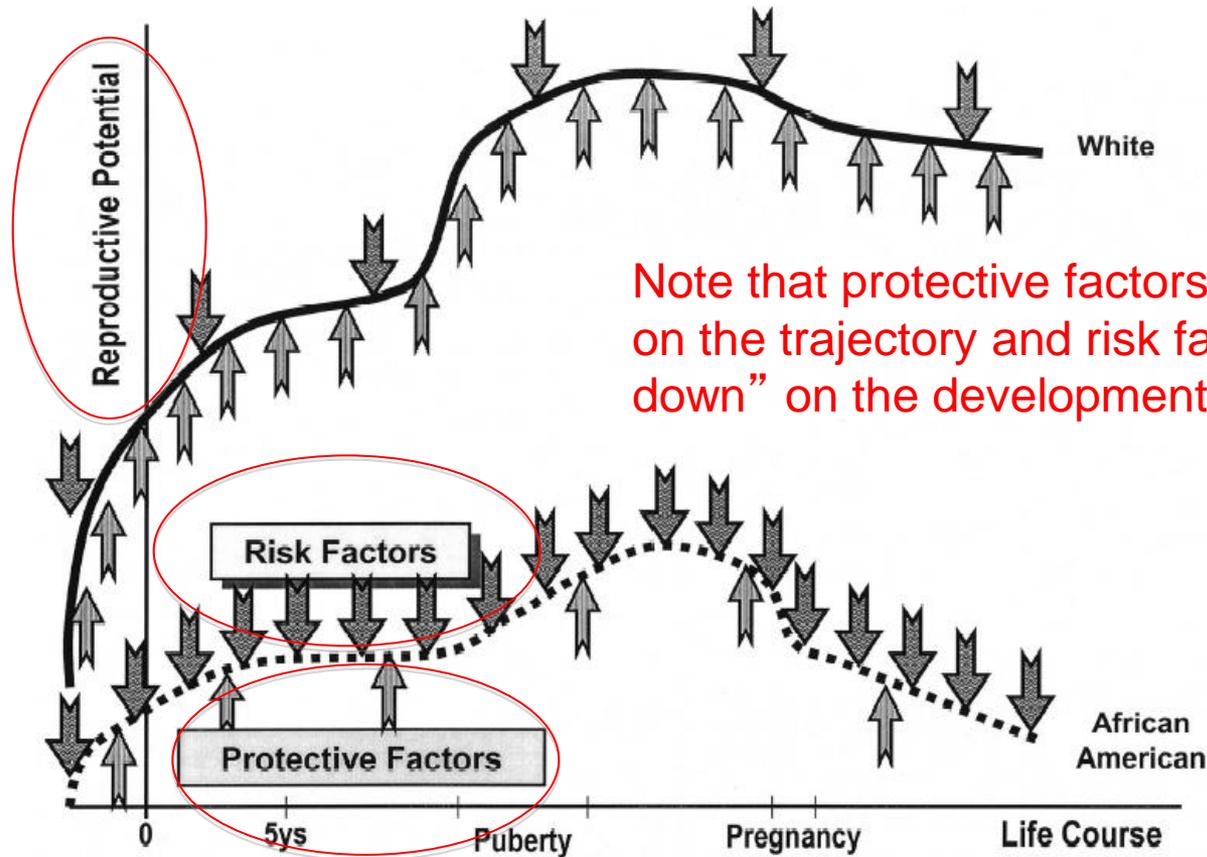
- The **Life Course Perspective** suggests that a complex interaction of protective and risk factors contributes to health outcomes across the span of a person's life, or developmental trajectory.
- These protective and risk factors include disease status, health care status, nutrition, race and racism, socioeconomic status, and stress.
- Protective factors increase the developmental trajectory of a person while risk factors decrease the developmental trajectory of a person.

What is the Life Course Perspective?

- **Reproductive Potential** describes how one's health status at any given age may influence reproductive health and future birth outcomes.
- The reproductive potential of a person can be viewed as the product of the person's developmental trajectory over the life course.
- The following slide shows how protective and risk factors affect developmental trajectory (x-axis), measured against reproductive potential (y-axis).

Lu, M. and Halfon, N. (2003). Racial and ethnic disparities in birth outcomes: a life-course perspective. *Matern Child Health J*, 7, 13-30.

What is the Life Course Perspective?



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What Key Theories Influence the Life Course Perspective?

- Reproductive Potential can be affected in two ways:
 - Reproductive potential becomes programmed by what protective and risk factors are at play during sensitive developmental periods in utero or early life. Referred to as **Early Programming**.
 - Reproductive potential gradually declines over the life course due to “wear” and “tear” caused by the effects of risk factors to the body’s systems. Referred to as **Cumulative Pathways**.

What Key Theories Influence the Life Course Perspective?

- **Early Programming**

Exposures during sensitive developmental periods in early life may impact the functions of organs or body systems and lead to poor health later in life.

Several studies have shown the influences of prenatal factors on lifelong chances of developing chronic bronchitis, coronary heart disease, and hypertension.

Barker Hypothesis: Fetal undernutrition raises risk of “adult-onset” diseases due to early programming.

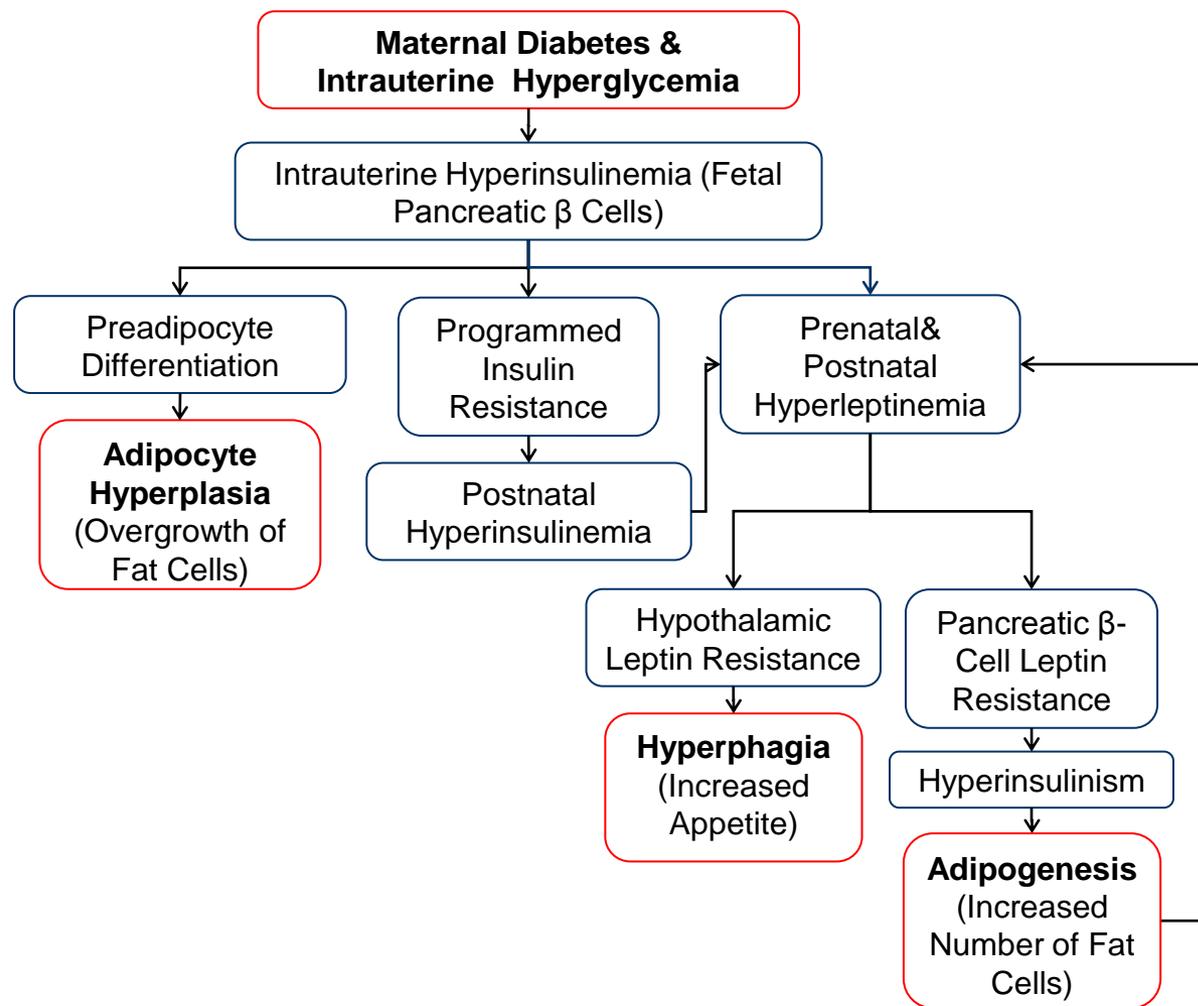
Barker, D. (1990). Fetal and infant origins of adult disease. *BMJ*, 301, 1111.

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What Key Theories Influence the Life Course Perspective?

Early Programming: Example with Obesity

This diagram shows how maternal diabetes, if poorly controlled, leads to overproduction of insulin by the fetus, which then leads to overgrowth of fat cells and overproduction of leptin. Inevitably, the infant is predisposed to obesity/overweight.



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What Key Theories Influence the Life Course Perspective?

- **Cumulative Pathways**

How stress from “wear” and “tear” can add up over time to affect health and function.

Chronic accommodation of the body to stress is referred to as **allostatic load**. For example, chronically elevated levels of cortisol (stress hormone) may lead to immune dysregulation.

This can increase the risk for autoimmune disorders, cardiovascular diseases, and other chronic diseases.

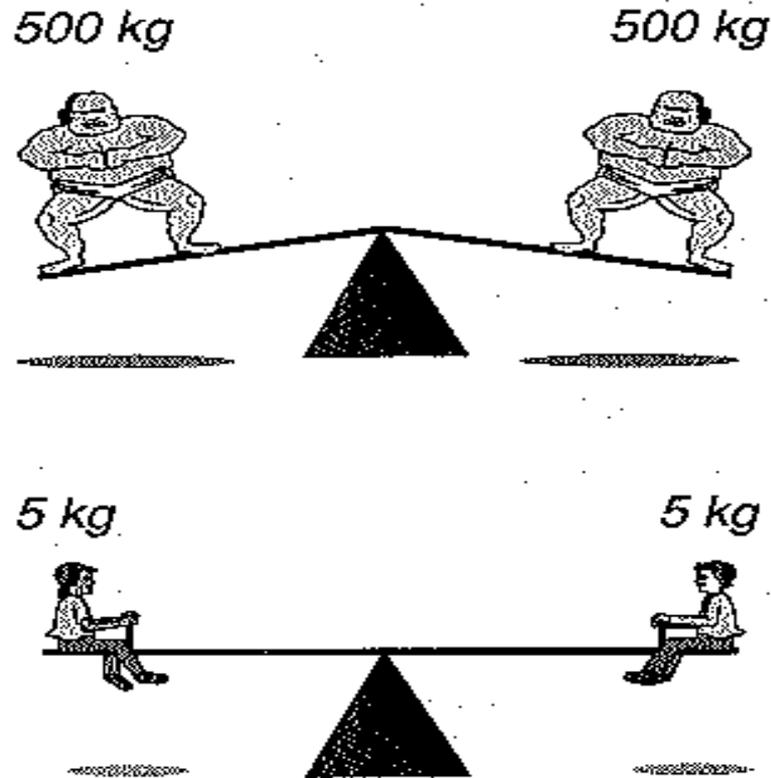
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McEwen, B. and Lasley, E. The end of stress: As we know it. Washington DC: John Henry Press. 2002.

What Key Theories Influence the Life Course Perspective?

Cumulative Pathways: Allostatic Load

The lower image is an image of **allostasis** – maintaining little stress over the life course. The upper image is one of **allostatic load** – if you put on too much chronic stress, the see-saw will inevitably break.



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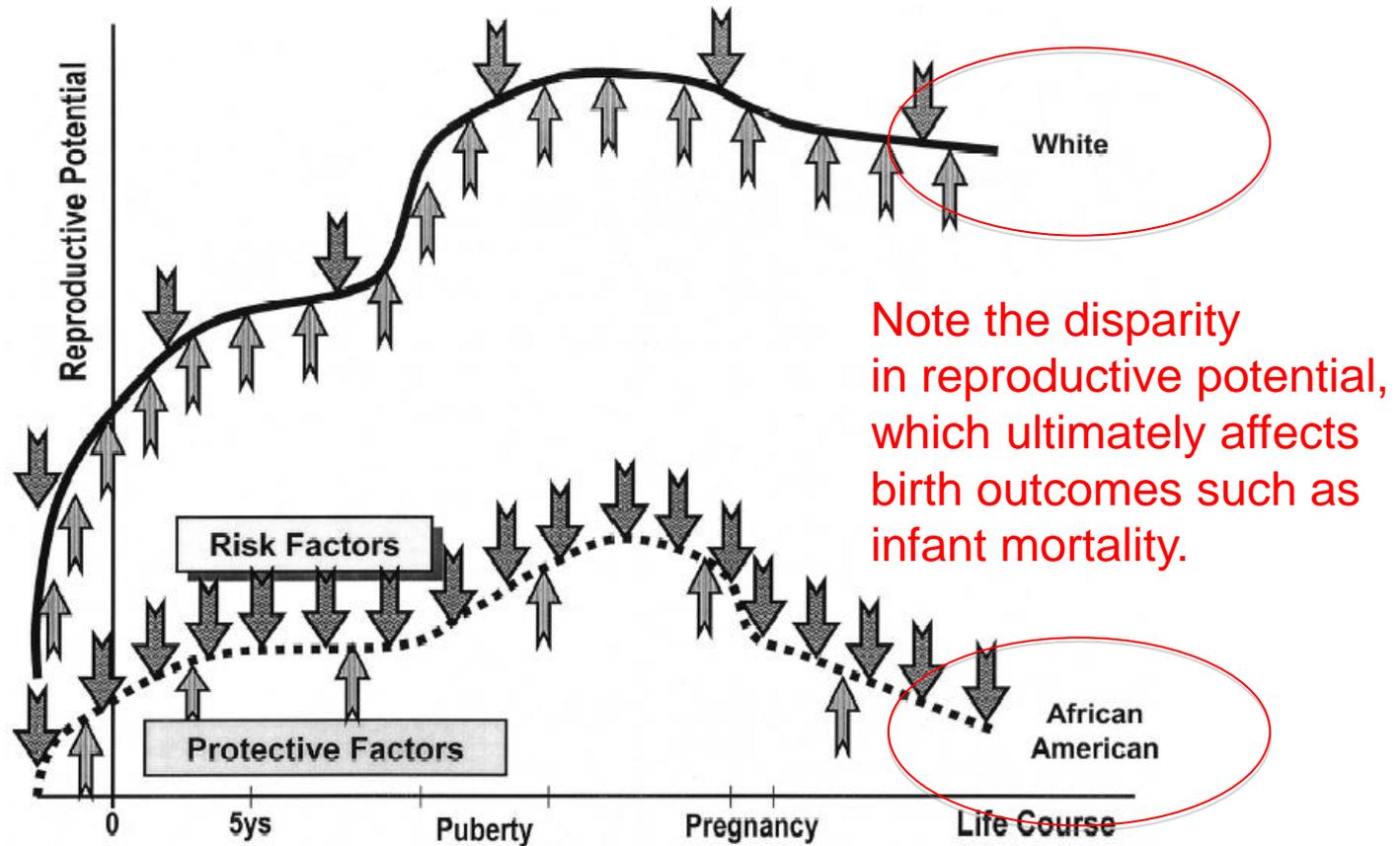
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Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective

- Inequalities in birth outcomes – such as infant mortality – are typically described by the early access, frequency, and quality of prenatal care.
- **In contrast**, the Life Course Perspective suggests that these inequalities result from differences in protective and risk factors between groups of women over the course of their lives.
 - As a result, the health of one generation directly affects the health status of the next one.

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Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective



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Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective

The Life Course Perspective can help to explain the racial/ethnic disparities in factors that impact a woman's reproductive health.

Examples of these factors include:

- **Prenatal Care**
- **Socioeconomic Status (SES)**
- **Stress**

The next few slides show the “Status Quo” (SQ) statement and how the Life Course Perspective can add more substance and/or challenges current views.

Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective

Life Course Perspective on Prenatal Care

SQ: African-American women who initiated prenatal care in the first trimester have higher infant mortality rates than White women with late or no prenatal care.

Life Course: To expect 9 or less months of prenatal care to reverse the impact of early life programming and cumulative allostatic load on women's reproductive health may be expecting too much of prenatal care.

Lu, M. and Halfon, N. (2003). Racial and ethnic disparities in birth outcomes: a life-course perspective. *Matern Child Health J*, 7, 13-30.

Mathews T., MacDorman, M., Menacker, F. Infant mortality statistics from the 1999 period linked birth/infant death data set, Vol. 50, No. 4 (National vital statistics reports). Hyattsville, MD: National Center for Health Statistics. 2002.

Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective

Life Course Perspective on **Socioeconomic Status**

SQ: African-Americans with higher SES have a higher risk for LBW and prematurity even after two generations of affluence. This alone suggests that high SES may not provide the same level of protection for African-American women as it does for White women.

Life Course: In addition to SES, issues such as racial discrimination and neighborhood segregation should be included to understand differences in LBW rates.

Foster, H., Wu, L., Bracken, M., Semanya, K., Thomas, J. (2003). Intergenerational effects of high socioeconomic status on low birthweight and preterm birth in African Americans. *J Natl Med Assoc*, 92, 213–21.

Lu, M. and Halfon, N. (2003). Racial and ethnic disparities in birth outcomes: a life-course perspective. *Matern*

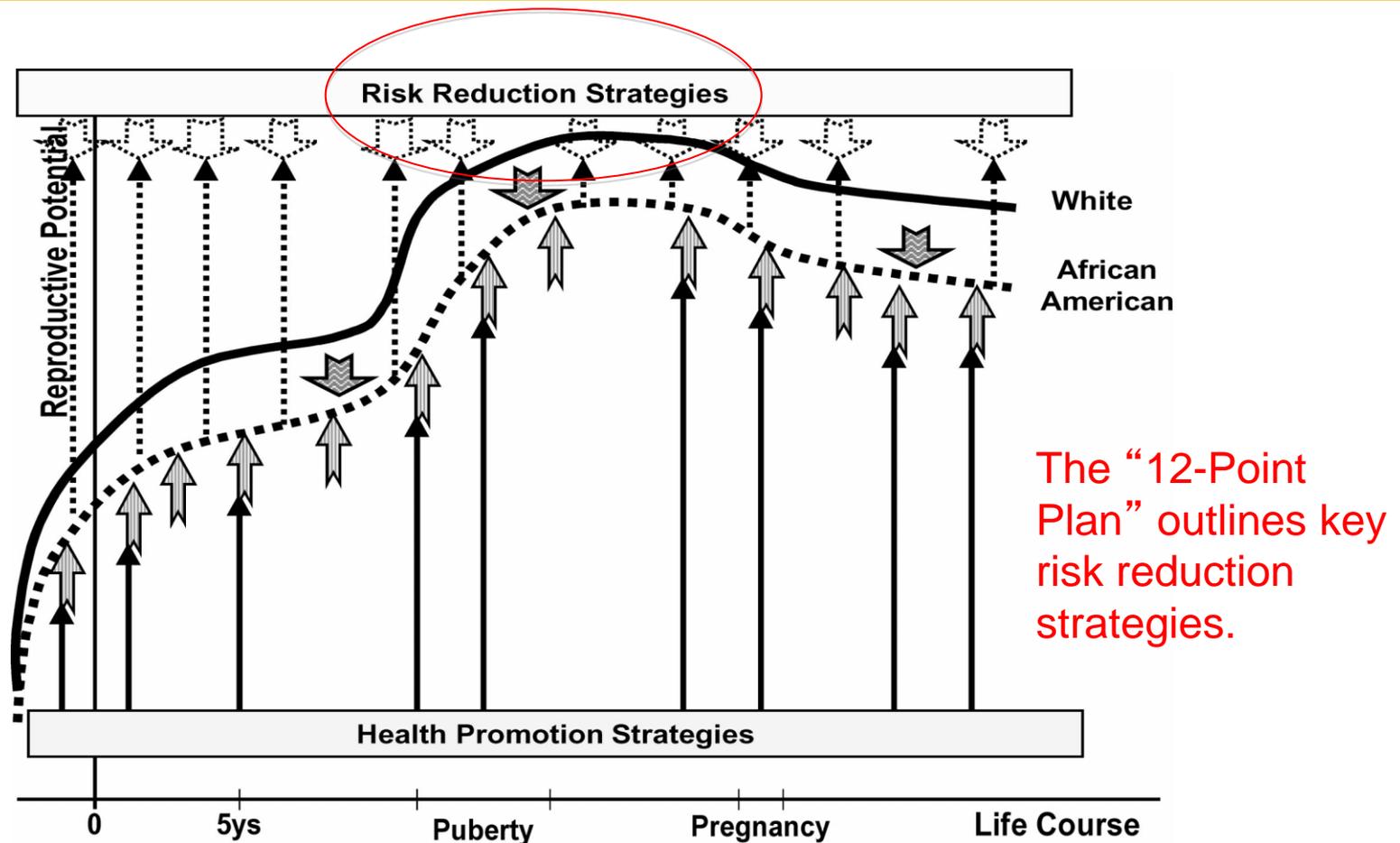
Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective

Life Course Perspective on **Stress**

SQ: Much of current research on stress and birth outcomes focuses on acute, individual psychological stressors that occurred immediately before or during pregnancy.

Life Course: Differences in chronic stress exist between African-American and White women and effects such as long-term exposures to chronic stress may have a pronounced effect on poor birth outcomes.

Racial and Ethnic Disparities in Infant Mortality Using the Life Course Perspective



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Closing the Black-White Gap in Birth Outcomes

A 12-Point Plan

1. Provide care to women with prior adverse pregnancy outcomes.
2. Increase access to preconception care for African American women.
3. Improve the quality of prenatal care.
4. Expand healthcare access across the life course.
5. Strengthen father involvement in African American families.
6. Enhance service coordination and systems integration.
7. Create reproductive social capital in African American communities.
8. Invest in community building and urban renewal.
9. Close the education gap.
10. Reduce poverty among Black families.
11. Support working mothers and families.
12. Undo racism.

For each of these points, suggested practices are emphasized in *italics*.

1. Provide Interconception Care to Women with Prior Adverse Pregnancy Outcomes.

- Women with a poor pregnancy outcome at a higher risk for having another poor pregnancy outcome.
- *Interconception care allows for continuity of health care from one pregnancy to the next.*

Effective interconception programs consist of four components: risk assessment, health promotion, medical and psychological interventions, and case management.

Bloom, S., Yost, N., McIntire, D., et al. (2001). Recurrence of preterm birth in singleton and twin pregnancies. *Obstet Gynecol*, 98(3), 379 – 385.

Lu, M., Kotelchuck, M., Hogan, V., Jones, L., Halfon, N. (2010). Closing the Black-White gap in birth outcomes: a life-course approach. *Ethn Dis*, 20, S2-62 – S2-76.

2. Increase Access to Preconception Care for African American Women.

- CDC: “We believe preconception care, focusing on women’s overall health...prior to pregnancy, will serve as a key component of the next wave of low-birth weight and infant mortality reduction strategies – and may provide increased savings beyond those experienced from prenatal care alone.”
- *Preconceptional health promotion and disease prevention should be integrated into a continuum of care throughout the life cycle.*

Johnson, K., Posner, F., Biermann, J., et al. (2006). Recommendations to improve preconception health and health care – United States. A report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. *MMWR Recomm Rep*, 55(RR-6), 1 – 23.

Lu, M., Kotelchuck, M., Culhane, J., et al. (2006). Preconception care between pregnancies: the content of internatal care. *Matern Child Health J*, 10, 5 Suppl, S107 – S122.

3. Improve the Quality of Prenatal Care.

- *Prenatal care is vitally important, both as part of the continuum of health care for the mother, and as the starting point for the child's developmental trajectory.*

Prenatal care has an important role in closing the racial gap in not only birth outcomes but possibly in health and developmental outcomes over the life course and across generations.

Lu, M., Kotelchuck, M., Hogan, V., Jones, L., Halfon, N. (2010). Closing the Black-White gap in birth outcomes: a life-course approach. *Ethn Dis*, 20, S2-62 – S2-76.

4. Expand Healthcare Access across the Life Course.

- Closing the Black-White gap in birth outcomes requires improving access to quality health care over the life course.
- *Expanding Medicaid coverage for poor/near-poor families can be an important strategy for increasing health care access for African-American women.*

Increased diversity as well as improved linguistic and cultural competence in health workforce is also needed.

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Saha, S., Arbelaez, J., Cooper, L. (2003). Patient-physician relationships and racial disparities in the quality of health care. *Am J Public Health*, 93(10), 1713-1719.

5. Strengthen Father Involvement in African American Families.

- Children growing up in father-absent families are at a greater risk for various educational or behavioral problems and poor developmental outcomes.
- In 2006, 70% of African-American infants were born to unmarried mothers, up from 22% in 1960.
- *Efforts should focus on improving relationships between African American men and women, including marriage counseling, family therapy, or skills training in communication and conflict resolution.*

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McLanahan, S., Sandefur, G. *Growing Up with a Single Parent: What Hurts, What Helps*. Cambridge, MA: Harvard University Press; 1994.

6. Enhance Service Coordination and Systems Integration.

- Women needing multiple services often have to take time off from work on different days, arrange child care, find transportation, fill out duplicative records and still may not receive needed services because of missing referral work or miscommunication.
- *Service coordination through case management, home visitations, and family resource centers have been shown to ease stress and increase support.*

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7. Create Reproductive Social Capital in African American Communities.

- “Social Capital” describes the degree of social connectedness within a community and refers to features of a social organization (e.g., networks, norms) that facilitate coordination for mutual benefit.
- “Reproductive” Social Capital refers to features of social organization that facilitate coordination to promote reproductive health within a community.
- *The methods to build reproductive social capital is currently being studied.*

Kawachi, I., Kennedy, B., Lochner, K., et al. (1997). Social capital, income inequality, and mortality. *Am J Public Health*, 87(9), 1491 – 1498.

Jones, L., Lu, M., Lucas-Wright, A., et al. (2010). One hundred intentional acts of kindness toward pregnant women: building reproductive social capital in Los Angeles. *Ethn Dis*, 20(1, Suppl 2): S2-36 – S2-40.

8. Invest in Community Building and Urban Renewal.

- Evidence suggests that neighborhood characteristics may be important determinants of birth outcomes.
- Urban African-American women were more likely to deliver low birth weight infants when they lived in socioeconomically disadvantaged areas, regardless of individual level poverty and other risk factors.
- *Community building requires infrastructure and economic development as well as civic participation.*

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9. Close the Education Gap.

- African-American children are more likely to enter kindergarten with substantial deficits in reading and math skills. Causes include inadequate health services, family mobility, and low expectations.
- *Closing the education gap is not easy nor cheap. This may require including full-day, year-round early childhood programs and more schools with small class sizes, accountable teachers, and high expectations.*

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Rothstein, R. *Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap*. Washington, DC: Economic Policy Institute, 2004.

10. Reduce Poverty among Black Families.

- At roughly 25%, African-Americans represented a disproportionate percentage of the U.S. population living below the poverty line in 2001.
- *Raising the minimum wage, expanding the Earned Income Tax Credit, and adopting pay equity policies will increase income for poor African-American families meet basic needs.*

Lu, M., Kotelchuck, M., Hogan, V., Jones, L., Halfon, N. (2010). Closing the Black-White gap in birth outcomes: a life-course approach. *Ethn Dis*, 20, S2-62 – S2-76.

McKinnon, J. The Black population in the United States: March 2002. Washington DC: US Census Bureau, 2003; Report No.: Series P20-541.

11. Support Working Mothers and Families.

- Only 45% of parents working in the private sector have guaranteed *unpaid* parental leave and less than 5% have access to *paid* parental leave through the Family and Medical Leave Act (FMLA).
- Low-income and single-parent families pay roughly 16 to 19% of earnings on child care.
- *Public policy can do more to support working parents so they can care for their newborn or sick child without the risk of losing their jobs or pay.*

Giannarelli, L., Adelman, S., Schmidt, S. Getting help with child care expenses. Washington DC: The Urban Institute, 2000.

Lu, M., Kotelchuck, M., Hogan, V., Jones, L., Halfon, N. (2010). Closing the Black-White gap in birth outcomes: a life-course approach. *Ethn Dis*, 20, S2-62 – S2-76.

12. Undo Racism

- Increasing evidence suggests racism may be the “cause of cause” of health disparities in the U.S.
- A greater Black-White gap in infant mortality exists in more racially segregated cities.
- *Officials need to make racism a leading public health issue by collecting data on racism in the population, monitoring discriminatory practices, and making policies to assure equal access to goods, services, and opportunities vital to maternal and child health.*

Collins, J., David, R., Handler, A., et al. (2004). Very low birthweight in African American infants: the role of maternal exposure to interpersonal racial discrimination. *Am J Public Health*, 94(12), 2132 – 2138.

Lu, M., Kotelchuck, M., Hogan, V., Jones, L., Halfon, N. (2010). Closing the Black-White gap in birth outcomes: a life-course approach. *Ethn Dis*, 20, S2-62 – S2-76.

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THANK YOU