Child Health Disparities: A Vicious Cycle

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Focus of This Talk

- Health disparities at **birth**
  - Onset of lifecourse trajectory
  - Important juncture in intergenerational process
Facts

• Health disparities (by SES, race/ethnicity)
  – Very apparent at birth
  – Continue throughout lifecourse
  – Cross generations

• Disparities are everywhere
  – Not unique to U.S., developed countries, or even human species
Low Birth Weight (< 2500 g)

- Widely used marker of infant health
- Well measured; reliably recorded; readily available from vitals stats, other data sets
- Used in international comparisons
- Leading risk factor for infant mortality; associated with long-term health conditions for infants who survive
- Rate of LBW in US in 2006 was 8.3%
Health and Development of LBW Survivors

- Medical conditions associated with LBW:
  - Cerebral palsy, mental retardation, respiratory distress syndrome (RDS), bronchopulmonary dysplasia (BPD), retinopathy of prematurity (ROP), deafness
    - RDS, BPD → feeding difficulty, recurrent respiratory infections, asthma, growth delay
    - ROP → blindness
- VLBW (< 1500 g), ELBW (< 1000 g) children at risk for many cognitive and behavioral problems compared to normal BW peers
- Risk of most adverse outcomes inversely related to BW
Correlates/Causes of LBW

• Young/old maternal age, non-marital birth, lifestyle (e.g., prenatal smoking), medical conditions, late/no prenatal care

• Hard to separate from effects of SES

• Interventions to reduce LBW have focused on prenatal care

• Standard prenatal care has been disappointing in terms of reducing LBW

• Some augmented prenatal care programs have favorable (but small) effects on LBW
  – Coordinated and enhanced care are key features of successful programs

• Prenatal care may be “too little too late”
% Low Birthweight (< 2500 g) by Education, US, 2006

Source: Computed online from VitalStats, National Vital Statistics Data System, USDHHS
% Low Birthweight (< 2500 g) by Race, US, 2006

Source: Computed online from VitalStats, National Vital Statistics Data System, US DHHS
A Recent Situation?

• NO
  – Disparities in LBW have been around a long time
Rates of Low Birth Weight (< 2500g) by Race
United States, 1980-2000

Data Source: CDC, Morbidity and Mortality Weekly Report:
www.cdc.gov/mmwr/preview/mmwrhtml/mm5127a1.htm
Rates of Very Low Birth Weight (< 1500g) by Race United States, 1980-2000

Data Source: CDC, Morbidity and Mortality Weekly Report: www.cdc.gov/mmwr/preview/mmwrhtml/mm5127a1.htm
Technology: Success Story

• Advances in neonatal care technology have dramatically increased the survival of LBW infants
Rates of Infant Mortality by Race
United States, 1980-2000

Data Source: CDC, Morbidity and Mortality Weekly Report:
www.cdc.gov/mmwr/preview/mmwrhtml/mm5127a1.htm
Birthweight-Specific 1-Year Survival Rates
US Infants (Single Births Only)

Source: National Vital Statistics Reports: various years
Technology: Displacement

• Has brought on whole new set of challenges and actually increased disparities
Birthweight-Specific Survival Rates
By Race (Single Births Only)

Source: National Vital Statistics Reports: various years
Percentages of White and Black Singleton Survivors with Birth Weights Less Than 1000 and 1500 Grams
United States, 2000

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<thead>
<tr>
<th></th>
<th>&lt; 1000 g</th>
<th>&lt; 1500 g</th>
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<tbody>
<tr>
<td>White</td>
<td>.24</td>
<td>.64</td>
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<tr>
<td>Black</td>
<td>.87</td>
<td>1.95</td>
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Child Disabilities by Race in 2000
(per 1000 children age 8)

Cerebral Palsy: Blacks (3.6); Whites (2.9)

Mental retardation
  Mild: Blacks (10.9); Whites (3.8)
  Moderate to profound: Blacks (4.8); Whites (1.9)

Hearing impairment: Blacks (1.4); Whites (.9)

Vision impairment: Blacks (1.5); Whites (1.1)

Source: CDC, 2006: http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5501a1.htm
Technology→ Ethical Issues

• Where should resources go?
  – Reducing LBW
  – Survival of LBW infants
  – Mitigating adverse developmental outcomes of LBW
Intergenerational Cycle of Poor Health

Cycle of poor health perpetuates health disparities

May take generations to break
Recap

• Large racial disparities in LBW $\rightarrow$ large child health disparities $\rightarrow$ adult health disparities $\rightarrow$ disparities in birth outcomes of next generation

• Race is strongly related to SES, so it is not a broad leap to claim that low SES disparities in LBW $\rightarrow$ large child health disparities, etc…

• Neonatal care technology has increased child health disparities over time and has raised ethical issues

• Interventions to improve child health and reduce disparities have focused on narrow pieces of the intergenerational cycle with unrealistically short time frames
Thank you!