Infant Mortality in America: The Other Disparity

Alaska MCH and Immunization Conference
September 27, 2012

Richard David, MD
Stroger Hospital of Cook County
University of Illinois at Chicago
• Established in 2000

• Focus on “Minority Health” and disparities

• What if the majority is also suffering from disparities in their health?
The case of Baby Girl B

• Ms. B. is 22 y.o.
• 2 prior pregnancies, term infants, now 1 and 6
• Started vitamins at about 3 months; no MD visits (“child care issues”)
• Preterm labor at 25 weeks, rapid vaginal birth
• Low Apgars, severe RDS, Gr 4 IVH
• Survival to his first birthday?
Who is Ms. B.?

- Black?
- H.S. dropout?
- Working class?
• “A great deal of attention is being given to racial and ethnic disparities in health care. At the same time, the wide differences in health between the haves and the have-nots are largely ignored.”

• “As a nation we are uncomfortable with the concept of class. ... [it] smacks of Marxism and economic warfare.”
Race, Class and Infant Mortality

“The health of the most socially advantaged group in a society indicates a level of health that should be possible for everyone; these gradients thus reveal that the large majority of the US population—overall and across racial or ethnic groups—is not as healthy as it could be.”
Equity in health

Social Justice
Causal Pathway for Mass Diseases in Populations

1. Power relations in society
2. Access to resources, exposure to harm
3. Pre-morbid at-risk condition
4. Illness
5. Disability, death

- Political change (elections, revolutions)
- Public health preventive measures
- Screening, early detection
- Doctors, hospitals
World Health Organization, 2008

Commission on the Social Determinants of Health

“Health equity through action on the social determinants of health”

Sir Michael Marmot
“Closing the gap...”

• “The Commission take a holistic view of social determinants...the social gradient in health within countries, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods and services...”

• “This unequal distribution of health-damaging experiences is not in any sense a ‘natural’ phenomenon but is the result of a toxic combination of poor social policies, and programmes, unfair economic arrangements, and bad politics.”

Michael Marmot
Neoliberalism

Markets solve all problems
Economic growth determines quality of life
Free trade, globalization
Privatization of public enterprises

Milton Friedman
“The other 9/11” – September 11, 1973
Allende overthrown in CIA-backed coup
How the Neoliberal Model was forced on populations in various places during natural or man-made disasters, including

- Chile (1973)
- Russia (1991-2)
- New Orleans (2005-6)
Spain: debt crisis protest, September, 2012
## 2005 Infant Mortality Rates

<table>
<thead>
<tr>
<th>Population</th>
<th>IMR (deaths/1000)</th>
<th>Int’l Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>2.3</td>
<td>1</td>
</tr>
<tr>
<td>United States (all)</td>
<td>6.9</td>
<td>29</td>
</tr>
<tr>
<td>US white</td>
<td>5.8</td>
<td>24</td>
</tr>
<tr>
<td>US black</td>
<td>13.6</td>
<td>52</td>
</tr>
</tbody>
</table>
RR = IMR₁ / IMR₂

(1.0 ⇒ “equality”)

Two examples:

What was the relative risk of black infant death compared to white in 2005?

RR = 13.6/5.8 ⇒ 2.3

What is the RR for US white babies in the compared infants in Hong Kong?

RR = 5.8/2.3 ⇒ 2.5
Excess infant deaths

• African Americans: 11.3 excess deaths per 1000 live births ⇒ 6,509 excess deaths
• Whites: 3.5 excess infant deaths per 1000 live births ⇒ 8,064 excess deaths
Three ways of looking at race

• Race as biology

• Race as a proxy for class

• Race and class as separate constructs

Kawachi et al, Health Affairs, 2005
Three ways of looking at race

Kawachi et al, *Health Affairs*, 2005

• Race as biology
  - Hypertension and DM in the African diaspora
  - Birth weight in African immigrant women
BW Distributions by Race and Mother’s Birthplace
Three ways of looking at race

Kawachi et al, *Health Affairs*, 2005

- **Race as a proxy for class**

  - *Data on race and class*

  - **African Americans have 2.5 times the poverty rate** but

  - **About 65% of poor Americans are white**
Transgenerational Birth File Composite Record

- Infant birth certificate (1989-91)
  85 medi + demographic variables + income
- Mother birth cert. (1956-76)
  12 variables + income
- Death cert.
  19 variables

* MFI = Median Family Income
Class effects across the life course

• What is the LBW risk from lifelong exposure to low income for white and African American women?

  -- Relative risk

  -- Population attributable risk

Risk of lifelong poverty: *relative*

- **White women**
  - always poor: 10.1%
  - never poor: 5.1%
  \[ \rightarrow RR = 2.0 \ (1.4-2.9) \]

- **African American women**
  - always poor: 17.1%
  - never poor: 11.7%
  \[ \rightarrow RR = 1.5 \ (1.2-1.8) \]

Risk of lifelong poverty: *population*

- Attributable risk for the whole population of White women from the risk factor *lifelong poverty:*
  
  1.6%

- Attributable risk for the whole population of African American women from the risk factor *lifelong poverty:*
  
  23.6%

Lifetime Neighborhood Experience in Chicago: White and Black

White Women

African American Women
Lifetime Neighborhood Income in Chicago:
White women born 1956-76, giving birth 1989-91

- Focus on women born in the richest quartile
- Most less affluent as adults when they gave birth
- Preterm births and infant deaths among the downwardly mobile

Collins, David and Rankin, 2012, unpublished data
Lifetime Neighborhood Income in Chicago:
White women born 1956-76, giving birth 1989-91

- 12,500 white infant girls born in the most affluent neighborhoods (quartile 4)
- 39% of them still in affluent neighborhoods as mothers
- 41% ended up in quartile 3
- 17% fell to quartile 2
- 3% fell to quartile 1

Collins, David and Rankin, 2012, unpublished data
Preterm Births in White Women
Risk of Falling Social Class Across the Lifecourse

![Bar chart showing the risk of preterm birth across different social classes across the lifecourse. The x-axis represents the social class transitions (4th to 4th, 4th to 3rd, 4th to 2nd, 4th to 1st), and the y-axis represents the risk level. The chart indicates a higher risk of preterm birth as the social class decreases.]
Deaths in White Infants
Impact of Falling Class Across the Lifecourse

RR = 2.7

Preterm
Race, Class and Infant Mortality

Three ways of looking at race

- Race and class as separate constructs
  - Within races, class effects
  - Within classes, race effects
  - Distinct but interactive

Kawachi et al, *Health Affairs*, 2005
Social mechanisms for race effect

• Structural
  – wealth disparities
  – environmental racism
  – hyper-segregation
  – poverty across generations

• Institutional
  – commercial (hiring and service)
  – schools, universities
  – social organizations, churches
  – criminal justice (“just us”) system
  – military recruiting

• Interpersonal
  – perceived racial discrimination
  – access to goods and services

• Fetal programming
  – LBW across generations
Perceived discrimination and VLBW

• 312 African American women giving birth at Cook County Hospital and University of Chicago
• 104 VLBW infants, 208 normal BW infants (half in NICU)
• Trained African American female interviewers
• 30-minute structured interview covering
  – living situation, social support, prenatal care
  – smoking, alcohol use, health issues
  – perceived racial discrimination in 5 domains
  – stressful life events during pregnancy
• Logistic regression models of VLBW risk

Adjusted for maternal age, education, cigarette smoking

(VLBW Risk with Perceived Discrimination)

Adjusted for maternal age, education, cigarette smoking

How does it affect health?

- Physical environment
- Petty hassles
- Slights, insults
- Unfair disadvantage
- Major injustice
- Powerlessness
The Contribution of Maternal Stress to Preterm Birth: Issues and Considerations

Pathik D. Wadhwa, MD, PhD, * Sorija Entringer, PhD, Claudia Buss, PhD, Michael C. Lu, MD, MPH

KEYWORDS
• Stress • Preterm birth • Psychosocial
• Maternal-placental-fetal endocrine • Immune • Vascular • Genetic

Preterm birth represents the most significant problem in maternal–child health in the United States. It is the leading cause of infant mortality and morbidity; its prevalence is unacceptably high and has not decreased over the past 40 years; and its etiology is unknown in a substantial proportion of cases. The ongoing search to better elucidate its underlying causes and pathophysiologic mechanisms has identified maternal stress as a variable of interest. The question of the role of stress in preterm birth is, however, complex and challenging for many reasons: first, the basic physiologic...
Class in the US

- Most whites are not CEOs
- Government policy is pro-corporate
- 1% of the US population owns most stock
Whitehall I and II Studies

- British civil servants in 6 job grades
- Higher morbidity and mortality (3-fold increased risk of death from CHD)
- Key risk feature: job strain (high demand, low control)
Low job strain = high decision latitude and low demand

High job strain = low decision latitude and high demand
Quebec working mothers study

- Cases (1,242) and controls (4,513) compared on job-related experiences
- 2.7 times the risk of delivery before 34 weeks increasing work-related stresses

How does job strain in working women affect their health?

- Physical environment
- Petty hassles
- Slights, insults
- Unfair disadvantage
- Major injustice
- Powerlessness
Race or class?

- *Do we exclude whites by focusing on racial disparities?*

- *Is it racist to focus on class differences when, in any class, blacks experience discrimination?*
Race and class!
Three ways of looking at race

• Race and class as separate constructs

• “One of the main functions of racism in the United States has been to divide people so that they are less able to struggle politically in their common interest.”

Kawachi et al, Health Affairs, 2005
“Labor cannot emancipate itself in the white skin where in the Black it is branded.”

*Capital*
Karl Marx, 1867
“One of the less studied elements of our view is the harm done to white working class Americans by the use of racism.”

(Kawachi, 2005)

• Use of racism to weaken unionization efforts

• Federal housing policy after WW II increasing housing segregation patterns

• Misleading white Americans about social policy to build a conservative voting bloc
“I’ll tell you what’s at the bottom of it. If you can convince the lowest white man that he’s better off than the best colored man, he won’t notice you picking his pocket. Hell, give him somebody to look down on and he’ll empty his pockets for you.”

(Lyndon B. Johnson to an aide [from R. Dallek, Lone Star Rising, Lyndon Johnson and His Times, 1908-1960, New York, Oxford University Press, 1991])
Rx:
Take one daily to eliminate injustice and related social and health problems.
Why don’t we discuss causal theories?

• 1990s: “The r-word”

• 2010s: “The c-word”
Why don’t we discuss causal theories?

- Post-Berlin Wall accepted wisdom in the US: “Socialism was tried and it doesn’t work.”

- Fundamental social change is not possible or desirable
1989: Collapse of Communism

“We won, man, we won!”
However...

- First universal healthcare system: USSR, 1920s
- Fastest rise in life expectancy ever observed for a large population: China 1949-1979
- Most dramatic decline in life expectancy ever recorded in peacetime: post-Soviet Russia, 1990s
- Cuba passed the US in lowering infant mortality, 2003
REVERSING TREND, LIFE SPAN SHRINKS FOR SOME WHITES

4-YEAR DROP SINCE 1990

Nation’s Least Educated Suffer While Others Are Living Longer

By SABRINA TAVERNISE
For generations of Americans, it was a given that children would live longer than their parents.
Why social theory is important

• If social determinants are important, they won’t be fixed by “lifestyle” changes or gene therapy

• Logical consistency: If problems are systemic and of social origin, we must change the social system.
What sort of change?

• Eliminate racism and sexism

• Real life equal opportunity: universal free health care and free education through university level

• Full employment

• Prioritize human needs over geopolitical aims (hospitals and schools, not oil wars)

• “Tackle the inequitable distribution of power, money and resources” (WHO Commission on Social Determinants of Health)
WHO Commission on Social Determinants of Health vs. Neoliberal market “reforms,” economic discipline, capital growth

Marmot or Friedman?
“The philosophers have only interpreted the world in various ways; the point, however, is to change it.”

K. Marx

“If there is no struggle, there is no progress.”

F. Douglass
“Occupy Oakland” shuts down port, November, 2011
Chicago Teachers’ Strike, September, 2012
Struggle against cuts in Health System
- Led by nurses and patients’ families
- Multiracial unity, professionals and workers
- Temporary reforms, lasting relationships

Doctors Council  SEIU supports shutting down asthma-causing coal power plant in the Pilsen neighborhood
Ms. B and her baby?

- Take a real social history (don’t just call Social Work)

- Listen, understand, adapt

- Advocacy puts us and our patients on the same side
To make a difference in the social determinants of health, make common cause with patients and families

“It’s not where you come from that counts – it’s whose side you’re on.”