Addressing Social Inequalities in Health: What Each of Us Can Do?

David R. Williams, PhD, MPH
Florence & Laura Norman Professor of Public Health
Professor of African & African American Studies and of Sociology
Harvard University
Patterns of America’s Health

What are the Problems?
We Are Not the Healthiest

• U.S. ranks near the bottom of industrialized countries on health, and we are losing ground

• In 1960, the U.S. was 11th on infant mortality.

• In 2009: 31st among OECD-ranked nations

• U.S. ranked behind Hungary, Czech Republic, Greece, Israel, Portugal, and Poland

• And it is not just the minorities doing badly!

• In 2009, White America would be 29th

• In 2009, Black America would be 49th

OECD Stat Abstracts
A Larger Context for Disparities

There are large racial, socioeconomic, and geographic disparities in health but they should be understood within the context of the larger national disparity.

All Americans are far less healthy than we could, and should be.
FLORIDA: Gaps in Infant Mortality

Infant mortality rates—a key indicator of overall health—vary by mother’s education and racial or ethnic group in Florida.

- Compared with babies born to the most-educated mothers, babies born to mothers with less education are more likely to die before reaching their first birthdays. While the infant mortality rate is highest among babies born to mothers with less than 12 years of education, the rate for babies born to mothers with 13-15 years of schooling is approximately 1.5 times that for babies born to mothers with 16 or more years of schooling.

- The infant mortality rate among babies born to non-Hispanic black mothers is approximately 2.5 times the rates seen among babies of non-Hispanic white or Hispanic mothers.

Comparing Florida’s experience against the national benchmark for infant mortality reveals unrealized health potential among Florida babies across maternal education and racial or ethnic groups. Infants in every group could do better.

Prepared for the RWJF Commission to Build a Healthier America by the Center on Social Disparities in Health at the University of California, San Francisco.

Source: 2000-2002 Period Linked Birth/Infant Death Data Set
1 The number of deaths in the first year of life per 1,000 live births.
2 The national benchmark for infant mortality represents the level of mortality that should be attainable for all infants in every state. The benchmark used here—3.2 deaths per 1,000 live births, seen in New Jersey and Washington state—is the lowest statistically-reliable rate among babies born to the most-educated mothers in any state.

† Defined as any other or unknown racial or ethnic group, including any group representing fewer than 3 percent of all infants born in the state during 2000-2002.

© 2008 Robert Wood Johnson Foundation
www.commissiononhealth.org
Socioeconomic Status (SES) is a central determinant of the distribution of valuable resources in society.
Relative Risk of Premature Death by Family Income (U.S.)

Family Income in 1980 (adjusted to 1999 dollars)

9-year mortality data from the National Longitudinal Mortality Survey
There are Large Racial/Ethnic Differences in SES
Median Household Income and Race, 2013

Racial Differences in Income are Substantial:

<table>
<thead>
<tr>
<th>Race</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>1 dollar</td>
</tr>
<tr>
<td>Asian</td>
<td>1.15 dollar</td>
</tr>
<tr>
<td>Hispanic</td>
<td>70 cents</td>
</tr>
<tr>
<td>Black</td>
<td>59 cents</td>
</tr>
</tbody>
</table>

U.S. Census Bureau (DeNavas – Walt and Proctor 2014)
Median Wealth and Race, 2011

For every dollar of wealth that Whites have,

Asians have 81 cents
Blacks have only 6 cents
Latinos have only 7 cents

U.S. Census Bureau, 2014
A Global Phenomenon

In race-conscious societies, such as,

- Australia
- Brazil
- New Zealand
- South Africa
- the U.K.
- United States,

non-dominant racial groups have worse health than the dominant racial group
Race and Health: Two Patterns

• Racial groups with a long history characterized by economic exploitation, social stigmatization, and geographic marginalization have markedly elevated levels of poor health outcomes:
  -- Blacks or African Americans
  -- American Indians and Alaskan Natives
  -- Native Hawaiians and other Pacific Islanders

• Immigrant groups tend to have better health than the U.S. average, but their health tends to worsen over time and across subsequent generations:
  -- Asians
  -- Hispanics or Latinos
Minorities get sick younger, have more severe illness and die sooner than Whites
A 20-year follow-up of young adults in the CARDIA study found that incident heart failure before the age of 50 was 20 times more common in Blacks than Whites, with the average age of onset being 39 years old.
Biological Weathering

- Chronological age captures duration of exposure to risks for groups living in adverse living conditions
- U.S. blacks are experiencing greater physiological wear and tear, and are aging, biologically, more rapidly than whites
- It is driven by the cumulative impact of repeated exposures to psychological, social, physical and chemical stressors in their residential, occupational and other environments, and coping with these stressors
- Compared to whites, blacks experience higher levels of stressors, greater clustering of stressors, and probably greater duration and intensity of stressors

Geronimus et al, Hum Nature, 2010 ; Sternthal et al 2011
Racial Disparities in Health Persist
Life Expectancy Lags, 1950-2010

Source: NCHS, Health United States, 2013
Added Burden of Race

• Race and SES reflect two related but not interchangeable systems of inequality

• SES accounts for a large part of the racial differences in health

• BUT, there is an added burden of race, over and above SES that is linked to poor health.
## Life Expectancy At Age 25

<table>
<thead>
<tr>
<th>Group</th>
<th>White</th>
<th>Black</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>53.4</td>
<td>48.4</td>
<td>5.0</td>
</tr>
</tbody>
</table>

*Murphy, NVSS 2000*
# Life Expectancy At Age 25

<table>
<thead>
<tr>
<th>Group</th>
<th>White</th>
<th>Black</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>53.4</td>
<td>48.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 0-12 Years</td>
<td>50.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 12 Years</td>
<td>54.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Some College</td>
<td>55.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. College Grad</td>
<td>56.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>6.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Murphy, NVSS 2000; Braveman et al. AJPH; 2010, NLMS 1988-1998
## Life Expectancy At Age 25

<table>
<thead>
<tr>
<th>Group</th>
<th>White</th>
<th>Black</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>53.4</td>
<td>48.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 0-12 Years</td>
<td>50.1</td>
<td>47.0</td>
<td></td>
</tr>
<tr>
<td>b. 12 Years</td>
<td>54.1</td>
<td>49.9</td>
<td></td>
</tr>
<tr>
<td>c. Some College</td>
<td>55.2</td>
<td>50.9</td>
<td></td>
</tr>
<tr>
<td>d. College Grad</td>
<td>56.5</td>
<td>52.3</td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>6.4</td>
<td>5.3</td>
<td></td>
</tr>
</tbody>
</table>

Murphy, NVSS 2000; Braveman et al. AJPH; 2010, NLMS 1988-1998
## Life Expectancy At Age 25

<table>
<thead>
<tr>
<th>Group</th>
<th>White</th>
<th>Black</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>53.4</td>
<td>48.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 0-12 Years</td>
<td>50.1</td>
<td>47.0</td>
<td>3.1</td>
</tr>
<tr>
<td>b. 12 Years</td>
<td>54.1</td>
<td>49.9</td>
<td>4.2</td>
</tr>
<tr>
<td>c. Some College</td>
<td>55.2</td>
<td>50.9</td>
<td>4.3</td>
</tr>
<tr>
<td>d. College Grad</td>
<td>56.5</td>
<td>52.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Difference</td>
<td>6.4</td>
<td>5.3</td>
<td></td>
</tr>
</tbody>
</table>

Murphy, NVSS 2000; Braveman et al. AJPH; 2010, NLMS 1988-1998
Why Race Still Matters

1. Health is affected not only by current SES but by exposure to adversity over the life course.

2. All indicators of SES are non-equivalent across race. Compared to whites, blacks & Hispanics receive less income at the same levels of education, have less wealth at the equivalent income levels, and have less purchasing power (at a given income level) because of higher costs of goods and services.

3. Personal experiences of discrimination and institutional racism are added pathogenic factors that can affect the health in multiple ways.

4. Higher Exposure to multiple stressors
Perceived Discrimination: Experiences of discrimination are a neglected psychosocial stressor.
Chronic Stress: Every Day Discrimination

In your day-to-day life how often do the following things happen to you?

• You are treated with less courtesy than other people.
• You are treated with less respect than other people.
• You receive poorer service than other people at restaurants or stores.
• People act as if they think you are not smart.
• People act as if they are afraid of you.
• People act as if they think you are dishonest.
• People act as if they’re better than you are.
• You are called names or insulted.
• You are threatened or harassed.

What do you think was the main reason for these experiences?

Detroit Area Study 1995; Williams et al. 1997
• **Everyday Discrimination: positively associated with:**
  -- coronary artery calcification  
  (Lewis et al., Psy Med, 2006)
  -- C-reactive protein  
  (Lewis et al., Brain Beh Immunity, 2010)
  -- blood pressure  
  -- **lower** birth weight  
  (Earnshaw et al., Ann Beh Med, 2013)
  -- cognitive impairment  
  (Barnes et al., 2012)
  -- poor sleep [*object. & subject.*]  
  (Lewis et al, Hlth Psy, 2012)
  -- mortality  
  -- visceral fat  
  (Lewis et al., Am J Epidemiology, 2011)
Improving America’s Health

What Can We Do?
Improving America’s Health

Provide high quality care to every client

(This is very, very, hard to do in practice!)
Race and Medical Care

• Across virtually every therapeutic intervention, ranging from high technology procedures to the most elementary forms of diagnostic and treatment interventions, minorities receive fewer procedures and poorer quality medical care than whites.

• These differences persist even after differences in health insurance, SES, stage and severity of disease, co-morbidity, and the type of medical facility are taken into account.

• Moreover, they persist in contexts such as Medicare and the VA Health System, where differences in economic status and insurance coverage are minimized.
Ethnicity and Analgesia

A chart review of 139 patients with isolated long-bone fracture at UCLA Emergency Department (ED):

• All patients aged 15 to 55 years, had the injury within 6 hours of ER visit, had no alcohol intoxication.

• 55% of Hispanics received no analgesic compared to 26% of non-Hispanic whites.

• After adjustment for sex, primary language, insurance, occupational injury, time of presentation, total time in ED, fracture reduction and hospital admission, being Hispanic was the strongest predictor of no analgesia.

• Hispanics were 7.5 times more likely than NH whites to receive no analgesia, after adjustment for all factors

Todd, et al. 1993
Ethnicity and Pain Medicine

Percent of Patients with broken bone receiving no analgesia

Todd et al., JAMA, 1993
Ethnicity and Pain Medicine

Percent of Patients with broken bone receiving no analgesia

Todd et al., Ann Emerg Med, 2000
Disparities in the Clinical Encounter: The Core Paradox

How could well-meaning and highly educated health professionals, working in their usual circumstances with diverse populations of patients, create a pattern of care that appears to be discriminatory?
Unconscious Discrimination

- When one holds a negative stereotype about a group and meets someone who fits the stereotype s/he will discriminate against that individual.

- Stereotype-linked bias is an
  - Automatic process
  - Unconscious process

- It occurs even among persons who are not prejudiced.
“I am not racist: I know I don’t stereotype”

- Conclusive evidence that stereotypes are activated automatically (without intent).
- Individuals frequently are not aware of activation nor impact on their perceptions, emotions and behavior.
- They are activated more quickly and effortlessly than conscious cognition.
- Many cognitive processes result in confirmation of expectancies (we process information in ways that support our beliefs).

van Ryn, 2003
Implicit Bias & Care for Blacks

• More Implicit bias associated with:
  -- more clinician verbal dominance*
  -- less patient centered dialogue
  -- lower patient positive affect*
  -- lower perception of respect from clinician*
  -- less patient liking of clinician*
  -- lower trust and confidence in clinician
  -- less likely to recommend clinician to others*
  -- less perception of clinician as participatory*
  -- longer visits and slower speech (compensation for mistrust?)

Cooper et al., AJPH, 2012; * = significant interaction with race
Stereotypes in Our Culture

- **BEAGLE** (Bound Encoding of the Aggregate Language Environment) Project contains about 10 million words from a sample of books, newspapers, magazine articles, etc.
- A good representation of American culture
- Equivalent to what the average college-level student has read in her lifetime
- Statistically analyzed the associative strength between pairs of words
- Provides estimate of how often Americans have seen or heard words paired over their lifetime

Verhaeghen et al. British J Psychology, 2011
<table>
<thead>
<tr>
<th>Stereotypes in Our Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
</tr>
<tr>
<td>BLACK</td>
</tr>
<tr>
<td>BLACK</td>
</tr>
<tr>
<td>BLACK</td>
</tr>
<tr>
<td>BLACK</td>
</tr>
<tr>
<td>BLACK</td>
</tr>
<tr>
<td>FEMALE</td>
</tr>
<tr>
<td>FEMALE</td>
</tr>
<tr>
<td>FEMALE</td>
</tr>
<tr>
<td>FEMALE</td>
</tr>
</tbody>
</table>
### Stereotypes in Our Culture

<table>
<thead>
<tr>
<th>BLACK Characteristic</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>poor</td>
<td>.64</td>
</tr>
<tr>
<td>violent</td>
<td>.43</td>
</tr>
<tr>
<td>religious</td>
<td>.42</td>
</tr>
<tr>
<td>lazy</td>
<td>.40</td>
</tr>
<tr>
<td>cheerful</td>
<td>.40</td>
</tr>
<tr>
<td>dangerous</td>
<td>.33</td>
</tr>
<tr>
<td>charming</td>
<td>.28</td>
</tr>
<tr>
<td>merry</td>
<td>.28</td>
</tr>
<tr>
<td>ignorant</td>
<td>.27</td>
</tr>
<tr>
<td>musical</td>
<td>.26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHITE Characteristic</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>wealthy</td>
<td>.48</td>
</tr>
<tr>
<td>progressive</td>
<td>.41</td>
</tr>
<tr>
<td>conventional</td>
<td>.37</td>
</tr>
<tr>
<td>stubborn</td>
<td>.32</td>
</tr>
<tr>
<td>successful</td>
<td>.30</td>
</tr>
<tr>
<td>educated</td>
<td>.30</td>
</tr>
<tr>
<td>ethical</td>
<td>.28</td>
</tr>
<tr>
<td>greedy</td>
<td>.22</td>
</tr>
<tr>
<td>sheltered</td>
<td>.21</td>
</tr>
<tr>
<td>selfish</td>
<td>.20</td>
</tr>
</tbody>
</table>

Verhaeghen et al. British J Psychology, 2011
Counteracting unconscious prejudice and stereotypes: Individuation

• **Individuation:** provider focuses on the individual attributes of specific patient (vs **categorization:** perceiving patient through filter of group (e.g., race)

• With adequate **motivation**, **cognitive resources**, and **effort**, people can learn to focus on the unique qualities of individuals, rather than the groups they belong to, in forming impressions and behavior

• Even automatically activated prejudice and stereotypes can be inhibited when people are perceived more in terms of their particular qualities vs. primarily as members of social categories.

Reducing Racial Bias Among Health Care Providers: Lessons from Social-Cognitive Psychology

Diana Burgess, PhD\textsuperscript{1,2}, Michelle van Ryn, PhD, MPH\textsuperscript{1,3}, John Dovidio, PhD\textsuperscript{4}, and Somnath Saha, MD, MPH\textsuperscript{5}
The Devine Solution

- Non-black adults can be motivated to increase their awareness of bias against blacks, their concerns about the effects of bias and to implement strategies which were effective in producing substantial reductions in bias that remained evident three months later.

- Implicit biases viewed as deeply engrained habits that can be replaced by learning new prejudice-reducing strategies including stereotype replacement, counter-stereotype imaging, individuation, perspective taking and increasing opportunities for interracial contact.

Recognizing Unconscious Biases

Implicit tests, such as the Implicit Association Test (IAT), can reveal unconscious prejudice and stereotypes. These can engender negative emotional states that motivate people to be more sensitive to and attempt to counteract unconscious prejudice and stereotypes.

implicit.harvard.edu/implicit/
Improving America’s Health

Care that Addresses the Social context
Care that Addresses the Social context

Why treat illness and send people back to live in the same conditions that made them sick in the first place?
New Questions

• How can we identify patients’ non-medical health needs as part of their overall care?

• How can we connect patients to local services/resources that help people avoid getting sick in the first place or better manage illness, including mental health needs?

• How can we be a strong leader and champion to collaborate with other sectors to improve health where patients live, learn, work, and play?

• How can we connect community residents to jobs in the health care sector – one of the largest employers?

• How can we use community health workers to provide services or link patients to needed supports?
Medical Legal Partnership

• Enables MDs to refer to unique specialists: on-site attorneys
• Most low-income persons face legal issues that affect the quality of life and their management of disease
• Adding lawyers to medical team can screen and assist families for social problems that affect effective care and illness management
• Stressors addressed in areas of unhealthy housing, immigration, income support, food, education access, disability, family law
• A child with asthma in a moldy apartment will not breathe symptom free, regardless of meds, without improved living conditions

Zuckerman et al. Pediatrics, 2004
Health Leads (formerly Project Health)

- College volunteers staff waiting rooms of hospital clinics or health centers.
- Assess patients needs re: food, housing, heating or other social issues.
- These volunteers then “fill” the prescription for food assistance, housing improvement, etc. by connecting patients to local resources.
- In 2010, volunteers secured needed resources for 57% of cases in 90 days.
- Currently in waiting rooms of 23 hospital clinics or health centers.
<table>
<thead>
<tr>
<th><strong>Please check any box below that applies</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>![Apple]</td>
</tr>
<tr>
<td>![House]</td>
</tr>
<tr>
<td>![Light Bulb]</td>
</tr>
<tr>
<td>![Hammer]</td>
</tr>
<tr>
<td>![Stethoscope]</td>
</tr>
<tr>
<td>![Cap]</td>
</tr>
<tr>
<td>![Bill]</td>
</tr>
<tr>
<td>![Car and Child]</td>
</tr>
<tr>
<td>![Clothes]</td>
</tr>
<tr>
<td>![Justice]</td>
</tr>
<tr>
<td>![Bus]</td>
</tr>
</tbody>
</table>
Improving America’s Health

We Need to Start Early
Research on the biology of stress shows how increases in heart rate, blood pressure, glucose, stress hormones, and inflammatory cytokines triggers the “fight or flight response” to deal with acute threat …

… but excessive or prolonged activation of stress response systems can lead to long-term disruptions in brain architecture, immune status, metabolic systems, cardiovascular function, and gene expression.
Relationships are the “Active Ingredients" of Early Experience

• Nurturing and responsive relationships build healthy brain architecture that provides a strong foundation for learning, behavior, and health.

• When protective relationships are not provided, elevated levels of stress hormones (i.e., cortisol) disrupt brain architecture by impairing cell growth and interfering with the formation of healthy neural circuits.
3:1 Odds of Adult Heart Disease after 7-8 Adverse Childhood Experiences

Dong et al, 2004
Improving America’s Health

Early Childhood Interventions
Principles for New Intervention Strategies

• Early experiences affect lifelong health and learning, and healthy development requires protection and enrichment:
  – Protection and enrichment for young children requires capacity-building for adults
  – Improved parenting skills also enhance employability and economic stability
  – Strong communities reduce the burdens of adversity
Carolina Abecedarian Project (ABC)

- 1972-77, economically disadvantaged children, birth to age 5, randomized to early childhood program
- Program offered a safe and nurturing environment, good nutrition and pediatric care
- At age 21, fewer symptoms of depression, lower smoking & marijuana use, more active lifestyle, & educational & vocational assets benefits
- In mid-30’s, lower levels of multiple risk factors for CVD and metabolic disease. Effects stronger for males

Carolina Abecedarian Project (ABC)

- Example: systolic BP 143 mm Hg in male controls vs. 126 mm Hg in the treatment group
- One in 4 males in control group met criteria for metabolic syndrome compared to none in the treatment group
- Lower BMI at zero to 5 yrs equals a lower BMI in their 30s

Campbell et al. AJPH, 2008; Campbell et al, Science, 2014
Moving Upstream

Effective Policies to reduce inequalities in health must:

Address fundamental non-medical determinants

Focus on Place-based solutions, in addition to people-based solutions
Moving to Opportunity

- The Moving to Opportunity Program randomized families with children in high poverty neighborhoods to move to less poor neighborhoods.

- Three years later, there were improvements in the mental health of both parents and sons who moved to the low-poverty neighborhoods.

- 10 to 15 years later, movers had lower levels of obesity, severe obesity & diabetes risk ($\text{HbA}_{1c}$)

Leventhal and Brooks-Gunn, 2003; Ludwig et al. NEJM, 2011
Purpose Built Communities

Based on efforts in Atlanta’s East Lake district, Purpose Built Communities uses integrative strategies including:
- cradle-to-college educational opportunities
- mixed-income housing
- early child development programs
- recreational opportunities

East Lake results:
- a 95% reduction in crime since its launch in 1995
- a six-fold increase in employment
- extraordinary school achievement: 96% of East Lake students at or above grade level compared to 5% at start

Purpose Built Communities in Atlanta, New Orleans, Indianapolis, Charlotte, among others.
Needed Steps

• The best way to improve health and reduce our medical bills would be to invest in:
  – Schools
  – Sidewalks
  – Produce markets
  – Preschool programs
  – Parks
  – Jobs
  – Housing
  – Transportation
What Is Holding Us Back?
What elephant?
"The most difficult social problem in the matter of Negro health is the peculiar attitude of the nation toward the well-being of the race. There have... been few other cases in the history of civilized peoples where human suffering has been viewed with such peculiar indifference.”

Effective Communication Strategies are Vital
It is About All of Us

• The Health of America depends on the health of all Americans
• Yet, too many Americans are sicker and dying younger than they should
• Millions of Americans are suffering from diseases that should be avoided
• America’s health problems hurt our productivity
• When people are sick, they don’t do as well at school, at home or at work
• Improving America’s Health will not only improve the economy, it will improve the quality of life for millions of Americans
Time to Act: Investing in the Health of Our Children and Communities

Recommendations From the Robert Wood Johnson Foundation Commission to Build a Healthier America
A Call to Action

“The only thing necessary for the triumph [of evil] is for good men to do nothing.”

Edmund Burke, Irish Philosopher