Making America Healthier for All: 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 American’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

• 1980 = 11\textsuperscript{th} on Life Expectancy

• 2006 = 33\textsuperscript{rd}, tied with Slovenia

• U.S. Ranked behind Cyprus, United Arab Emirates, South Korea, Costa Rica and Portugal

• And it is not just the minorities doing badly!

• In 2006, White America would be = 30\textsuperscript{th}

• In 2006, Black America would be 58\textsuperscript{th}
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.
MARYLAND:
Gaps in Infant Mortality

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

- 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 rates are highest among babies born to mothers with 12 or fewer years of education, the rate for babies born to mothers with 13-15 years of schooling is nearly 30 percent higher than 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 over twice the rates seen among babies of non-Hispanic white or Hispanic mothers.

Comparing Maryland’s experience against the national benchmark² for infant mortality reveals unrealized health potential among Maryland 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.

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.
Socioeconomic Status (SES) is a central determinant of the distribution of valuable resources in society.
## SAT Scores by Income

<table>
<thead>
<tr>
<th>Family Income</th>
<th>Median Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than $100,000</td>
<td>1129</td>
</tr>
<tr>
<td>$80,000 to $100,000</td>
<td>1085</td>
</tr>
<tr>
<td>$70,000 to $80,000</td>
<td>1064</td>
</tr>
<tr>
<td>$60,000 to $70,000</td>
<td>1049</td>
</tr>
<tr>
<td>$50,000 to $60,000</td>
<td>1034</td>
</tr>
<tr>
<td>$40,000 to $50,000</td>
<td>1016</td>
</tr>
<tr>
<td>$30,000 to $40,000</td>
<td>992</td>
</tr>
<tr>
<td>$20,000 to $30,000</td>
<td>964</td>
</tr>
<tr>
<td>$10,000 to $20,000</td>
<td>920</td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>873</td>
</tr>
</tbody>
</table>

Source: (ETS) Mantsios; N=898,596
Socioeconomic Status and Health

Life in America isn’t just better at the top….

It’s also healthier and longer
SES: A Key Determinant of Health

• Socioeconomic Status (SES) usually measured by income, education, or occupation influences health in virtually every society.

• SES is one of the most powerful predictors of health, more powerful than genetics, exposure to carcinogens, and even smoking.

• The gap in all-cause mortality between high and low SES persons is larger than the gap between smokers and non-smokers.
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
Low SES: Multiple Disadvantages

- Poor education in childhood and adolescence
- Insecure employment or unemployment
- Stuck in hazardous or dead-end jobs
- Living in poor housing
- Living in neighborhoods with fewer resources
- Trying to raise a family in difficult circumstances
- Living on an inadequate pension
- Eat poorly, forgo exercise, skip medications
Higher SES

- Residence in better neighborhoods
- Occupancy of healthier home environments
- Lower exposure to crime and other stressors
- Access to better education and employment opportunities
- Access to better physical infrastructures and facilities
- Access to higher quality medical services
- Better nutrition
- Greater control over life and work
SES and Race

• African Americans and multiple other minorities have lower levels of education, income, professional status, and wealth than whites. These racial differences in SES are the major reason for racial differences in health.

• Education and income are generally more strongly associated with health status than race.

• Racial differences in health status decrease substantially when racial groups are compared at similar levels of SES.
Percentage of College Grad+ by Race

U.S. Census 2010
There Is a Racial Gap in Health in Mid Life:
Minority/White Mortality Ratios, 2006

National Center for Health Statistics 2009
Percent Foreign-Born by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>3.5</td>
</tr>
<tr>
<td>Black</td>
<td>6.1</td>
</tr>
<tr>
<td>AmI/AN</td>
<td>5.4</td>
</tr>
<tr>
<td>NH/PI</td>
<td>19.9</td>
</tr>
<tr>
<td>Asian</td>
<td>68.9</td>
</tr>
<tr>
<td>Hisp. Any</td>
<td>40.2</td>
</tr>
</tbody>
</table>

U.S. Census 2000
Immigration and Health

Immigrants of all racial/ethnic groups enjoy better health (adult & infant mortality) than their native-born counterparts.

As length of residence in the U.S. increases, the health of immigrants declines.

For example, infant and adult mortality, low birth weight, poor health practices, & multiple indicators of morbidity increase for Latinos with length of stay in the U.S.

Vega & Amaro 1994; Finch et al. 2002
Lifetime Prevalence of Psychiatric Disorder, by Race and Generational Status (%)

Source: Williams et al. 2007; Alegria et al 2007; Takeuchi et al. 2007
Research & Policy Challenge

What interventions, if any, can reverse the downward health trajectory of immigrants with length of stay in the U.S.?
Minorities get sick younger, have more severe illness and die sooner than Whites.
Earlier Onset: Breast Cancer

- White women have an overall higher incidence of breast cancer than African American women.

- The opposite pattern exists under the age of 40, with African American women having a higher incidence of breast cancer compared to their white peers.

Anderson et al., JNCI 2008
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.
Lower Incidence, Poorer Outcomes: Major Depression

National data reveal that Blacks have lower current and lifetime rates of major depression than Whites,

BUT depressed Blacks are more likely than their White counterparts to:

-- be chronically or persistently depressed
-- have higher levels of impairment
-- have more severe symptoms
-- not receive treatment

Williams et al. 2007; Archives of Gen. Psychiatry
Racial Disparities in Health Persist

- But for many outcomes, the absolute rates are going down
- We need to build and accelerate the progress that has been made
Life Expectancy Lags, 1950-2006

NCHS, Health United States, 2010
# Excess Deaths for Black Population

<table>
<thead>
<tr>
<th>Year</th>
<th>Avg. No./Day</th>
<th>Avg. No./Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>183</td>
<td>66,900</td>
</tr>
<tr>
<td>1950</td>
<td>144</td>
<td>52,700</td>
</tr>
<tr>
<td>1960</td>
<td>139</td>
<td>50,900</td>
</tr>
<tr>
<td>1970</td>
<td>198</td>
<td>72,200</td>
</tr>
<tr>
<td>1980</td>
<td>221</td>
<td>80,600</td>
</tr>
<tr>
<td>1990</td>
<td>285</td>
<td>103,900</td>
</tr>
<tr>
<td>1998</td>
<td>265</td>
<td>96,800</td>
</tr>
</tbody>
</table>

**TOTAL Premature Deaths, 1940-1999 = 4,272,000**

Levine et al. 2001
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
<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>
</tbody>
</table>

Difference: 6.4

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

<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><strong>Education</strong></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><strong>Difference</strong></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
Meharry vs Johns Hopkins

A 1958-65, all Black, cohort of Meharry Medical College MDs was compared with a 1957-64, all White, cohort of Johns Hopkins MDs. 23-25 years later, the Black MDs had:

- higher risk of CVD (RR=1.65)
- earlier onset of disease
- incidence rates of diabetes & hypertension that were twice as high
- higher incidence of coronary artery disease (1.4 times)
- higher case fatality (52% vs 9%)

Thomas et al., 1997 J. Health Care for Poor and Underserved
Infant Mortality by Mother’s Education

NCHS, 1998
Why Race Still Matters

1. Health is affected not only by current SES but by exposure to social and economic 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.
## Wealth of Whites and of Minorities per $1 of Whites, 2000

<table>
<thead>
<tr>
<th>Household Income</th>
<th>White</th>
<th>B/W Ratio</th>
<th>Hisp/W Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>$ 79,400</td>
<td>9¢</td>
<td>12¢</td>
</tr>
<tr>
<td><strong>Poorest 20%</strong></td>
<td>$ 24,000</td>
<td>&lt;1¢</td>
<td>2¢</td>
</tr>
<tr>
<td><strong>2nd Quintile</strong></td>
<td>$ 48,500</td>
<td>11¢</td>
<td>12¢</td>
</tr>
<tr>
<td><strong>3rd Quintile</strong></td>
<td>$ 59,500</td>
<td>19¢</td>
<td>19¢</td>
</tr>
<tr>
<td><strong>4th Quintile</strong></td>
<td>$ 92,842</td>
<td>35¢</td>
<td>39¢</td>
</tr>
<tr>
<td><strong>Richest 20%</strong></td>
<td>$ 208,023</td>
<td>31¢</td>
<td>35¢</td>
</tr>
</tbody>
</table>

Orzechowski & Sepielli 2003, U.S. Census
Geographic Variations in Health

Health in America often varies dramatically from:

-- one zip code to another
-- one county to another
-- even one train stop to another
Across America, Differences in How Long and How Well We Live
A Short Distance to Large Disparities in Health

Red Line between Union Station in Washington and Shady Grove in Montgomery County, Md. are 17 metro stops spanning 30 miles and an estimated nine year difference in life span.

Orange Line between Metro Center in Washington and East Falls Church in Arlington County, Va. are nine metro stops spanning 10 miles and an estimated eight year difference in life span.

Green Line between Gallery Place in Washington and Greenbelt in Prince Georges County, Md. are 11 metro stops spanning 17 miles and an estimated three year difference in life span.

Blue Line between Foggy Bottom in Washington and Springfield-Franconia in Fairfax County, Va. are 10 metro stops spanning 12 miles and an estimated nine year difference in life span.
Distinctive Social Exposures

The added burden of racism
Discrimination Persists

• Pairs of young, well-groomed, well-spoken college men with identical resumes apply for 350 advertised entry-level jobs in Milwaukee, Wisconsin. Two teams were black and two were white. In each team, one said that he had served an 18-month prison sentence for cocaine possession.

• The study found that it was easier for a white male with a felony conviction to get a job than a black male whose record was clean.

Devah Pager; Am J Sociology, 2004
Percent of Job Applicants Receiving a Callback

<table>
<thead>
<tr>
<th>Criminal Record</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>34%</td>
<td>14%</td>
</tr>
<tr>
<td>Yes</td>
<td>17%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Devah Pager; Am J Sociology, 2004
Race, Criminal Record, and Entry-level Jobs in NY, 2004

Positive Response (%)

- White felon: 17%
- Latino (clean record): 15%
- Black (clean record): 13%

Devah Pager et al Am Soc Review, 2009; 169 employers
Racism and Health: Mechanisms

- Institutional discrimination can restrict socioeconomic attainment and group differences in SES and health.
- Segregation can create pathogenic residential conditions.
- Discrimination can lead to reduced access to desirable goods and services.
- Internalized racism (acceptance of society’s negative characterization) can adversely affect health.
- Racism can create conditions that increase exposure to traditional stressors (e.g. unemployment).
- Experiences of discrimination may be a neglected psychosocial stressor.
Perceived Discrimination:

Experiences of discrimination are a neglected psychosocial stressor.
“...Discrimination is a hellhound that gnaws at Negroes in every waking moment of their lives declaring that the lie of their inferiority is accepted as the truth in the society dominating them.”

Martin Luther King, Jr. [1967]
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.
Progress: 2009 Review

- Several longitudinal studies
- Effects of discrimination persist after adjusting for potential confounders (social desirability, neuroticism, self-esteem, negative affect, hostility)
- Studies of all major racial/ethnic groups in the U.S.
- International studies:
  -- national: New Zealand, Sweden, & South Africa
  -- Australia, Canada, Denmark, the Netherlands, Norway, Spain, Bosnia, Croatia, Austria, Hong Kong, and the U.K.

Discrimination matters for more than mental health

Williams & Mohammed, J Behav Med 2009
Perceived Discrimination and Health

• Discrimination is associated with elevated risk of
  -- C-reactive protein (CRP)
  -- coronary artery calcification (CAC)
  -- breast cancer incidence
  -- uterine myomas (fibroids)
  -- subclinical carotid artery disease (IMT; intima-media thickness)
  -- Delays in seeking treatment, lower adherence to treatment regimes, lower rates of follow-up

• Discrimination accounts, in part, for racial/ethnic disparities in health, in U.S., and elsewhere

Williams & Mohammed, J Behav Med 2009
Arab American Birth Outcomes

- Well-documented increase in discrimination and harassment of Arab Americans after 9/11/2001
- Arab American women in California had an increased risk of low birthweight and preterm birth in the 6 months after Sept. 11 compared to pre-Sept. 11
- Other women in California had no change in birth outcome risk pre-and post-September 11

Lauderdale, 2006
Improving American’s Health

What Can We Do?
Reducing Inequalities
Health Care

- Improve access to care and the quality of care
  - Give emphasis to the prevention of illness
  - Provide effective treatment
  - Develop incentives to reduce inequalities in the quality of care
Improving American’s Health

Care that Addresses the Social context
More Primary Care

• Care that will improve health and reduce disparities must be primary care

• Access to regular primary care can improve health status and reduce health disparities at all levels of income

• Primary care is the most significant health care variable associated with better health status

Politzer et al. 2001
Nurse Family Partnership

- Nurses make prenatal and postnatal visits to pregnant women.
- Nurses enhance parents’ economic self-sufficiency by addressing vision for future, subsequent pregnancies, educational and job opportunities.
- Three randomized control trials (Elmira, NY; Memphis, TN; Denver, CO)
- Control group receives prenatal care
- Improved prenatal behaviors, pregnancy outcomes, maternal employment, relationships with partner.
- Reduces child abuse and neglect, subsequent pregnancies, welfare and food stamp use
- $17,000 return to society for each family served

Olds 2002, Prevention Science
Service Delivery and Social Context

- 244 low-income hypertensive patients, 80% black (matched on age, race, gender, and blood pressure history) were randomly assigned to:
  - Routine Care: Routine hypertensive care from a physician.
  - Health Education Intervention: Routine care, plus weekly clinic meetings for 12 weeks run by a health professional.
  - Outreach Intervention: Routine care, plus home visits by lay health workers*. Provided info on hypertension, discussed family difficulties, financial strain, employment opportunities, and, as appropriate, provided support, advice, referral, and direct assistance.
  - Recruited from the local community, one month of training to address social and medical needs of persons with hypertension.

Syme et al. 1978
Service Delivery and Social Context: Results

After 7 months of follow-up, patients in the outreach group:

1. Were more likely to have their blood pressure controlled than patients in the other two groups.

2. Knew twice as much about blood pressure as patients in the other two groups. Those in the outreach group with more knowledge were more successful in blood pressure control.

3. Were more compliant with taking their hypertensive medication than patients in the health education intervention group. Moreover, good compliers in the outreach third group were twice as successful at controlling their blood pressure as good compliers in the health education group.

Syme et al. 1978
Case Study: Iran

- Primary care system developed in early 1980s
- 17,000 health houses staffed by community workers
- Female behavарz – child/maternal health
- Male behavарz – sanitation and environment
- Each health house serves 1,500
- Health house refers to Rural Health Center
- Rural Center (2 MDs) serves 6,000-10,000 people
- Provides Care to 90% of Iran’s 23 million rural population

### Health Status in Iran
#### 1976 to 2000

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>1976</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Mortality, Urban</td>
<td>60.4</td>
<td>27.7</td>
</tr>
<tr>
<td>Infant Mortality, Rural</td>
<td>123.7</td>
<td>30.2</td>
</tr>
<tr>
<td>Rural: Urban Ratio</td>
<td>2.05</td>
<td>1.09</td>
</tr>
</tbody>
</table>

Aghajanian et al 2007 Eastern Mediterranean Health J
Model for Mississippi Delta?

- Clinic using this model being developed in community of Baptist Town in Greenwood, MS
- Screenings and immunizations will be free
- Plan: train single mothers on welfare to staff health houses
- Win-win: care for the community by the community; will provide skills to get women off welfare
- Key: Jackson Medical Mall Foundation; Jackson State
- Group has applied for a $20 million DHHS grant to fund 10 pilot programs in MS, Arkansas & Louisiana

Bristol, 2010, Lancet; Bourne, 2010 in AARP Bulletin
No Panacea

- Although child and maternal mortality has declined in Iran and life expectancy in birth has increased, the low birthweight rate has not declined

- Low birthweight associated with multiple negative outcomes

- Study of all births in one province in 2004. The determinants of low birthweight birth were:
  - Mother’s education less than 8 years
  - Father an unskilled worker
  - Mother’s height less than 5 feet, 1 inch (155 cm)
  - Birth interval of less than 1 year

Jafari et al 2010, Public Health
Why treat illness and send people back to live in the same conditions that made them sick in the first place?

Care that Addresses the Social context
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
Poverty, Health and Law
Readings and Cases for Medical-Legal Partnership

Edited by Elizabeth Tobin Tyler • Ellen Lawton
Kathleen Conroy • Megan Sandel • Barry Zuckerman
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.
Improving American’s Health

Health Care Improvement alone will NOT solve America’s health problems

Healthier lifestyles are needed
Needed Behavioral Changes

• Reducing Smoking
• Improving Nutrition and Reducing Obesity
• Increasing Exercise
• Reducing Alcohol Misuse
• Improving Sexual Health
• Improving Mental Health
Fruits: Percent 2+ Servings a Day

Centers for Disease Control, MMWR, Sept. 2010
Vegetables: Percent 3+ Servings a Day

Centers for Disease Control, MMWR, Sept. 2010
What is 9 servings a day?

**Morning**
- Counts as 1 3/4 cup
- Counts as 1 medium-size

**Mid-Day**
- Counts as 2 2 cups
- Counts as 1 medium-size

**Evening**
- Counts as 2 1 cup
- Counts as 1 1/2
- Counts as 1 1/2 cup
The China Study
Startling Implications for Diet, Weight Loss and Long-term Health
T. Colin Campbell, PhD and Thomas M. Campbell II
Foreword by John Robbins, author, Diet for a New America
Prevent and Reverse Heart Disease

The Revolutionary, Scientifically Proven, Nutrition-Based Cure

Caldwell B. Esselstyn, Jr., M.D.

Foreword by T. Colin Campbell, Ph.D., author of The China Study
Dr. Neal Barnard's Program for Reversing Diabetes

The Scientifically Proven System for Reversing Diabetes Without Drugs

Neal D. Barnard, MD
Challenge of Obesity

• More than 23 million U.S. children and adolescents are obese or overweight

• For the 1st time in history, we are raising children that will live sicker, shorter lives than their parents

• Doubling of obesity since 1987 accounts for almost 30% of the increase in health care costs

• If current trends continue, more than 44 million Americans will have diabetes in 25 years

• And the costs of treating diabetes will triple

Williams, McClellan, Rivlin, Health Affairs, 2010
Reducing Inequalities

Reducing Negative Health Behaviors?

*Changing health behaviors requires more than just more health information. “Just say No” is not enough.

*Interventions narrowly focused on health behaviors are unlikely to be effective.

*The experience of the last 100 years suggests that interventions on intermediary risk factors will have limited success in reducing social inequalities in health as long as the more fundamental social inequalities themselves remain intact.

House & Williams 2000; Lantz et al. 1998; Lantz et al. 2000
Improving American’s Health

Need for Social Responsibility:

• We have to create the opportunities to promote good health for all

• We have to remove the barriers that make it almost impossible for some Americans to make healthy choices
Successful interventions require a coordinated and comprehensive approach:

- The active involvement of professionals and volunteers from many organizations (government, health professional organizations, community agencies and businesses)
- The use of multiple intervention channels (media, workplaces, schools, churches, medical and health societies)
Changes in Smoking Over Time -2

The use of multiple interventions –

- **Efforts to inform the public about the dangers of cigarette smoking** (smoking cessation programs, warning labels on cigarette packs)
- **Economic inducements to avoid tobacco use** (excise taxes, differential life insurance rates)
- **Laws and regulations restricting tobacco use** (clean indoor air laws, restricting smoking in public places and restricting sales to minors)

Even with all of these initiatives, success has been only partial.

Warner 2000
• Lung cancer is the number one cause of cancer deaths for men and women in the US
• Lung cancer kills more Americans annually than breast, prostate, colon and pancreatic cancer combined!
• Tobacco causes 1 in 5 deaths in the US
• Despite declines in cigarette use, smoking is still the single most preventable cause of death
• Smoking causes more deaths than overweight and obesity, high cholesterol, alcohol, and the low intake of fruits and vegetables combined

Moving Upstream

Effective Policies to reduce inequalities in health must address fundamental non-medical determinants.
Centrality of the Social Environment

An individual’s chances of getting sick are largely unrelated to the receipt of medical care.

Where we live, learn, work, play and worship determine our opportunities and chances for being healthy.

Social Policies can make it easier or harder to make healthy choices.
What Drives Health?

There is often a toxic relationship between how we live our lives and the economic, social and physical environments that surround us.
Making Healthy Choices Easier

Factors that facilitate opportunities for health:

• Facilities and Resources in Local Neighborhoods
• Socioeconomic Resources
• A Sense of Security and Hope
• Exposure to Physical, Chemical, & Psychosocial Stressors
• Psychological, Social & Material Resources to Cope with Stress
Redefining Health Policy

Health Policies include policies in all sectors of society that affect opportunities to choose health, including, for example,

- Housing Policy
- Employment Policies
- Community Development Policies
- Income Support Policies
- Transportation Policies
- Environmental Policies
Needed Steps

The best way to improve America’s health and reduce our medical bills would be to invest in:

- Schools
- Sidewalks
- Produce markets
- Preschool programs
- Parks
- Jobs
- Housing
- Transportation
Creating a Culture of Health

• Living healthier requires the creation of a culture of health
• We need to better incorporate health into our homes, schools, neighborhoods, workplaces
• Safety and wellness needs to be integrated into every aspect of community life
• Health, therefore, needs to be factored into all policy making
• We need to work across traditional policy silos to engage in cross-sector partnerships and solutions
• Public and private resources need to be combined
Education and Sugary Soft Drinks

Interventions in BWH Hospital cafeteria

• Education intervention:
  – Posters and informational flyers posted at strategic locations in cafeteria: ‘‘Lose 12-25 pounds in one year and decrease your risk of diabetes by ½. Just skip one regular soda per day. For zero calories, try diet soda or water’’

• Posting messages re: the health effects of soft drinks had no effect on sales

Block et al. AJPH, 2010
Price Increase and Sugary Soft Drinks

A price increase of 35% (45 cents) led to a 26% decline in sales of regular soft drinks.

- Diet soft drink sales increased by 20%
- No change at comparison site
- No change in water sales
- No increase for any high-calorie beverage

Block et al. AJPH, 2010
‘Food Deserts’ in PA

- The Food Trust – Building strong communities through healthy foods
- Farmer’s markets, Co-ops, school initiatives
- Fresh Food Financing Initiative’s Supermarket Campaign in collaboration with the Reinvestment Fund and the Philadelphia Urban Affairs Coalition (a public private partnership)
- 58 new supermarkets in urban and rural underserved areas
Jeffrey Brown & ShopRite

- Operates 10 stores
- Half in urban under-served areas
- Opened a 65K sq ft supermarket store in inner-city, AA, low income area in summer 2008
- Area had been without a supermarket for 30 years
- Same price in all stores
- Same hours as other stores (7am-11pm)
- All stores have community rooms (free)
Innovation

- Customized customer service: market research with churches and community organizations
- Good community citizen
- Community conference room in store
- All store managers on local community boards
- Support entrepreneurship with minority businesses
- 40 of 280 employees are ex-offenders (technical and life-skills training)
- Quarterly: gifts for guns prog. ($100 cert) (400 guns)
Shattering Myths

• No higher level of shrinkage in inner-city supermarkets

• High training costs but low turn-over

• Same volume of fruit and vegetables sales

• Higher poultry and fish sales
Supermarkets: Engine of economic re-vitalization

- Property values increase
- Stimulates other retail shopping
- Seniors can walk to store
- Attracts more capital
- Community resource and outreach center (health screening; WIC, CHIP, Food Stamps outreach)
Improving American’s Health

Create Healthier Communities

Place Matters!

Geographic location determines exposure to risk factors and resources that affect health.
### Our Neighborhood Affects Our Health

<table>
<thead>
<tr>
<th>Unhealthy Community</th>
<th>vs</th>
<th>Healthy Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe even in daylight</td>
<td>Safe neighborhoods, safe schools, safe walking routes</td>
<td></td>
</tr>
<tr>
<td>Exposure to toxic air, hazardous waste</td>
<td>Clean air and environment</td>
<td></td>
</tr>
<tr>
<td>No parks/areas for physical activity</td>
<td>Well-equipped parks and open/spaces/organized community recreation</td>
<td></td>
</tr>
<tr>
<td>Limited affordable housing is run-down; linked to crime ridden neighborhoods</td>
<td>High-quality mixed income housing, both owned and rental</td>
<td></td>
</tr>
<tr>
<td>Convenience/liquor stores, cigarettes and liquor billboards, no grocery store</td>
<td>Well-stocked grocery stores offering nutritious foods</td>
<td></td>
</tr>
</tbody>
</table>
## Our Neighborhood Affects Our Health

<table>
<thead>
<tr>
<th>Unhealthy Community</th>
<th>vs</th>
<th>Healthy Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streets and sidewalks in disrepair</td>
<td></td>
<td>Clean streets that are easy to navigate</td>
</tr>
<tr>
<td>Burned-out homes, littered streets</td>
<td></td>
<td>Well-kept homes and tree-lined streets</td>
</tr>
<tr>
<td>No culturally sensitive community centers, social services or opportunities to engage with neighbors in community life</td>
<td></td>
<td>Organized multicultural community programs, social services, neighborhood councils or other opportunities for participation in community life</td>
</tr>
<tr>
<td>No local health care services</td>
<td></td>
<td>Primary care through physicians’ offices or health center; school-based health services</td>
</tr>
<tr>
<td>Lack of public transportation, walking or biking paths</td>
<td></td>
<td>Accessible, safe public transportation, walking and bike paths</td>
</tr>
</tbody>
</table>
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 (HbA1c)

Leventhal and Brooks-Gunn, 2003; Ludwig et al. NEJM, 2011
Improving Residential Circumstances

- Policies need to address the concentration of economic disadvantage and the lack of an infrastructure that promotes opportunity that co-occurs with segregation and exists for African Americans and on many American Indian reservations.

- Nothing inherently negative about living next those of one’s own race

- Major infusion of economic capital to improve the social, physical, and economic infrastructure of disadvantaged communities

- One should not have to move to live in a better neighborhood

Williams and Collins 2004
Improving American’s Health

Enhance the quality of education and Improve economic well-being
Improving Education

• In 2006, the Education Trust published a report entitled,
  
  • Yes We Can: Telling Truths and Dispelling Myths About Race and Education in America
  
  • It indicates, for example, that teacher quality is the single biggest predictor of student performance
  
  • It provides examples of schools of excellence in poor African American, Latino and American Indian communities
High/Scope Perry Preschool

Program: Black children, living in poverty & at risk of school failure
- Random assignment
- Daily classes and weekly home visits

At age 40, those who received the program:
- Were more likely to graduated from high school
- Had higher employment, income, savings, home ownership
- Had fewer arrests for violent, property and drug crimes
- Cost-benefit: $17 return to society for every dollar invested

Reynolds et al. 2007; Muennig et al. 2009
Improving Economic Well-Being

- 2007 Task Force Report from the Center for American Progress, “From Poverty to Prosperity”) outlines a roadmap to cut poverty in half in 10 years. These include:
  - Promoting inner-city revitalization, unionization, employment of ex-offenders
  - Expanding Pell Grants, tax credits for low-income
  - Encouraging savings for education, home ownership, retirement
  - Connecting vulnerable youth to school and work
  - Raising min. wage, providing child assistance
Conditional Cash Transfer Programs

- Mexico’s PROGRESA (now Oportunidades) established in 1997
- Low income families, randomized at the community level to receive additional cash conditional on children’s school attendance, preventive care visits and participation in health information sessions
- Compared to controls, the intervention group had decreased illness rates, child stunting, BMI and improvements in endurance, language development, memory, and height for age
- Additional cash is key determinant of program success

Rawlings & Rubin, 2005; Paxson & Shady, 2007; Fernand et al. 2008
Economic Policy is Health Policy

In the last 50 years, black-white differences in health have narrowed and widened with black-white differences in income.
Health Effects of Civil Rights Policy

- Civil Rights policies narrowed black-white economic gap
- Black women had larger gains in life expectancy during 1965 - 74 than other groups (3 times as large as those in the decade before)
- Between 1968 and 1978, black males and females, aged 35-74, had larger absolute and relative declines in mortality than whites
- Black women born 1967 - 69 had lower risk factor rates as adults and were less likely to have infants with low-birth weight and low APGAR scores than those born 1961- 63
- Desegregation of Southern hospitals enabled 5,000 to 7,000 additional Black babies to survive infancy between 1965 to 1975

Kaplan et al. 2008; Cooper et al. 1981; Almond & Chay, 2006; Almond et al. 2006
Median Family Income of Blacks per $1 of Whites

# U.S. Life Expectancy at Birth, 1984-1992

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>75.3</td>
<td>69.5</td>
</tr>
<tr>
<td>1985</td>
<td>75.3</td>
<td>69.3</td>
</tr>
<tr>
<td>1986</td>
<td>75.4</td>
<td>69.1</td>
</tr>
<tr>
<td>1987</td>
<td>75.6</td>
<td>69.1</td>
</tr>
<tr>
<td>1988</td>
<td>75.6</td>
<td>68.9</td>
</tr>
<tr>
<td>1989</td>
<td>75.9</td>
<td>68.8</td>
</tr>
<tr>
<td>1990</td>
<td>76.1</td>
<td>69.1</td>
</tr>
<tr>
<td>1991</td>
<td>76.3</td>
<td>69.3</td>
</tr>
<tr>
<td>1992</td>
<td>76.5</td>
<td>69.6</td>
</tr>
</tbody>
</table>

NCHS, 1995
Sustaining Action

- Identify and nurture a core of champions in the public, private and voluntary sectors.
- Develop and maintain a steady drumbeat of policy-relevant data and information with regards to how factors outside the healthcare system can improve population health and reduce shortfalls in health.
- There should be explicit communication strategies targeted at policy-makers and the engaged public.
- Emphasis should be given to highlighting interventions that are working now.
Guiding Principles

• Policies to reduce disparities should be undertaken within the context of also improving the overall health of the population

• Interventions to reduce social disparities should be knowledge-based and investments should be made in creating the necessary knowledge (both new research on determinants and rigorous evaluation of programs)

• We need both universal policies to address the gradient and improve the health of all and targeted interventions to close gaps for the most vulnerable
Costs of Inaction

Racial Disparities in health are really costly to our society
Total Costs of Racial Disparities, 2003-2006

• Medical Care Costs = $229.4 Billion
• Lower worker productivity & premature death costs = $1,008 Trillion
• **Total Costs** = $1.24 Trillion
• $309.3 Billion annual loss to the economy
• More than GDP of India (12th largest economy)
• Social Justice can be cost effective
• Doing nothing has a cost that we should not continue to bear

LaVeist et al. 2009, Joint Center for Political & Economic Studies
How large are the expected economic gains from reducing social differences in health?

- If adult Americans who have not completed college experienced the lower death rates and better health status of college graduates, they would live longer and healthier lives. These improvements would translate into potential gains $1.007 trillion annually.

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
Resources
A twin philosophy: Good health requires personal responsibility and a societal commitment to remove the obstacles preventing too many Americans from making healthy decisions.

The recommendations focus on people and the places where we spend the bulk of our time:

- Homes and Communities
- Schools
- Workplaces

Building a healthier America is feasible in years, not decades, if we collaborate and act on what is making a difference.
Resources:
www.commissiononhealth.org

• *Overcoming Obstacles to Health*
• Charts
• Multimedia personal stories
• Interactive education and health tool
• State-level child health data
• Issue briefs on non-medical factors that affect health
• *Beyond Health Care: New Directions to a Healthier America*
• State-level adult health data
County Health Rankings (Countyhealthrankings.org)
Mobilizing Action Toward Community Health

Health Outcomes
- Mortality (length of life) 50%
- Morbidity (quality of life) 50%

Health Factors
- Health behaviors (30%)
  - Tobacco use
  - Diet & exercise
  - Alcohol use
  - Unsafe sex
- Clinical care (20%)
  - Access to care
  - Quality of care
- Social and economic factors (40%)
- Physical environment (10%)
  - Education
  - Employment
  - Income
  - Family & social support
  - Community safety
  - Environmental quality
  - Built environment

Programs and Policies
A 7-part documentary series & public impact campaign

www.unnaturalcauses.org

Produced by California Newsreel with Vital Pictures
Presented on PBS by the National Minority Consortia of Public Television
Impact Campaign in association with the Joint Center Health Policy Institute
Conclusions: Improving America’s Health

- Health care system reform is critical, but insufficient
- Social factors like education, housing, transportation, and the environment can have decisive impacts
- There are promising approaches from around the country that are making a difference now
- Health professionals need to work with other sectors to bring resources together in a concerted focus to modify where and how we live, learn, work, and play
- We need to attend to those who are farthest behind
A Call to Action

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

Edmund Burke, Irish Philosopher