Health Disparities – Broader Perspectives

"Lightning talk", April 11, 2016

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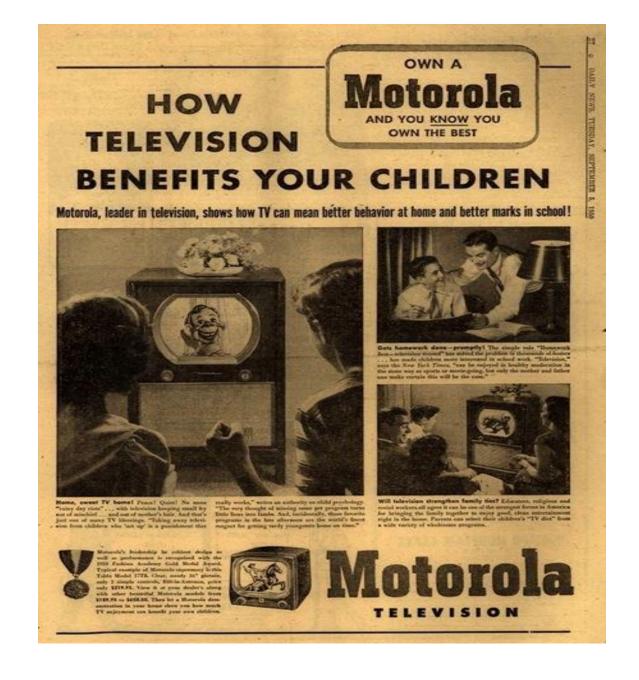
No conflicts to disclose

But first, a word from our "sponsors" . . .



How soon is too soon? Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

-Promotes Active Lifestyle!-Boosts Personality!-Gives body essential sugars!



Outline

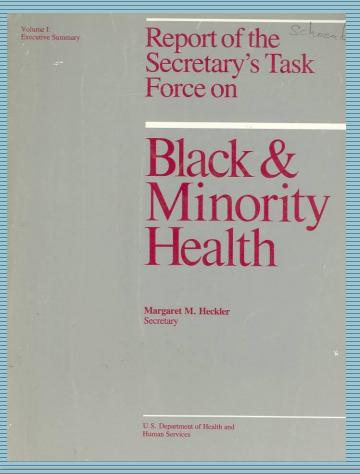
- What makes us healthy or unhealthy?
- The movement to document and eliminate health disparities
- Adapting to the complexity of reality
- Epidemiology for enlightenment

What makes for health?

What makes for health?

- Physical security, safety
- Pure air, water, food, environment
- Good nutrition, physical activity, immunizations, public health, health care
- Education, economic resources, social support, opportunities

Official recognition of "Excess deaths" among minorites



- 1985 "Heckler Report"
- Useful landmark
- Minorities experience60,000 excess deaths
- 8 main recommendations, including: outreach, cultural awareness, coordination, health care access, data, research

Report of the Secretary's Task Force

"Despite the unprecedented explosion in scientific knowledge and the phenomenal capacity of medicine to diagnose, treat, and cure disease, Blacks, Hispanics, Native Americans, and those of Asian/Pacific Islander heritage have not benefited fully or equitably from the fruits of science or from those systems responsible for translating and using health sciences technology." (Introduction and Overview)

1990s initiatives

1990 NIH Office of Minority Programs
1993 Health Revitalization Act, NIH ORMH
1997 Presidential apology for Tuskegee
APHA/HHS Campaign to Eliminate Racial
and Ethnic Health Disparities

2000 PL 106-525: Minority Health & Health Disparities Research & Education Act

Healthy People 2010



Overarching goals:

Goal 1: Increase Quality and Years of Healthy Life

Goal 2: Eliminate Health Disparities

Trans-NIH strategy

A primary goal of PL.106-525 - ensure that NIH health disparities research be an integrated and inclusive field of study, rather than an aggregate of independent research activities in separate research domains.

27 NIH institutes and centers developed strategic plans during 2002-2006

IOM: Examining the NIH Health Disparities Research Plan (2006)



- Conceptual issues
- Need more attention to social determinants, ...
- Update strategic plans
- Budget not allocated
- More staffing
- Need more trans-NIH coordination

Healthy People 2020: overarching goals

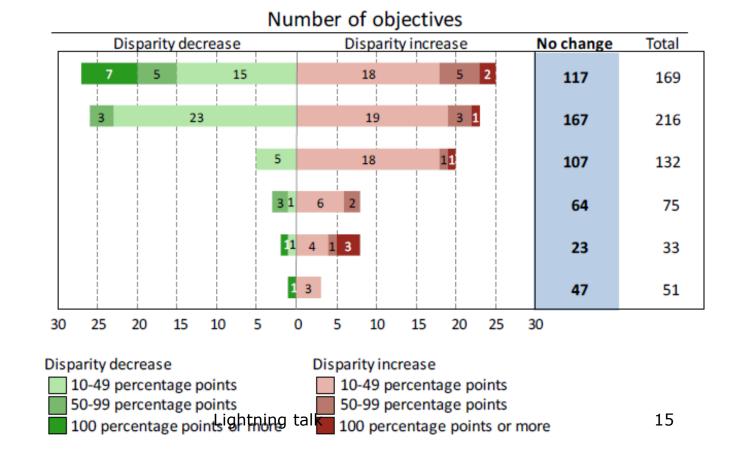


- Attain high quality, longer lives free of preventable disease, disability, injury, and premature death.
- 2. Achieve health equity and eliminate disparities.
- 3. Create social and physical environments that promote good health for all.
- 4. Promote quality of life, healthy development, and healthy behaviors across all life stages.

Figure ES-8. Changes in Health Disparities from the Baseline to the Most Recent Time Points by Population Characteristic

(Healthy People 2010 Final Review)

"most of the population-based objectives with data to measure disparities had no change in health disparities."



Race and ethnicity*

Sex

Education*

Income*

Geographic location

Disability status

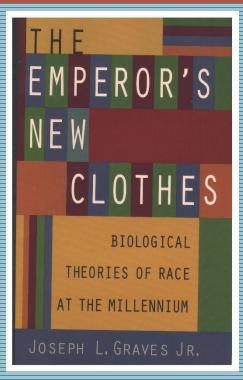
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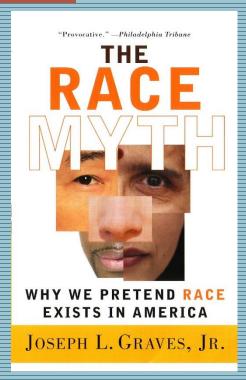
What is race? Racism.

- Biological "races" (subspecies) do not exist in humans
- Socially constructed race: "Arbitrarily utilizes
 aspects of morphology, geography, culture,
 language, religion, etc., in the service of a social
 dominance hierarchy." (Joseph Graves, "The Meaning of
 Race in Medicine", 2006 annual Summer Public Research
 Videoconference on Minority Health

http://sph.unc.edu/webcast/sph-webcasts/?webcast_id=2006-06-26_vc1210sc2006/)

Good reads:





J.L. Graves, <u>The Emperor's New Clothes: Biological Theories</u>
of Race at the Millennium, Rutgers University Press, 2001,
2005; <u>The Race Myth: Why We Pretend Race Exists in</u>
America, Dutton Press, 2005.

Lightning talk

Good viewing:



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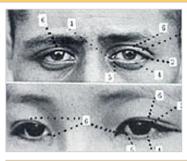
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RACE – THE POWER OF AN ILLUSION

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Produced by: California Newsreel, Executive Producer: Larry Adelman, Episode Producers: Christine Herbes-Sommers, Tracy Strain, Llewellyn Smith, Series Co-Producer: Jean Cheng An online FACILITATOR GUIDE is available for this title.

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To provide historical context, California Newsreel has edited a 20 minute segment from this series on the fair housing issue entitled RACE – THE POWER OF AN ILLUSION: The Genesis of Discriminatory Housing Policies. This link can be streamed for free 1906 1906 186.

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Poverty is bad for our health



And bad for our childen



NIH Health Disparities Strategic Research Plan and Budget, Fiscal Years 2009-2013

- ☐ Health disparities persist and are seen across a broad spectrum of diseases and adverse outcomes.
- Health disparities are a concern for the nation.
- □ Health disparities are costly ~ 230 billion
- Health disparities are "shaped by the interaction of ... social, environmental, behavioral, and biological factors."

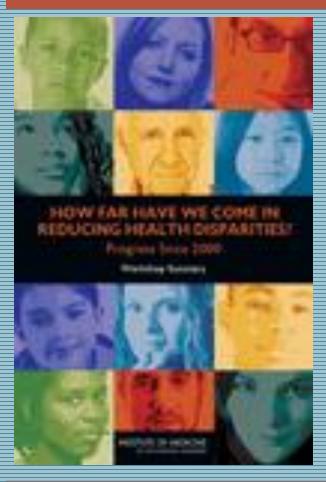
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How Far Have We Come in Reducing Health Disparities

Recurring themes from an April 8, 2010 Institute of Medicine workshop:

- Health disparities are not going away
- Economic hardship is an important contributor
- Institutional racism and racial discrimination persist
- Residential segregation, community environment
- Low levels of awareness among general public
- Policies of federal agencies besides those directly related to health
- Community input/initiation is key
- The Affordable Care Act should help

2012: How Far Have We Come in Reducing Health Disparities?



Paula Braveman:

- More and better research on social determinants, ...
- Intervention research
- □ Translational research:How inform public?How get them to care?How create political will

What is missing?

"In order to eliminate disparities in health, we need leaders who care enough, know enough, will do enough and are persistent enough."

(David Satcher, MD, PhD, "From Eliminating Health Disparities to Achieving Health Equity Bridging the Gap", American College of Epidemiology 2015 annual meeting on "Systemic determinants of health")

But can we centrally plan away health disparities?

- All aspects of life affect health, and we don't understand any aspect fully.
- Actions have multiple causes and effects (direct vs. indirect, now vs. later, ...).
- Different people have different views and are affected differently.
- We can't all agree, and there is no one in charge.

Behavior is fundamental

Health disparities arise from and are maintained by behavior:

- Personal behavior
- Expressive behavior
- Professional behavior
- Economic behavior
- Political behavior

What influences behavior?

Brain changes from early abuse

- Child abuse alters hyothalamic-pituitaryadrenal stress responses & suicide risk.
- Comparison of suicide victims with and without a history of child abuse found decreased levels of and differences in glucocorticoid receptor mRNA in brain.
- Epigenetic regulation of hippocampal glucocorticoid receptor expression.

(McGowan PO *et al.*, Epigenetic Regulation Brain Child Abuse, *Nature Neuroscience*, March 2009;12(3):241-3)

Contextual influences

"... Americans are exposed, via television, to nonverbal race bias, and such exposure can influence perceivers' race associations and self-reported racial attitudes. Nonverbal behavior that communicates favoritism of one race over another can be so subtle that even across a large number of exposures, perceivers are unable to consciously identify the nonverbal pattern. Yet despite (or perhaps because of) this subtlety, exposure to nonverbal race bias may transmit race bias to perceivers." 1714

Max Weisbuch, Kristin Pauker, Nalini Ambady. The subtle transmission of race bias via televised nonverbal behavior. *Science* 18 Dec 2009;326:1711-1714.

Your brain on hormones

- "... hormones alter emotional states (such as fear), bias attention (for example, toward sexual stimuli), or change the pleasantness or aversiveness of stimuli (such as infant odors) to alter behavioral probabilities in ways that depend on prior experience." p1146
- "The basic endocrine mechanisms and brain structures have been remarkably conserved in the course of evolution . . ."

(Elizabeth Adkins-Regan. Under the influence of hormones. *Science* 29 May 2009;324:1145. Review of Peter T. Ellison and Peter B. Gray, eds. *Endocrinology of social relationships*. Harvard, 2009)

Our brains are plastic

- Habitual actions require less mental effort than actions selected to achieve an outcome but must be inhibited if the situation changes.
- Rats subjected to chronic stress became less sensitive to changes in outcomes.
- Chronic stress caused structural changes in the brain that may bias toward habit and dysfunctional decision-making.

(Eduardo Dias-Ferreira et al., Chronic stress causes frontostriatal reorganization and affects decision-making. Science 31 July 2009;325:p621-625)

Is the college experience bad for your health?

"The results of this study show that long working hours may be one of the risk factors that have a negative effect on cognitive performance in middle age."

Long working hours and cognitive function: The Whitehall II Study. Marianna Virtanen et al. *Am J* Epidemiol 2009;169:596-605

"We have met the enemy and (s)he is us" – or is (s)he?

"For a long time, it was generally assumed that many of the mental processes that make goal pursuit possible require consciousness. But in the past decade or so, the scientific study of goal pursuit has discovered that these processes can also operate without conscious awareness, and hence, human behavior may originate in a kind of unconscious will.

Ruud Custers and Henk Aarts. The unconscious will: how the pursuit of goals operates outside of conscious awareness. *Science* 2010 (July Lightning talk 2);329(5987):47-32.

Can consciousness be improved?

- Transcendental Meditation is attracting increasing interest. (www.davidlynchfoundation.org)
- "Quiet time" programs have shown great promise in urban schools with typical problems. (e.g., NBC newscast LINK)
- Can epidemiologists evaluate a wholistic intervention with long-term impact?



Physician, Heal Thyself

Stritch School of Medicine students give new meaning to the adage

By Carla L. Brown, EdD, and Gregory Gruener, MD

Students at the Stritch School of Medicine learn about the science and methodology behind the transcendental meditation technique in the first TM elective course offered at a major medical school in the United States. T ALL STARTED when a student at Loyola University Chicago Stritch School of Medicine described herself as too busy to even realize how anxious she was. Not only was anxiety affecting her mentally, but her hair was thinning and her heart racing. As her third year began she was terrified about becoming a doctor, guessing that she could not sustain her anxious lifestyle indefinitely. Her future career looked dismal. The passion she had once experienced for medicine and healing seemed to be trickling away.

But when she enrolled in a new elective at Stritch entitled Physician Wellness through Transcendental Meditation (TM), the first such course offered through a major medical school in the United States, she experienced a turnaround. The elective included training in the TM technique and a lecture series by leading researchers. As a result of her twice daily TM practice, she says that she is now more

Understanding TM

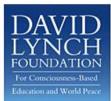
College students report the "highest stress and lowest mental health levels in 25 years" with serious consequences for physical health, including hypertension, diabetes, sleep disorders and mental health problems, according to psychologist William Stixrud. He notes that depression is "the second leading cause of debility worldwide for 15-44 year olds." Qualities most compromised by these conditions are exactly the qualities most needed in medicine, including higher order judgment, flexibility, adaptability, and creativity.

Linda Brubaker, MD, dean of the Stritch School of Medicine, asserts, "Physicians who practice self-care, especially stress reduction, are likely to perform better as professionals and inspire their patients to adopt healthy behaviors." With co-author Gregory Gruener, MD, Dr. Brubaker has led the Stritch School of Medicine in proactively addressing

The Resilient Warrior Program: Iowa Veterans Summit Thursday, October 11 | Learn More ▶

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WOMEN

AMERICAN INDIANS HOMELESS SHELTERS

PRISONS



Thank you – let's talk!

- Your comments here
- And here
- More on these themes at:
 - http://go.unc.edu/sjae (see "library of resources")
 - My YouTube channel (interviews)
 - Webcasts at www.minority.unc.edu
 - Next is 22nd National Health Equity Research Webcast on June 7, 1:30pm.

Extra slides for the discussion

Suggested readings

- 1. Social Context, Sexual Networks, and Racial Disparities in Rates of Sexually Transmitted Infections. Adaora A. Adimora and Victor J. Schoenbach. The Journal of Infectious Diseases 2005;191 (Issue Supplement 1):S115-S122 http://jid.oxfordjournals.org/content/191/Supplement_1/S115.full
- 2. Powell Memorandum: Attack On American Free Enterprise System, 1971, Lewis F. Powell, Jr. http://law2.wlu.edu/powellarchives/page.asp?pageid=1251
- 3. Things ain't what they ought to be: social forces underlying racial disparities in rates of sexually transmitted diseases in a rural North Carolina county. James C Thomas, Karen K Thomas. Social Science & Medicine 1999(October);49(8): 1075–1084 http://www.sciencedirect.com//science/article/pii/S027795369900197

Propositions on human behavior: looking under the hood

1. Living systems are made up of fundamental building blocks (e.g., quarks, electrons, protons, atoms, molecules) organized into organelles, cells, organs, etc.

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2. Living systems replicate, diversify, compete, cooperate, invade one another, incorporate one another, combine, and evolve into systems of increasing complexity.

3. Complex living systems have nervous systems that can create the experiences of consciousness, memory, imagination, deductive logic, extrapolation, anticipation, prediction, and other mental functions.

4. These mental functions are generated by the interactions of over 80 billion individual agents (neurons), in the context of other types of cells and the factors they secrete, as well as other internal and environmental chemicophysical influences.

5. The resulting thoughts and actions, which are also influenced by perceptions and expectations of others' thoughts and actions, are generally aimed at advancing the organism's interests, as these are perceived by the organism and responded to by 80 billion+ agents.

6. Collaborations, organizations, governments, strategic plans, policies, legislation, enforcement actions, and everything else reflect these myriad, competing influences. Ultimately, better outcomes require that thoughts and actions reflect more accurate, efficient, coherent and integrated brain functioning.

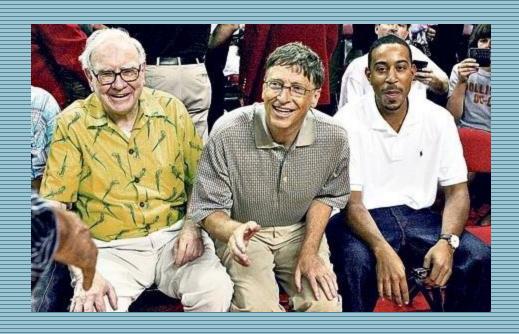
7. Epidemiology should assign greater importance to understanding nutritional, microbiological, hormonal, environmental, behavioral, social, and institutional influences on the functioning of the nervous system and behavioral implications.

Collective action problems

"We call attention, however, to the behavioral features of collective action and their implications for solving public health policy problems."

Gil Siegal, Naomi Siegal, Richard J. Bonnie. An account of collective actions in public health. *AJPH* 2009;99:1583-1587.

The dinner that cost Bill Gates, Warren Buffett and other celebrities billions



Warren Buffett and Bill Gates. Photo: Getty

What leads billionnaires to donate to good causes?

"This week ... 40 billionaires - worth a combined \$230 billion (£145 billion) signed a "giving pledge" to donate at least 50 per cent of their wealth to good causes. It is a remarkable act of noblesse oblige, even in a country whose tradition of philanthropy is the strongest in the industrialised world."

www.telegraph.co.uk/news/worldnews/northamerica/usa /7929657/The-dinner-that-cost-Bill-Gates-Warren-2/8/2Buffett-and-other-celebrities-billions.html

A Tale of Two Disparities

- Childhood immunization / measles elimination
- HIV/AIDS

Childhood immunization / measles elimination

Dual strategy: <u>universal</u> interventions + <u>targeted</u> interventions

Gap in measles vaccine coverage narrowed from 15% (1985) to 6% (1992) to 2%.

Risk ratio for disease among nonwhite children (vs. white) declined from 4-7 to 4 to elimination of endemic disease

Elimination of Measles and of Disparities in Measles Childhood Vaccine Coverage among Racial and Ethnic Minority Populations in the United States Sonja S. Hutchins, Ruth Jiles, Roger Bernier. *JID* 2004;189:S146-S152

Elimination of measles and disparity

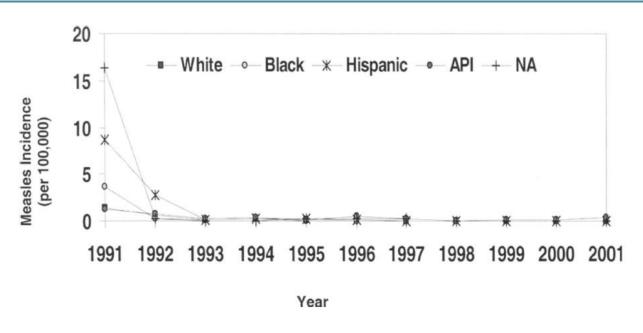


Figure 4. Measles incidence in the United States by selected race/ethnicity and year, 1991–2001. NA, American Indian/Alaska Native; API, Asian/Pacific Islander.

JID 2004(May 1);189: S146-S152

Endgame: HIV/AIDS in African Americans (PBS Frontline)

1983: The CDC begins tracking breakdown of HIV by race.

1985: First Black AIDS Organizations founded

1986: First Black AIDS Conference

1986: No one of color is invited to participate in the American

Public Health Association's first session on AIDS in October

2000: The CDC announces that black and Latino men now

represent a majority of new AIDS cases among gay and bisexual

men, exceeding their white counterparts.

2004: HIV Becomes Leading Cause of Death for Young Black

Women

2008: CDC data shows that 1 in 16 black men will be diagnosed

with HIV in their lifetime, as will 1 in 32 black women.

2009: Congress removes ban on federal funding for needle-

exchange programs; 2011: Congress reinstates ban.

2012: Black AIDS Institute Report "Exit Strategy: Ending the AIDS

Epidemic in Black America"

A Tale of Two Disparities

	Childhood	
	immunization	HIV
Magnitude of problem	+	+++
Embedded in socio-economic	+	++
Availability of interventions	++	+
Cost, cost-effectiveness	++	+
Use existing health care infrastructure	++	+
Neutral or favorable to commercial,		
religious, political interests	++	_
Near-term, visible, marketable impact	++	?