

Complicit: Medicine's Perpetuation of the Race Myth

The Need for Addressing Implicit Bias in Medical Training

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Disclosures

Jen Flament, MD is a Nexplanon® trainer for Merck. She receives no compensation for this work. She has no other disclosures.

Chinyere Obimba, MD has no disclosures.



Trigger Warning

Objectives

1. Recognize race as a social construct with no genetic or biologic basis.
2. Identify at least three instances in which medicine uses race as a scientific variable, in addition to the case of race-based hypertension therapies explored in the workshop.
3. List three ways you can incorporate cultural humility and implicit bias education into medical training at your institution.



Medical Education



African American Health Disparities

prostate
cancer

x2

as likely to die from
prostate cancer²

cervical
cancer

x2

as likely to die from
cervical cancer²

HIV

x9

as likely to be
diagnosed with HIV⁶

x8

as likely to
die from HIV²



diabetes

60%

more likely to
be diabetic³

x2

as likely to undergo
leg, foot, or toe
amputation⁵

maternal
mortality

x2.5

as likely to die
during pregnancy⁴

stroke

40%

more likely to die
from stroke²

Stroke



White



African American



American Indian/
Alaskan Native

Cervical cancer



White



Hispanic



Vietnamese-American

Prostate cancer



White



African-American

Adult-onset diabetes



White



African-American



Hispanic



American Indian/
Alaskan Native

Infant mortality



White



African
American



Puerto Rican



American Indian/
Alaskan Native

HIV/AIDS (new infections)



White



African American



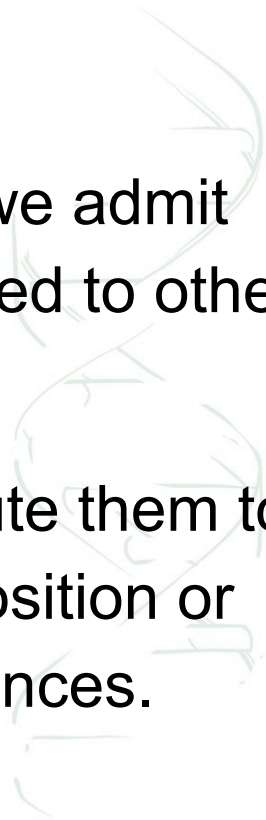
Hispanic

Sources: http://www.fharc.org/about/pubs/center_news/2004/may20/sart3.html (cervical cancer); <http://www.healthreform.gov/reports/healthdisparities/> (HIV, diabetes, prostate cancer); http://www.childtrendsdatabank.org/sites/default/files/57_fig02.jpg (low birth weight, 2008)



In some cases, we admit
disparities are related to other
factors.

In others we attribute them to
genetic pre-disposition or
genetic differences.





ASCVD Risk Calculator

Gender	Age	Race
<input type="radio"/> Male <input checked="" type="radio"/> Female	<input type="text" value="65"/> <small> Note: Lifetime risk is only calculated for the 20 to 59 year range</small>	<input type="radio"/> White <input checked="" type="radio"/> African American <input type="radio"/> Other
Total Cholesterol (mg/dL)	HDL - Cholesterol (mg/dL)	Systolic Blood Pressure
<input type="text" value="200"/>	<input type="text" value="40"/>	<input type="text" value="135"/>
Treatment for Hypertension	Diabetes	Smoker
<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No

10-Year ASCVD Risk

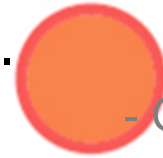
7.1% calculated risk

4.0% risk with optimal risk factors**

Why do we accept race as explanation?

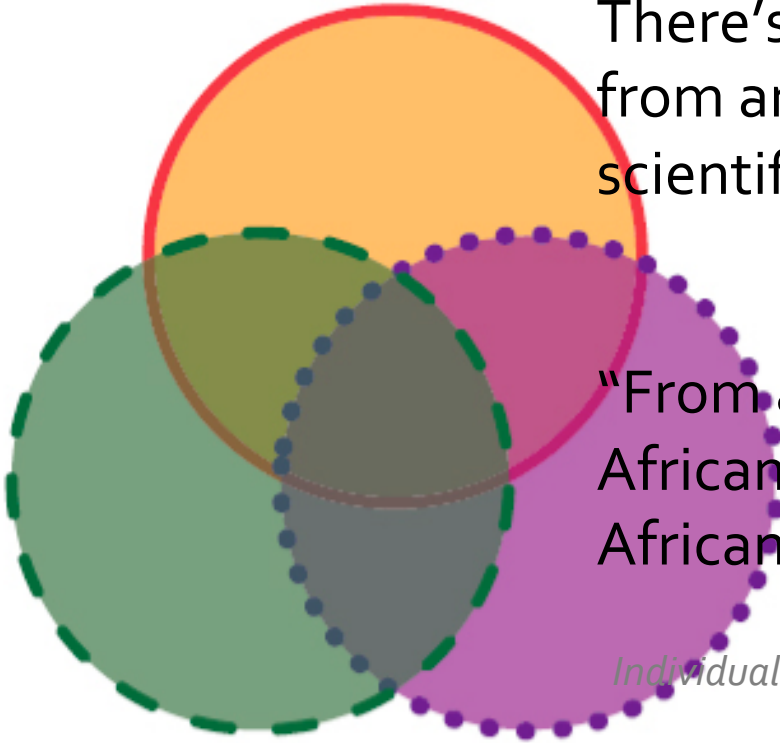
- Longstanding belief that race is a concrete, valid, scientific category
- Research error
- Implicit bias

There's no way to tell one ethnicity from another. Race has no genetic or scientific basis.



African

- Craig Venter, geneticist



"From a genetic perspective, non-Africans are essentially a subset of Africans."



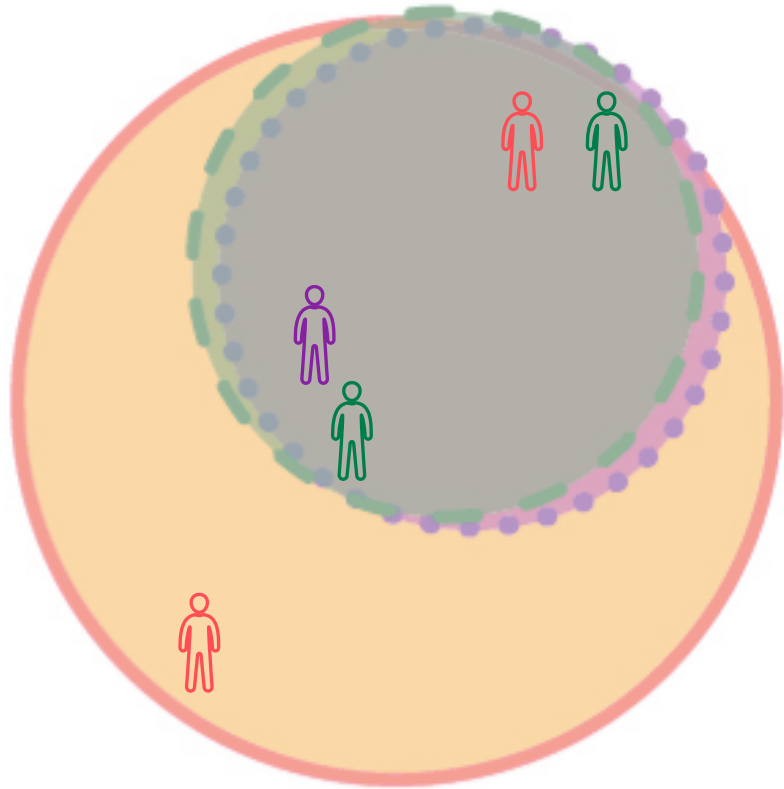
European



Asian

- Deborah Bolnick, anthropologist

Individual Ancestry Inference and the Reification of Race as a Biological Phenomenon



“From a genetic perspective, non-Africans are essentially a subset of Africans.”

- Deborah Bolnick, anthropologist

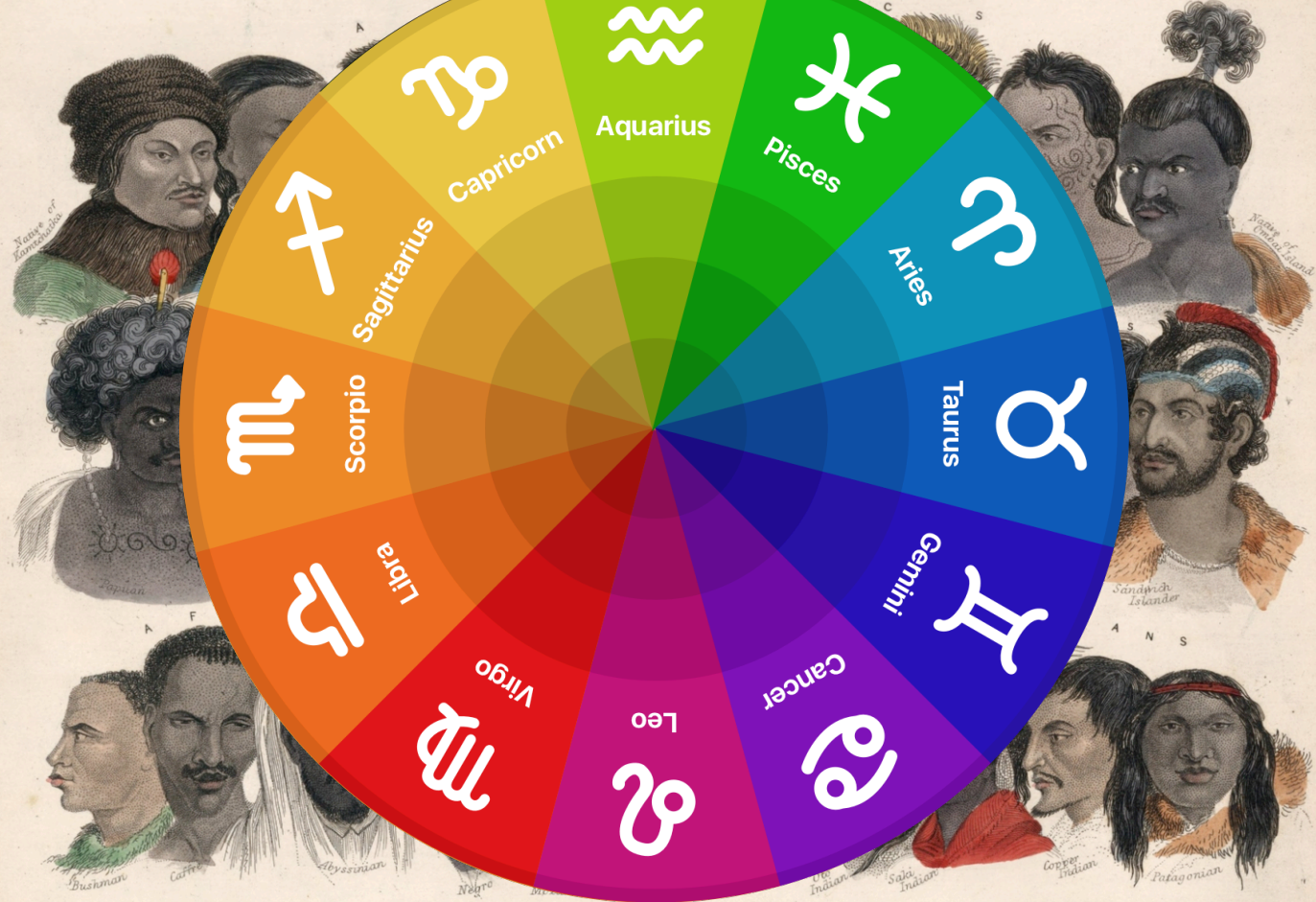
Individual Ancestry Inference and the Reification of Race as a Biological Phenomenon

Research



“Any federally supported [researcher] performing biomedical research... is required to include racial and ethnic minorities as research subjects and to analyze their findings by race.”

THE PRINCIPAL VARIETIES OF MANKIND.



Racial Categorization

DISTRICTS	Free white Males of 16 years and upwards, including heads of families.	Free white Males under sixteen years.	Free white Females, including heads of families.	All other free persons.	Slaves.	Total.
Vermont	22435	22328	40505	255	16	85539
N. Hampshire	36080	34851	70160	630	158	141885
Maine	24384	24748	46870	53	NONE	96540
Massachusetts	95453	87289	190582	5463	NONE	378787
Rhode Island	16019	15799	32652	3407	948	68825
Connecticut	60523	54403	117448	2808	2764	237946
New York	83700	78122	152320	4654	21324	340120
New Jersey	45251	41416	83287	2762	11423	184139
Pennsylvania	110788	106948	206363	6537	3737	434373
Delaware	11783	12143	22384	3899	8887	59094
Maryland	55915	51339	101395	8043	103036	119728
Virginia	110936	116135	215046	12866	292627	747610
Kentucky	15154	17057	28922	114	12430	73677
N. Carolina	69988	77506	140710	4975	100572	393751
S. Carolina	35576	37722	66880	1801	107094	249073
Georgia	13103	14044	25739	398	29264	82548
	807094	791850	1541263	59150	694280	3893635
Total number of Inhabitants of the United States exclusive of S. Western and N. Territory.	Free white Males of 21 years and upwards.	Free Males under 21 years of age.	Free white Females.	All other free persons.	Slaves.	Total
S.W. territory	6271	10277	15365	361	3417	35691
N. Ditto	—	—	—	—	—	—

THE

Free White Males

Free White Females

All other free persons

Slaves

Print race. ☒ one or more boxes.

or Negro

Alaska Native — Print name of enrolled or principal tribe

Japanese

Korean

Vietnamese

Native Hawaiian

Guamanian or Chamorro

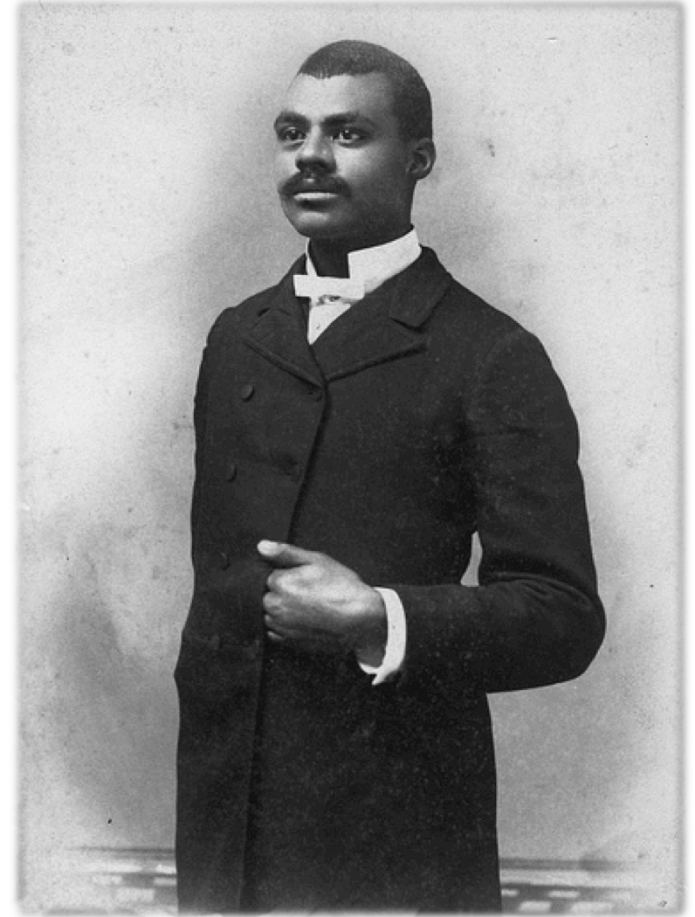
Other Pacific Islander — Print race, for example, Fijian, Tongan, and so on.

Print race. ☒

Published by James Reynolds 174 Second May 2, 1860

Plessy vs. Ferguson

“Separate but equal”



Homer Plessy

1890 – Black

1910 – Mulatto

1920 – White



Race in Scientific Studies



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Race & Medicine

Tuskegee Syphilis Study

Forced & nonconsensual sterilizations

Anarcha, Lucy, and Betsey - victims of J.

Marion Sims (Father of Gynecology)

Cloning of Henrietta Lacks' Cells

Segregated hospitals & medical schools

Use of race in formal presentations "63 yo AA male presents with..."

Race corrections in GFR and spirometry

BiDiI

AAs receive less pain medication

TOLAC calculator

ASCVD calculator



Race-based therapy? The Case of Hypertension in African Americans



As we review the evidence

- What assumptions about race affect our clinical decision making?
- What other factors impact disparities in hypertension treatment?

Case

AM is a 43yo woman who comes in to reestablish care. She has not been seen in your clinic for four years...





Case

Exam:

VS (9:59am): HR 82, BP **187/121**, H 65cm , WT 269lb

VS (10:37am): **BP 150/91**

Exam is unremarkable

PMHx: HTN, no significant FHx

Meds: None

Labs: Office a1c 5.7

Case

After some reluctance, your patient is willing to try antihypertensive therapy. With her blood pressure, lack of symptoms and lack of comorbidities, you decide that monotherapy is appropriate.





Case

How do you want to treat this patient?

Write down your answer, based on what you know from the evidence.

Epidemiology



- Highest prevalence of hypertension among non-Hispanic black adults (**42.1%**)
 - Non-Hispanic white, 28.0%
 - Hispanic, 26.0%
 - Non-Hispanic Asian, 24.7%
 - American Indian/Alaska Native, 24.8%
- Higher incidence of comorbidities
 - Stroke
 - Heart failure
 - CKD/ESRD

Theories for HTN Disparity

- Physiologic and genetic differences: obesity, **renin-angiotensin system activity**, salt sensitivity
- Social determinants: socioeconomic status, income inequality, access to care
- Influence of nonmedical beliefs on adherence to medication
- Ineffective patient-provider interactions: Mistrust, racism, **implicit bias** leading to lower adherence

**2014 Evidence-Based Guideline for the
Management of High Blood Pressure in Adults:**

Report from the Panel Members Appointed
to the Eighth Joint National Committee



- ≥ 60 yrs old: treat BP $\geq 150/90$ (A)*
- < 60 yrs old or CKD: treat BP $\geq 140/90$ (C)
- **African American: thiazide or CCB as 1st-line (C)**



J. chron. Dis. 1967, Vol. 20, pp. 119-1;

CATECHOLAMINE AND NEGRO MALES

BLA

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of Medicine, University of Ne

(Received 6 Septemb

THE CAUSE of primary hypertensic
argue the relationship of elevated
whether increased blood pressu

Comparis Treatment

III. Evaluation

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THE NEW ENGLAND JOURNAL OF MEDICINE

April 1, 1993

SINGLE-DRUG THERAPY FOR HYPERTENSION IN MEN

A Comparison of Six Antihypertensive Agents with Placebo

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Abstract Background. Characteristics such as age and race are often cited as determinants of the response of blood pressure to specific antihypertensive agents, but this clinically important issue has not been examined in sufficiently large trials, involving all standard treatments, to determine the effect of such factors.

Methods. In a randomized, double-blind study at 15 clinics, we assigned 1292 men with diastolic blood pressures of 95 to 109 mm Hg, after a placebo washout period, to receive placebo or one of six drugs: hydrochlorothiazide (12.5 to 50 mg per day), atenolol (25 to 100 mg per day), captopril (25 to 100 mg per day), clonidine (0.2 to 0.6 mg per day), a sustained-release preparation of diltiazem (120 to 360 mg per day), or prazosin (4 to 20 mg per day). The drug doses were titrated to a goal of less than 90 mm Hg for maximal diastolic pressure, and the patients continued to receive therapy for at least one year.

Results. The mean (\pm SD) age of the randomized patients was 59 ± 10 years, and 48 percent were black. The average blood pressure at base line was $152 \pm 14/99 \pm 3$

mm Hg. Diltiazem therapy had the highest rate of success: 59 percent of the treated patients had reached the blood-pressure goal at the end of the titration phase and had a diastolic blood pressure of less than 95 mm Hg at one year. Atenolol was successful by this definition in 51 percent of the patients, clonidine in 50 percent, hydrochlorothiazide in 46 percent, captopril in 42 percent, and prazosin in 42 percent; all these agents were superior to placebo (success rate, 25 percent). Diltiazem ranked first for younger blacks (<60 years) and older blacks (≥ 60 years), among whom the success rate was 64 percent, captopril for younger whites (success rate, 55 percent), and atenolol for older whites (68 percent). Drug intolerance was more frequent with clonidine (14 percent) and prazosin (12 percent) than with the other drugs.

Conclusions. Among men, race and age have an important effect on the response to single-drug therapy for hypertension. In addition to cost and quality of life, these factors should be considered in the initial choice of a drug. (N Engl J Med 1993;328:914-21.)

Timeline of Race and Hypertension

- By the 1990s: "The pathophysiology of hypertension differs in black adults. For example, hypertension in this population is commonly of the low-renin type ..."

WD Hall. "A Rational Approach to the Treatment of Hypertension in Special Populations." Am Fam Physician 1999; 60 (1)

ALLHAT (JAMA 2002)

30,000 patients with HTN
randomized to lisinopril or
amlodipine vs chlorthalidone,
followed over 4-8 years

30% of patients self-identified
as African American

- **Nonfatal MI + CHD death (primary outcome)**
- All-cause mortality
- Stroke
- Combined CHD
- Combined CVD
- Heart Failure

ALLHAT Results

- Demonstrated the non-superiority of amlodipine and lisinopril to chlorthalidone
 - Chlorthalidone vs amlodipine - no statistical difference in primary outcome, but lower risk for HF across subgroups
 - **Chlorthalidone vs lisinopril** - again, no difference in primary outcome, but lower risk of HF and combined cardiovascular disease across subgroups

ALLHAT Results

- Subgroup analysis for lisinopril vs chlorthalidone for black participants
 - Higher risk of stroke, RR 1.40, (CI 1.17-1.68),
 - Combined coronary heart disease, RR 1.15 (CI 1.02-1.30)
 - Combined cardiovascular disease, RR 1.19 (CI 1.09-1.30)
 - Heart failure, RR 1.32 (CI 1.11-1.58)

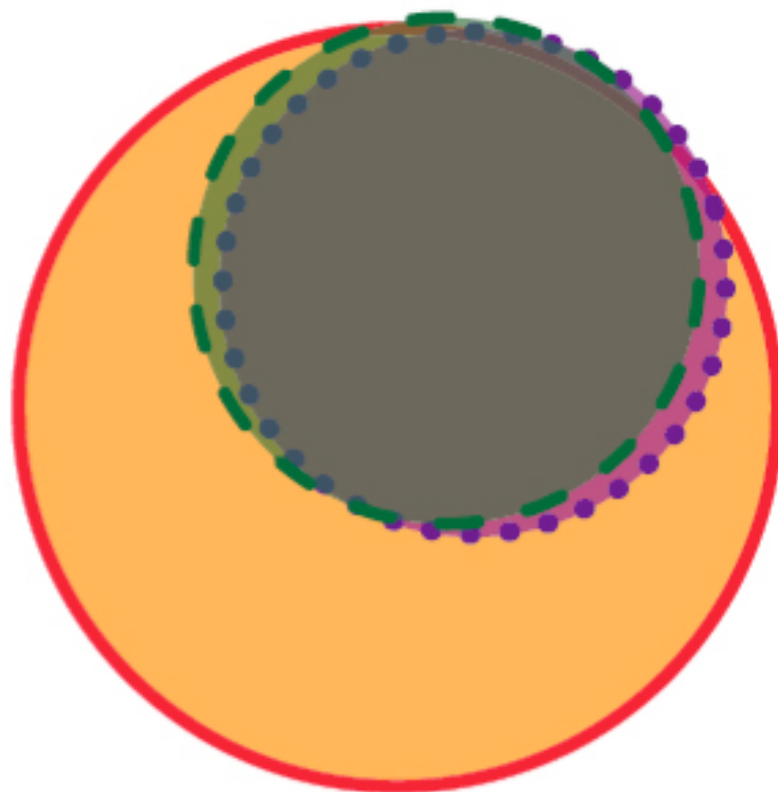
ALLHAT Conclusions

- Lisinopril, when compared to chlorthalidone, resulted in higher rates of combined CVD, stroke, HF and resulted in less BP reduction (only HF outcome was statistically significant)
 - Consistent in all subgroups analyzed, but more pronounced in African Americans than in non-African American patients
- Authors concluded that the diuretic is favored over ACE inhibitors, more so in African American patients



Necessary Assumptions

- There is a genetic/biologic variation in most African Americans that results in lower efficacy of their RAS
- The African American patient in front of us has this variant and we avoid ACE inhibitors **for monotherapy**
- We should treat African Americans different than every other ethnicity, according to the data
- This is the best way to reduce the risk of combined CVD, HF and stroke for our African American patients





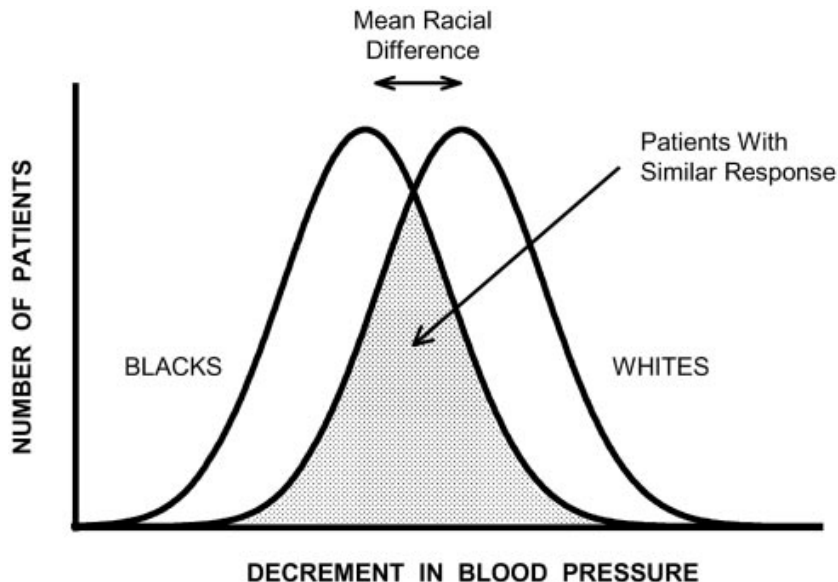
Flack et al, 2010 - ISHIB Consensus Statement

- Contend that the perception that blacks have a less active RAS is a “long-held and erroneous conclusion”
 - The majority of blacks do not have suppressed circulating renin levels
 - Dietary salt suppresses renin production
 - Reduced renin levels is actually associated with higher levels of vascular angiotensin II
 - Overlap in response to antihypertensives

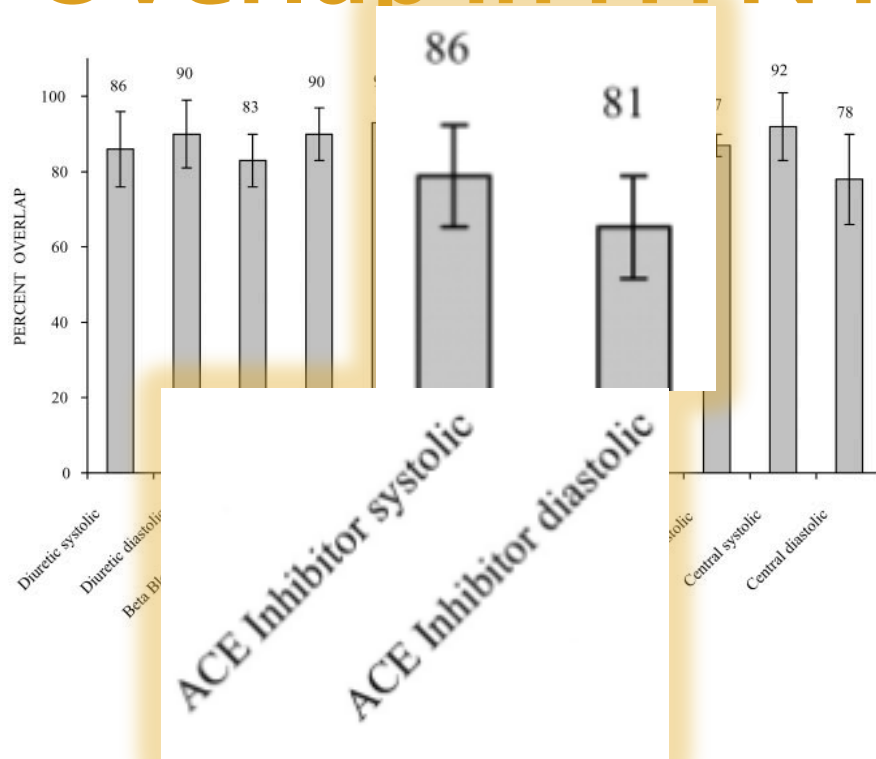
Overlap in HTN Response

Seghal, Hypertension 2004

- Meta analysis
- Goal to quantify how often black and white patients had similar responses to hypertension medications
- 9307 white subjects, 2902 black subjects over 15 studies



Overlap in HTN Response



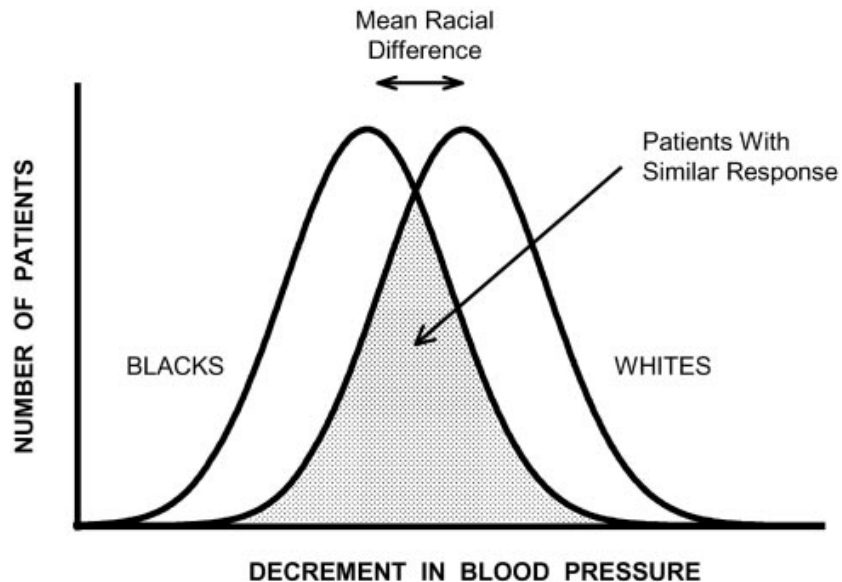
Percent overlap in response between white and black subjects for ACEi was 81-86%

Necessary Assumptions?

Are we only **treating outliers** when we choose to avoid treating African Americans with ACEi as monotherapy?

Are we making **suboptimal treatment choices** because we are convinced of biological difference between us?

Are we perpetuating the race myth by continuing to pursue a question that may have **little clinical significance**?



“They’re inferring something is genetic by elimination of other factors, but geneticists believe that to implicate something as genetic requires direct evidence, as opposed to evidence of absence.” -Neil Risch

Social Determinants of Health

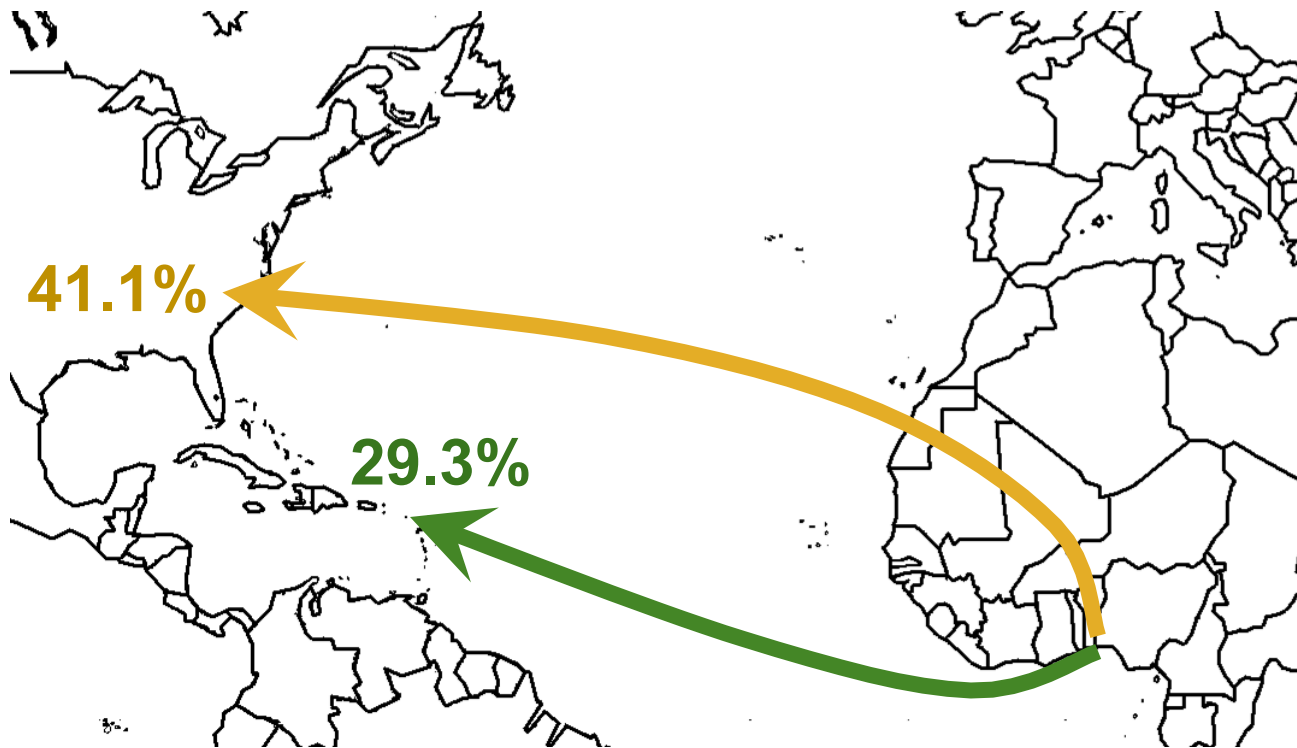
- Socioeconomic status (education, income, occupation) is shown in some studies to be correlated with hypertension
- Many studies find, when controlling for SES, racial differences in such chronic conditions as hypertension remain

Social Determinants of Health

Income
Housing
Health services
Environment
Biology & genetics
Employment & work conditions
Healthy child development
Social support networks
Education



Implicit bias
Racism
Microaggressions





H
Y

BMC Medicine



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Research article

An international comparative study of blood pressure in populations of European vs. African descent

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Accepted: 05 January 2005

Germany

Who is your patient?

- 43yo African American woman?
- 43yo Ghanaian-American woman?
- 43yo Panamanian woman?
- 43yo Eritrean woman?
- 43yo biracial woman?
- 43yo African-British woman?





Case

- This patient happened to be a Kenyan-born American woman
- The data reviewed applies only to US-born West African-descended non-Hispanic blacks

Race and Genetics

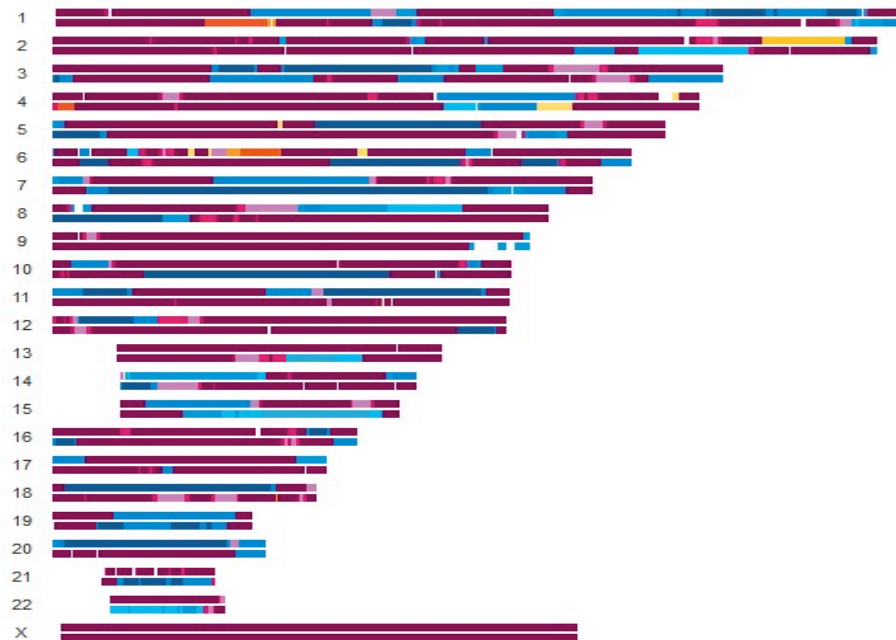


- The concept of race as a social construct is challenged advances in genetic study, particularly with understanding of the human genome
- Studies are underway using single nucleotide polymorphisms (SNPs) to try to explain racial differences in hypertension

Kaufman and Cooper, 2001;
ghr.nlm.nih.gov

Admixture Mapping

- Studies using admixture and commercial genomic companies such as 23andme.com, found that self-identified African Americans have, on average
 - 65-79% African Ancestry
 - 20-30% European ancestry



23andme.com
Smith et al, 2004



Case

How do you want to treat the patient now?

How do you teach your medical students and residents?

Small Group 1

You are attending the week of your residency's inpatient service. This is your first day on call. The team is taking care of 54yo African American man who is being treated for community acquired pneumonia who is recovering and soon ready to be discharged, however, his blood pressure is out of control - ranging 150-160/90s. You notice he is on an odd combination of a beta blocker and potassium-sparing agent. When you ask the team why the patient is on this, your resident produces a paper he found in a PubMed search prior to rounds supporting this combination in African Americans, "Since we don't want to use ACE inhibitors in African Americans."

In your groups, come up with a teaching point for your residents about why this is problematic?





Implicit Bias

- Attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner.

Automatic, unconscious thoughts and feelings dominate when we are busy with other tasks, distracted, tired, or under time pressure, and when people are anxious.





Look in the Mirror



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“A white provider does not have to treat a black patient poorly for racial disparities to emerge – simply treating the white patient more favorably will produce the same effect.”

Implicit Association Test

- It's pervasive
- People are often unaware of it
- It predicts behavior
- People differ in levels of it



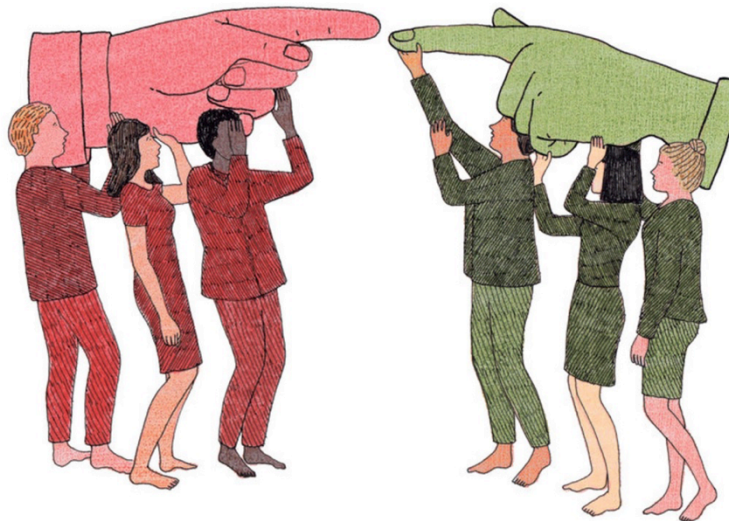
Implicit Bias

- Implicit bias arises from the human tendency to divide ourselves into social groups
 - Often independent of and in contrast to our conscious attitudes
 - Related to discrimination in promotion and hiring, education, **medical care**, and criminal justice

The Roots of Implicit Bias

Gray Matter

By DANIEL A. YUDKIN and JAY VAN BAVEL DEC. 9, 2016





Implicit Bias

- High levels of implicit bias affects practitioners' clinical decision making
- Also impacts behavior in patient encounters
 - Less direct eye contact with patients
 - More closed body language
 - Led to suspicion from patients and less satisfaction in patient encounters
- May also communicate lower expectations to patients



“Over the past two decades, thousands of studies have demonstrated the Black adults and children are less likely to receive appropriate, guideline-concordant, and cutting-edge medical care than their White counterparts, independent of disease status and other clinically relevant factors.”

van Ryn, et al, 2011



Bias in Medicine

- Less likely to be diagnosed with angina when presenting with same chest pain symptoms as whites
- Receive less analgesia when presenting with equivalent long bone fractures
- Less likely to receive procedures than whites who have the same diagnoses
- Higher mortality
- Persists when controlling for comorbidities, stage, severity, age

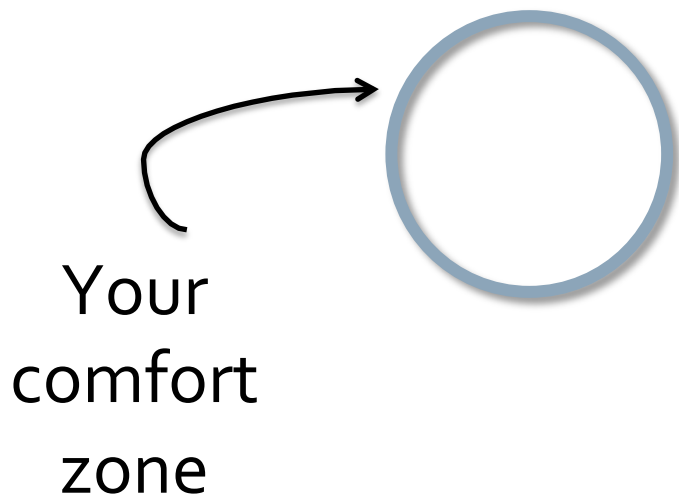
Moving Forward



past have
health



Embracing Discomfort





Break Out

How do we bring conversations about race to our medical schools and residency programs?

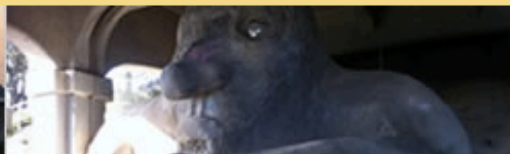
Brainstorm ways to integrate this into curricula?

What are ways we can contribute to national or regional discussions on eliminating race based recommendations?



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Anti-Racism

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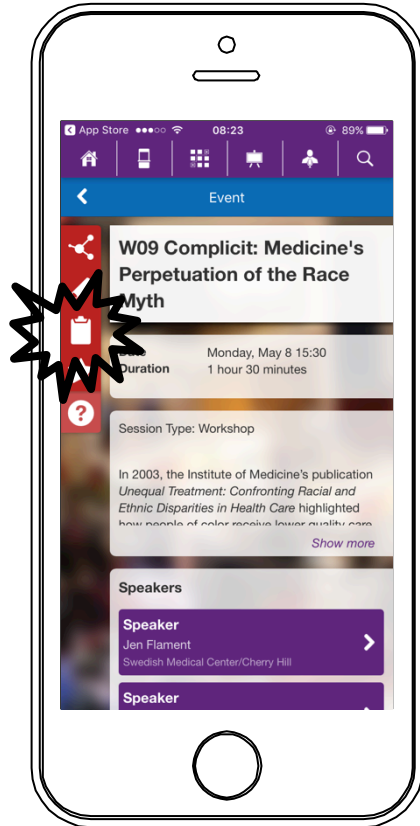
Anti-Racism:

In 2003, the Institute of Medicine published the book "[Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care](#)." It highlighted the finding that people of color receive lower quality care and have worse health outcomes than white people even when controlling for socioeconomic differences, health access and the like. It also notes the ongoing under-representation of people of color in the field of medicine. Historically, the field of medicine has a long history of being complicit in perpetuating racism. Some of the best known examples include using skull measurements to validate racial superiority, experimentation on people of color in studies such as the Tuskegee Syphilis Study, and practicing medical interventions like permanent sterilization on people of color, often without their knowledge or consent. The Institute of Medicine's 2003 report encourages all physicians to inform themselves about these disparities and to strive to eliminate them. As a residency, we have committed to addressing racism and implicit bias as essential for training excellent physicians to serve our diverse communities. In doing so, we developed a longitudinal curriculum on race and anti-racism that is integrated into didactics series and residency training. This curriculum is constantly changing and we regularly review our practices in order to continue to grow as individuals and as an institution. The curriculum includes:

- Implicit bias workshop for interns during first month of residency
- Annual mandatory race workshop for all faculty and residents
- Race in medicine talks during didactics every 3 months

Objectives

1. Recognize race as a social construct with no genetic or biologic basis.
2. Identify at least three instances in which medicine uses race as a scientific variable, in addition to the case of race-based hypertension therapies explored in the workshop.
3. List three ways you can incorporate cultural humility and implicit bias education into medical training at your institution.



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