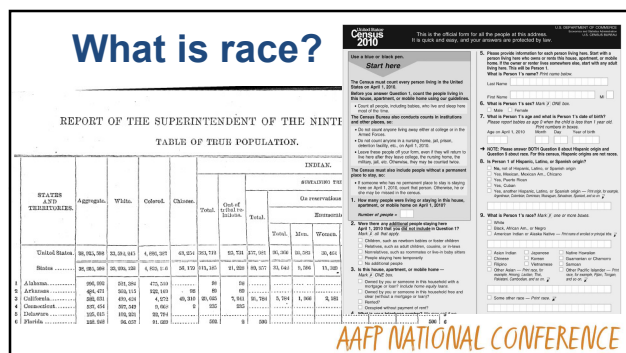


## Objectives

- Is there a genetic basis for race?
- Why do health disparities often exist along racial lines?
- What are the implications for us as family physicians?
- Further develop social and political understandings of race.

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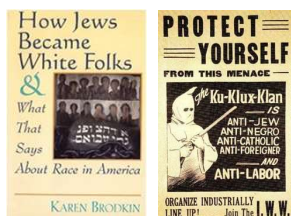
## What is race?



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## What is race?

- Virginia legal definitions of race change between 1705 and 1924
- Racial definitions in United States, Brazil, South Africa – all different



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## What is race?

"Race is indeed a pre-eminently socio-historical concept. Racial categories and the meaning of race are given concrete expression by the specific social relations and historical context in which they are embedded. Racial meanings have varied tremendously over time and between different societies."

- Michael Omi and Howard Winant

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## The search for genetic variation

- Structure: program that divides sampled individuals into a pre-defined number of clusters based on genetic sequences
- Rosenberg, et. al 2002: used Structure to analyze DNA from 1,056 individuals representing 52 global populations and identified 5 main genetic clusters
  - 5 genetic clusters corresponding to major geographic regions: **Africa, Eurasia, East Asia, Oceania, America**

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## The search for genetic variation

- Rosenberg, et. al 2002: DNA from 1,056 individuals representing 52 global populations used Structure to identify 5 main genetic clusters
  - Structure makes computational guesses according to an arbitrary number of genetic clusters pre-determined by the computer user: analysis setting the range at 6-20 clusters showed multiple ways to divide the sampled individuals
  - Within-group variation (93-95% of genetic variability) > between-group variation (5% of genetic variability)

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## The search for genetic variation

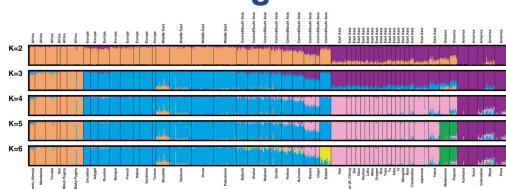


Fig. 1. Estimated population structure. Each individual is represented by a thin vertical line, which is partitioned into  $K$  colored segments that represent the individual's estimated membership fractions in  $K$  clusters. Black lines separate individuals of different populations. Populations are labeled below the figure, with their regional affiliations above it. Ten structure runs at each

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## The search for genetic variation

- "Genetic differences among human populations derive mainly from gradations in allele frequencies rather than from distinctive 'diagnostic' genotypes."
  - Rosenberg, et. al



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## What about geography?

- Can humans be naturally organized into definable, genetically cohesive populations?
- Geographic boundary lines are political, not drawn by natural barriers, and do not correlate to genetic variation frequencies.
- The idea of continental populations as natural groupings is grounded in the concept of populations as natural, isolated, and static.

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## What about ancestry?

- The statistical analysis of genomic science (differences in frequencies) translates poorly to describing the ancestry of a single individual (absolute genetic distinctions between groups).

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## If not biology, what is race?

- There are no biological races in the human species.
- Race *must* be a political category.
- "Race is a political system that will not be brought down with scientific evidence alone. Race persists neither because it is scientifically valid nor because its invalidity remains to be proven. Race persists because it continues to be *politically useful*."

— Dorothy Roberts, *Fatal Invention*

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## What is race?

- Our understandings of race are constantly formed and re-formed by legal, economic, cultural, educational, and medical institutions
  - From slavery to Jim Crow to mass incarceration
  - Citizenship cases: Ah Yup, Bhagat Singh Thind, Takao Ozawa
  - Cultural representation and stereotypes, from minstrel shows to Hollywood to the music industry
  - GI bill, Federal Housing Authority and redlining
  - Immigration laws: Chinese immigration act, Asiatic barred zones, 1965 immigration laws
  - Post-9/11 Islamophobia and surveillance of Muslim communities
  - The model minority myth

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## Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites

Kelly M. Hoffman<sup>a,1</sup>, Sophie Trawalter<sup>a</sup>, Jordan R. Axt<sup>a</sup>, and M. Norman Oliver<sup>a,b,c</sup>

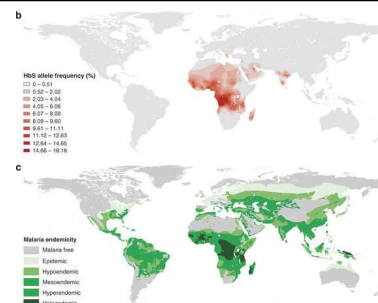
Item	Study 1: Online sample (n = 92)	First years (n = 63)	Second years (n = 72)	Third years (n = 59)	Residents (n = 28)
Blacks age more slowly than whites	23	21	28	12	14
Black* nerve endings are less sensitive than whites*	20	8	14	0	4
Black people's blood coagulates more quickly than whites*	39	29	17	3	4
Whites have larger brains than blacks	12	2	1	0	0
Whites are less susceptible to heart disease than blacks*	43	63	83	66	50
Blacks are less likely to contract spinal cord diseases*	42	46	47	56	57
Whites have a better sense of hearing compared with blacks	10	3	7	0	0
Black* skin is thicker than white*	58	40	42	22	25
Blacks have denser, stronger bones than whites*	39	25	78	41	29
Blacks have a more sensitive sense of smell than whites	20	10	18	3	7
Whites have a more efficient respiratory system than blacks	16	8	3	2	4
Black couples are significantly more fertile than white couples	17	10	15	2	7
Whites are less likely to have a stroke than blacks*	29	49	63	44	46
Blacks are better at detecting movement than whites	18	14	15	5	11
Blacks have stronger immune systems than whites	16	21	15	3	4
Fake tooth composite (11 items), mean (SD)	22.81 (22.93)	14.86 (19.48)	15.91 (19.36)	4.78 (9.89)	7.14 (14.50)
Range	0-100	0-81.82	0-90.91	0-54.55	0-63.64
Correlated mean (SD) (medical sample only)				11.55 (17.86)	

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## Sickle cell allele prevalence and malaria endemicity

Only **99.5%** of African Americans have sickle cell disease.

SCD is common in other tropical regions.



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## If there are no biological differences between races, how do we explain racial disparities in health outcomes?

## How do we understand racial health disparities?

- We need to understand diseases in their social contexts, as politically produced diseases, and use social and political interventions to improve health outcomes.

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## Racial health disparities

- MI outcomes
- Breast cancer disparities
- Preterm delivery and preterm birth
- Sickle cell disease
- Allostatic load
- Epigenetics
- Stress exposure in utero

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## Social policy improves health outcomes

- Creation of Medicaid and Medicare
- War on Poverty
- Civil Rights Act of 1964
- Court-ordered school desegregation

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## What do we do now?

- Intrapersonal
  - Implicit bias training
- Interpersonal
  - Teach medical students this material – race is not biological
  - Stop assuming race, ask patients what they identify
  - Think critically about whether race modifiers are relevant
  - Learn medical Spanish
- Institutional
  - Start centering pregnancy groups
  - Representation matters!
- Structural
  - Teach organizing skills
  - Advocate for social safety net
  - Talk to your elected officials

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# Q&A

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Pamela Hirschman, President  
+ Richard L. Stroup, President

## Action steps

- Identify strategic goals at your home institution.
- Who are potential allies, opposition, or unknown?
- Under what condition might the decision makers change the difference?

“An appropriate strategy should have as its starting point the defeasible presumption that blacks and whites are biologically the same with respect to disease and treatment. Presumptions can be overturned, of course, and the strategy should recognize the possibility that biological difference in some contexts are possible. But the presumption of equality acknowledges that historically the greatest harm has come from the willingness to impute biological differences rather than the willingness to overlook them.”

– Patricia King, The Dangers of Difference, 1992

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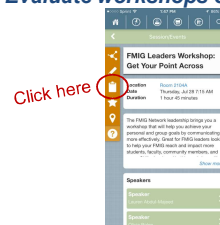
## Acknowledgements

- Roberts, Dorothy. *Fatal Invention: How Science, Politics, and Big Business Re-Created Race in the Twenty-First Century*. New York: The New Press, 2011.
- Fields, Karen and Barbara Fields. *Racecraft: The Soul of Inequality in American Life*. Verso, 2014.
- Omi, Michael and Howard Winant. *Racial Formation in the United States: From the 1960s to the 1990s*. Routledge, 1994.
- Thanks to: Viviana Martinez-Bianchi, Duke Family Medicine, and the AAFP!

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