Race & Racism
September 22, 2014

Race and Medicine

Reading:

Esteban González Burchard, et al. 2003. "The Importance of Race and Ethnic Background in Biomedical Research and Clinical Practice." *New England Journal of Medicine*.

Michael Root. 2002. "The Use of Race in Medicine as a Proxy for Genetic Differences." *Philosophy of Science.*

1. Arguments in favor of the use of race in medicine.

a. Correlation with socioeconomic factors:

"Socioeconomic status is strongly correlated with race and ethnic background and is a robust predictor of access to and quality of health care and education, which, in turn, may be associated with differences in the incidence of diseases and the outcomes of those diseases." (Burchard et al, 1171)

- Here "biological race" is not the determining factor.
- Information about SES, not race, is what matters.

b. Genetic clustering

There are genetic clusters associated with five major racial groups (Black/African-American; white; Asian; Native Hawaiian or other Pacific Islander; American Indian or Alaskan Native) and these racial groups correspond well to self-identified race. And genetic variation accounts for "medically important differences in disease outcomes among racial and ethnic groups." (Burchard et al, 1172)

"For example, numerous mutations with frequencies in this range occur uniquely in Ashkenazi Jews, French Canadians, the Amish, or European gypsies." (1172)

"Susceptibility to Crohn's disease is associated with three polymorphic genetic variants in the CARD15 gene in whites; none of these genetic variants were found in Japanese patients with Crohn's disease."

Other examples in text.

- What do you notice about these comparisons?

c. Bias and quality of care

"Currently, racial and ethnic minorities in the United States are underrepresented in many clinical studies. If investigators ignored race and ethnic background in research studies and persons were sampled randomly, the overwhelming majority of participants in clinical studies in the United States would be white, and minority populations would never be adequately sampled." (Burchard et al, 1174)

2. Why shouldn't we use race as a factor in medicine (clinical practice and/or research)?

a. Biological "race" is an illusion

"Although there are heritable differences between us, they do not cluster and do not pick out the classes we call 'races.'" (Root, 1174)

"But racial differences can be biologically salient, even if they are not themselves based in biology." (Root, 1175)

b. *Race can function as a "proxy" for other factors, but as "proxy" it is not reliable at the level of individuals.*

> "One variable X is used as a proxy for another Y when X is used in the place of Y to make a particular decision about an individual. Let Y be a variable that is material to an interest I but that cannot be directly measured, and X a variable that can be directly measured but is not material to I but correlates with Y. In that case, X is a proxy for Y if X is used instead of Y in making a decision about the individual in order to further I." (Root, 1175-6)

Compare the use of SAT scores for predicting first semester college grades.

- What is "statistical discrimination"? How is "statistical discrimination" related to "racial profiling"?
- Is the use of race in medicine a matter of "racial profiling"?

Because there is a statistical correlation between race and disease, "many doctors believe that racial profiling in medicine is reasonable and fair, even if racial profiling in law enforcement is not. They reason that if it is legitimate for an epidemiologist to stratify a population by race when explaining differences in disease rates within the population, then it should be legitimate for doctors to divide their patients by race as well when deciding how best to treat them. *There is, however, an important difference between using race as an individual and using race as a population variable.*" (Root, 1176 (my italics))

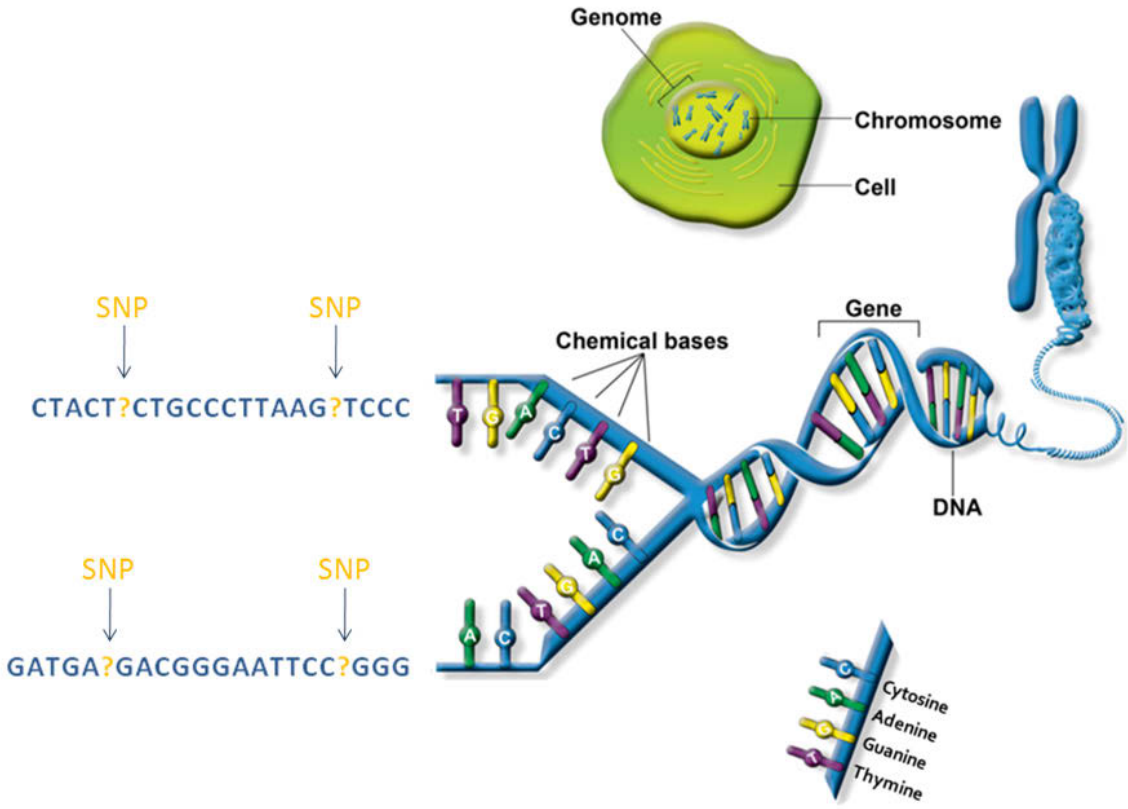
Why? (Root, 1177-79)

- Race, as proxy, is not a good predictor of an individual's susceptibility to disease or response to treatment, e.g., the genes responsible for the disease, or the response to treatment, vary independently of race.
    - A significant number of individuals will fall outside the statistical norm.
    - Environmental information and ancestry are more relevant to prediction.
    - Neither the doctor's nor the patient's assignment of race may accurately represent the individual's ancestry.
- Use of race, as proxy, encourages the belief that race is a genetic category.
- Use of race allows for genetic discrimination against minority groups in employment, etc.
- "To be fair to a patient, a doctor needs to treat him as an individual rather than as a representative of a racial group, and if the doctor is to treat him as a representative of any group at all, the group should not be identified by race if race masks a population-level variable that bears more directly on the medically relevant trait." (Root, 1180)

c. Shouldn't we be seeking correlations between race and disease/treatment response? Isn't race relevant in research, even if not in clinical practice?

- Race is not like sex: there is no race chromosome or race gene.
- We should be aiming to find correlations with ancestry, or environment, not race. These are what matter. Race is a distraction.
- Race-conscious medicine is likely to leave racially subordinated groups less well-off for it will reinforce racial groupings that are politically detrimental. (1182)

Background on genes, chromosomes, alleles, and SNPs.



Allele: one of two or more alternative forms of a gene that arise by mutation and are found at the same place on a chromosome.

SNP: a DNA sequence variation occurring commonly within a population (e.g. 1%) in which a single nucleotide — A, T, C or G — in the genome (or other shared sequence) differs between members of a biological species or paired chromosomes.

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