

SOC 3510; WEEK 10, 10/27/16

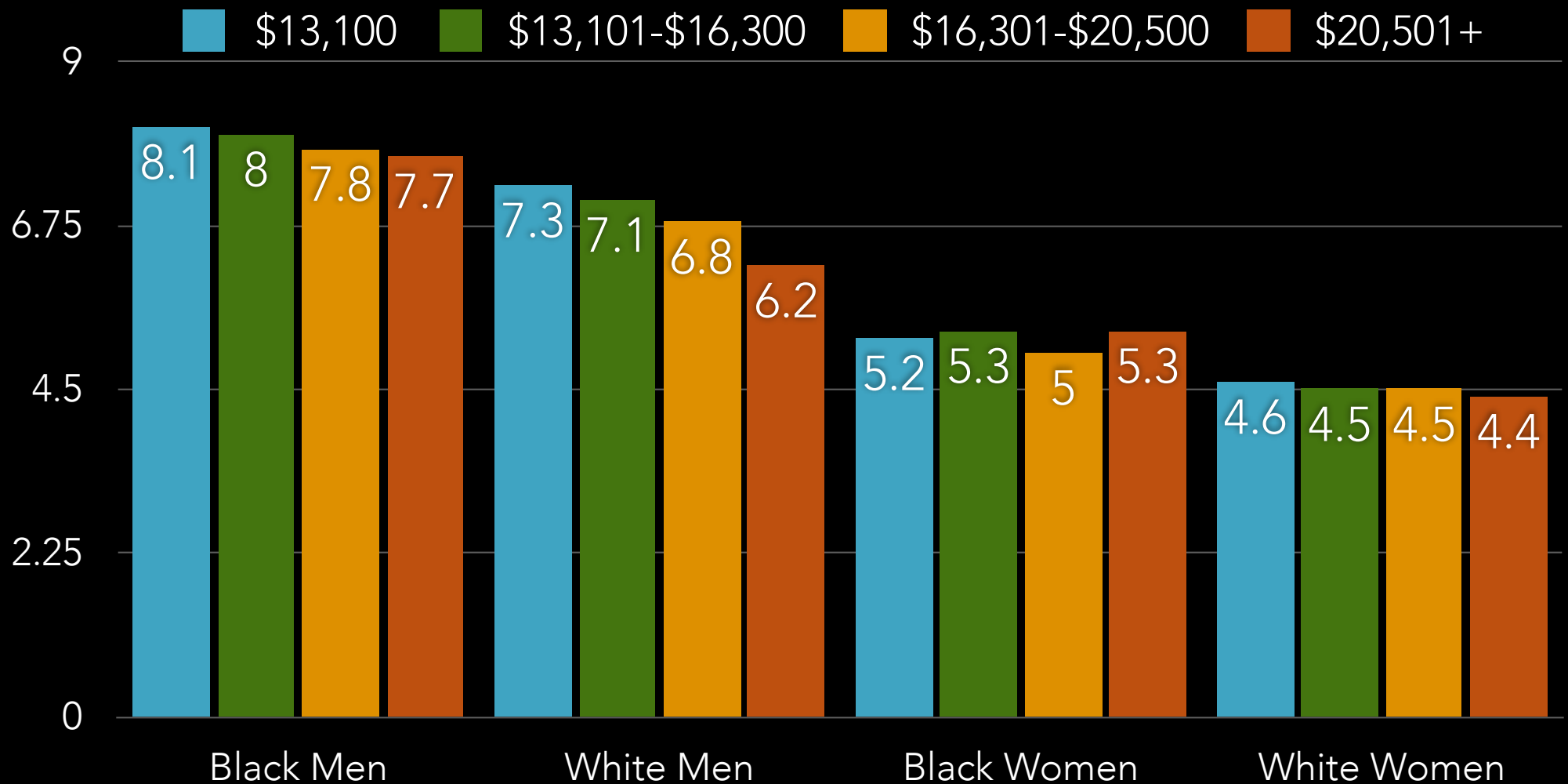
# RACE/ETHNICITY AND HEALTH II



# SES EXPLAINS PART OF THE RACIAL HEALTH GAP

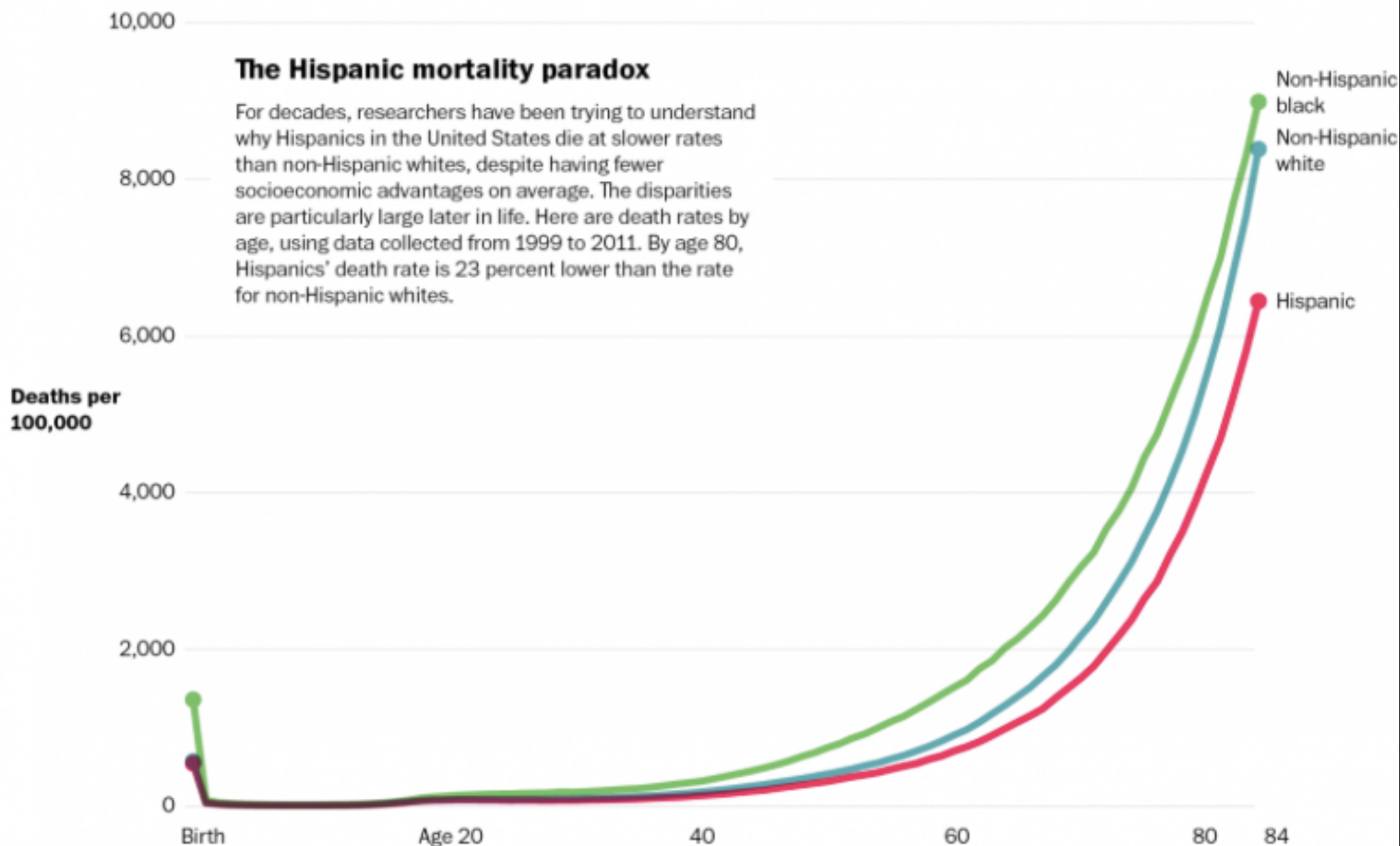
BUT NOT ALL (FARMER AND FERRARO 2005; GORNICK ET AL. 1996; LOUIE AND WARD 2011; SCHOENBAUM AND WAIDMANN 1997;.....)

## DEATH RATES AMONG MEDICARE BENEFICIARIES (GORNICK ET AL. 1996)



## The Hispanic mortality paradox

For decades, researchers have been trying to understand why Hispanics in the United States die at slower rates than non-Hispanic whites, despite having fewer socioeconomic advantages on average. The disparities are particularly large later in life. Here are death rates by age, using data collected from 1999 to 2011. By age 80, Hispanics' death rate is 23 percent lower than the rate for non-Hispanic whites.



SOURCE: CDC

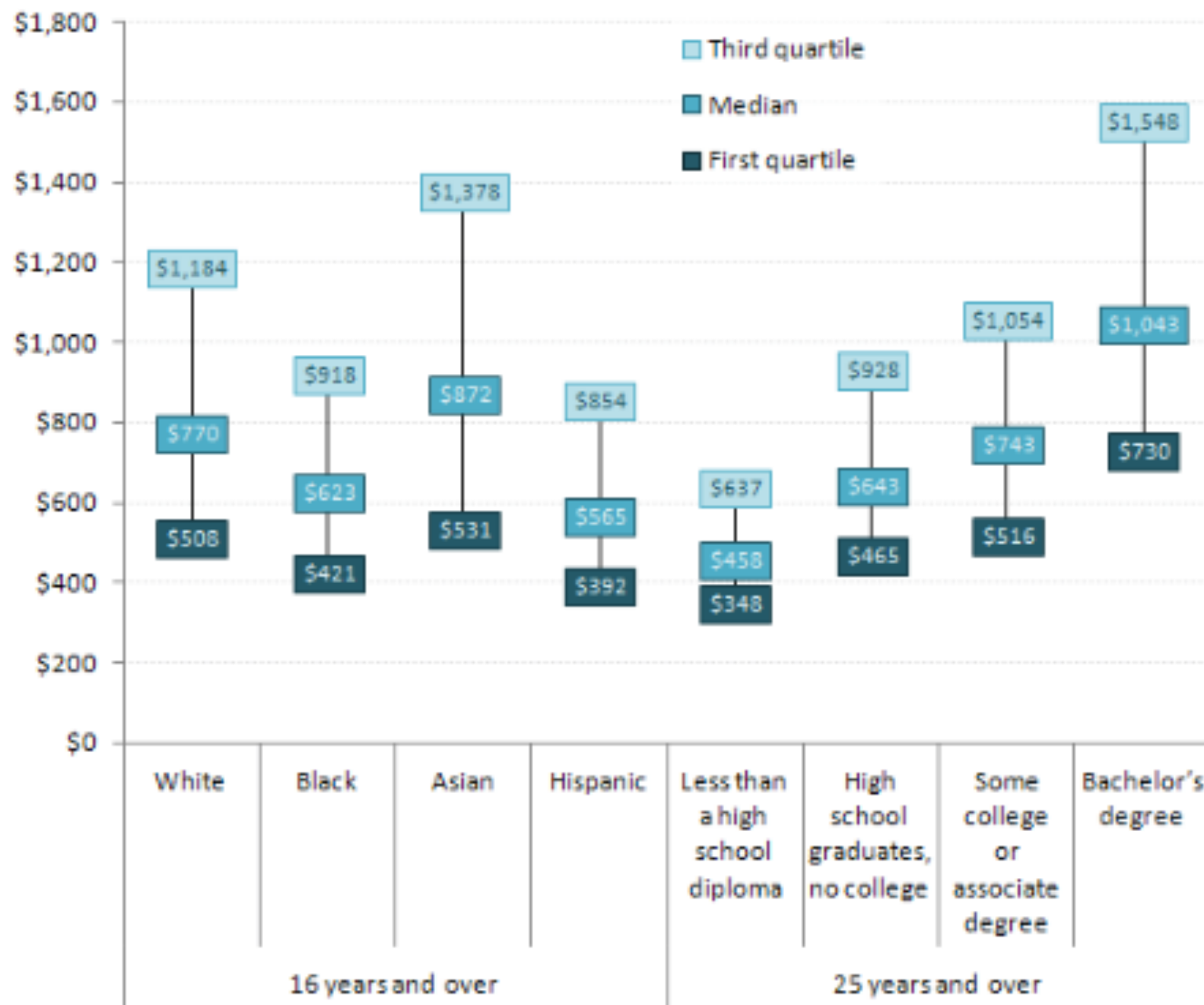
[washingtonpost.com/storyline](http://washingtonpost.com/storyline)

# HISPANIC/LATINO HEALTH PARADOX

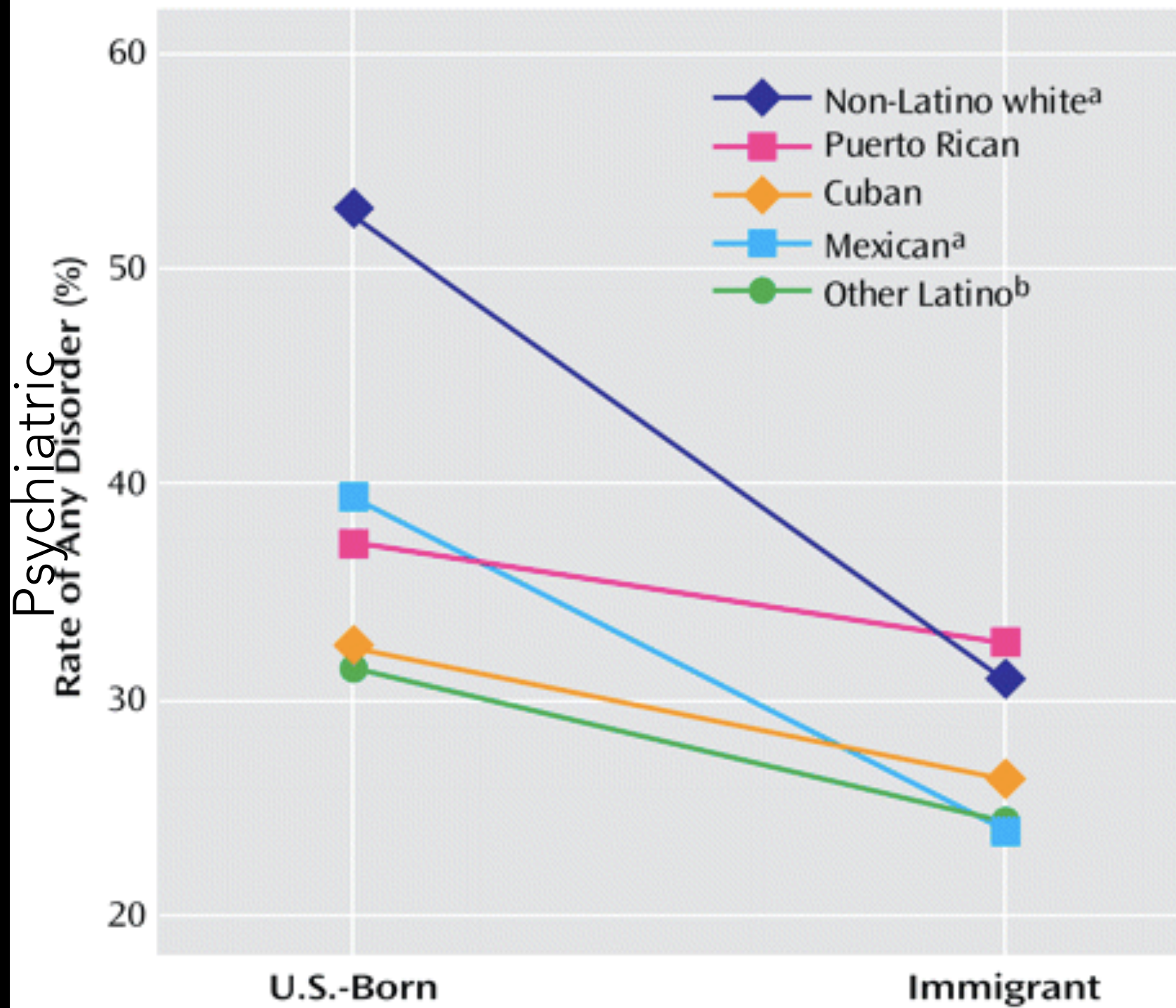
- Hispanic/Latino immigrants have better health outcomes despite lower SES backgrounds
- Deaths not undercounted either by checking death certificates (Arias et al. 2010) and looking at the mortality rate in longitudinal medical studies (Daviglus et al. 2012)



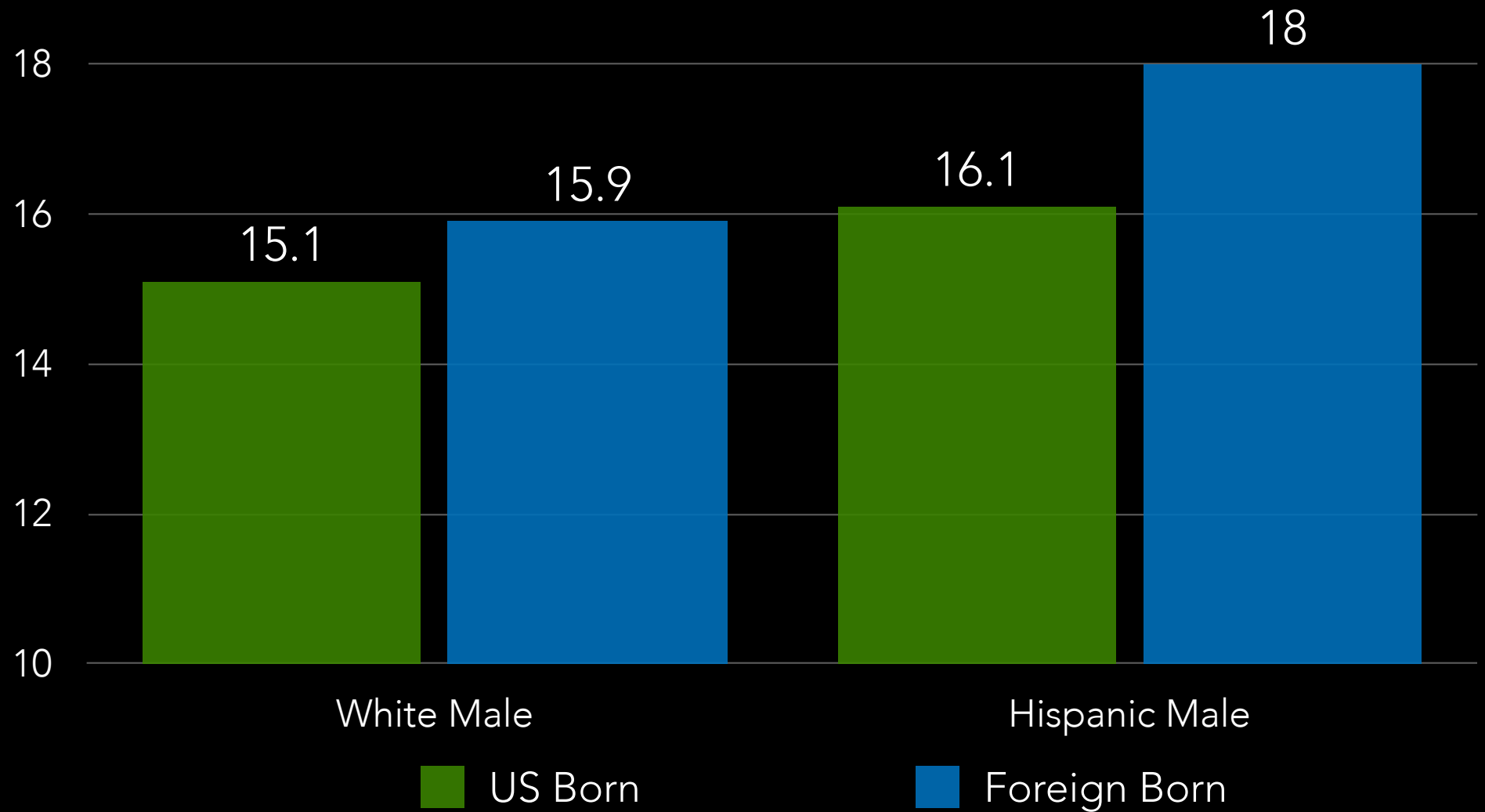
# **Quartiles of usual weekly earnings of full-time wage and salary workers, by race and ethnicity and educational attainment, 2nd quarter 2011**



Source: U.S. Bureau of Labor Statistics



## LIFE EXPECTANCIES BY AGE 65



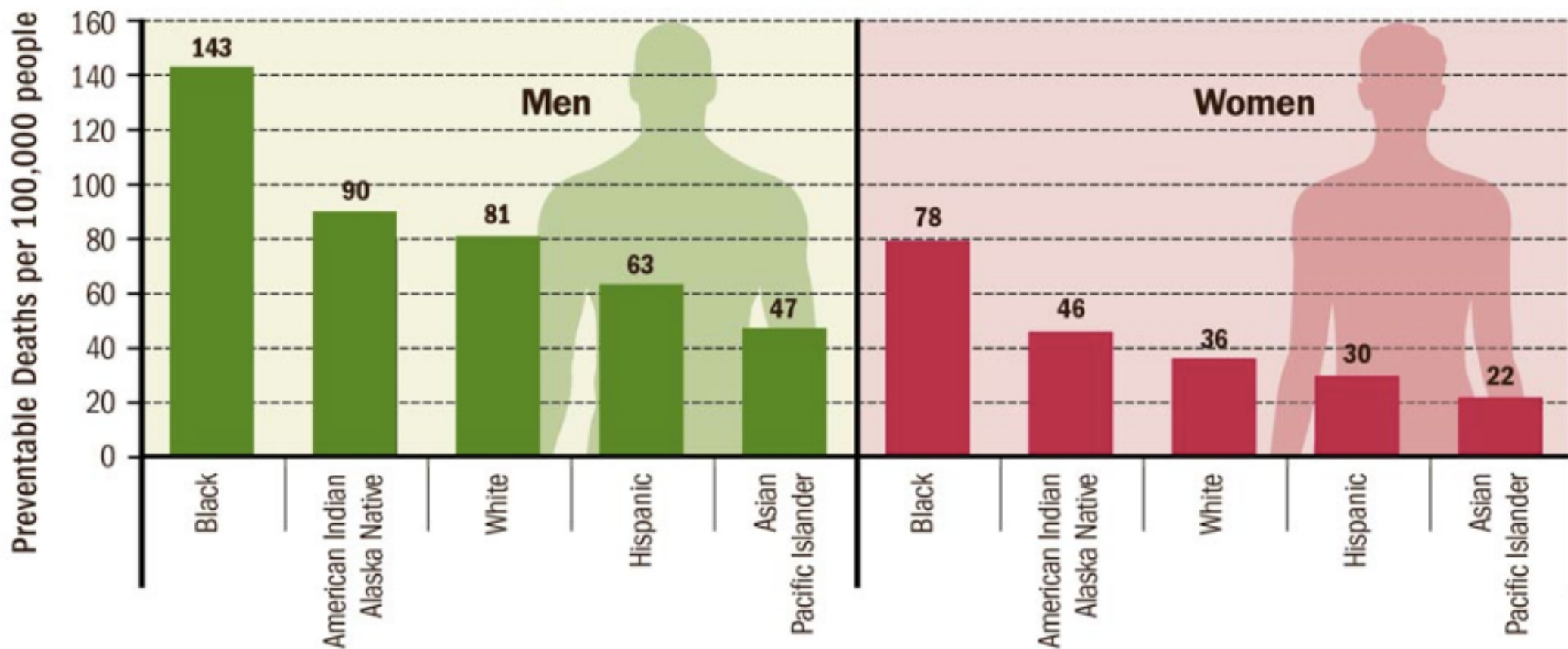
Jasso et al. 2004

# HISPANIC/LATINO HEALTH PARADOX

- Hispanic/Latino immigrants tend to have better health outcomes despite lower SES backgrounds
  - Why?
    - Cultural factors
    - Healthy immigrant selection
    - Salmon hypothesis (unhealthy remigration)



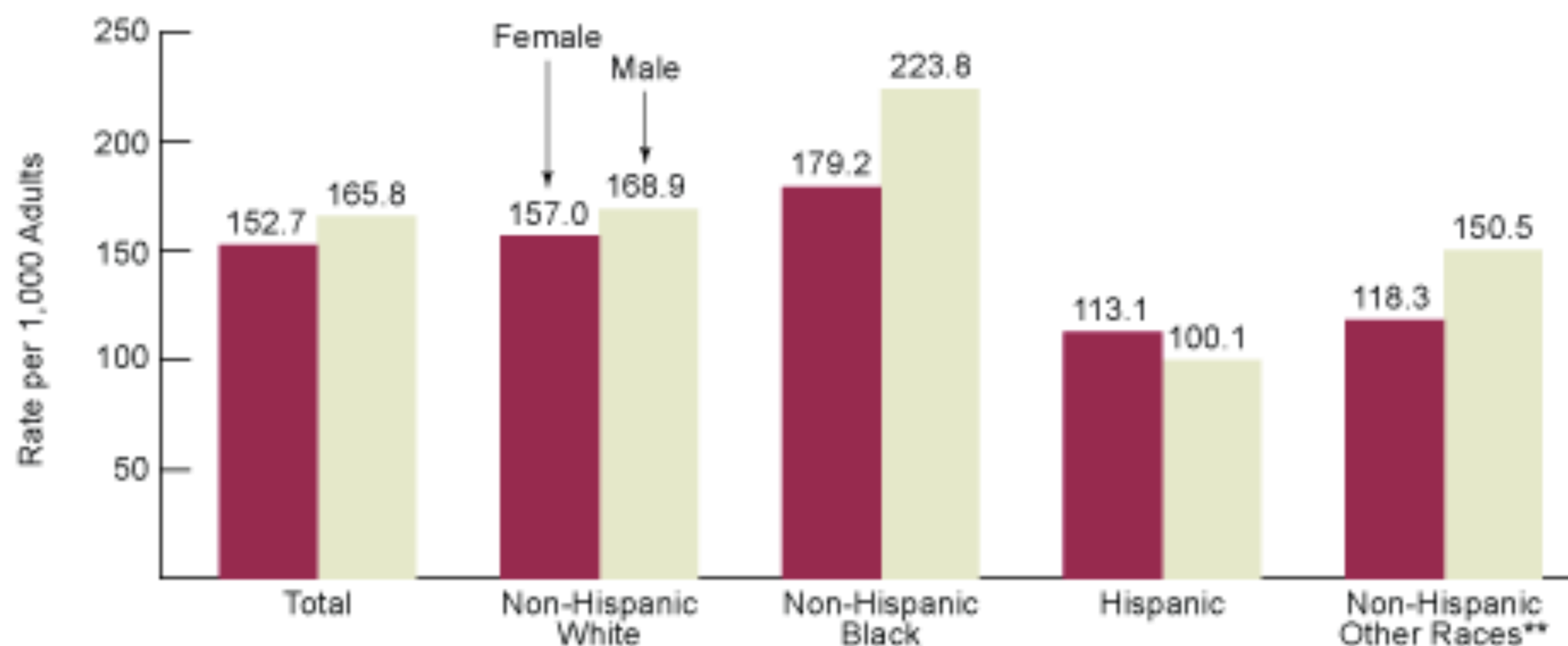
## Black men are at highest risk of dying early from heart disease and stroke



SOURCE: National Vital Statistics System, US Census Bureau, 2010.

## Adults Aged 18 and Older with Hypertension,\* by Race/Ethnicity and Sex, 2005–2006

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey

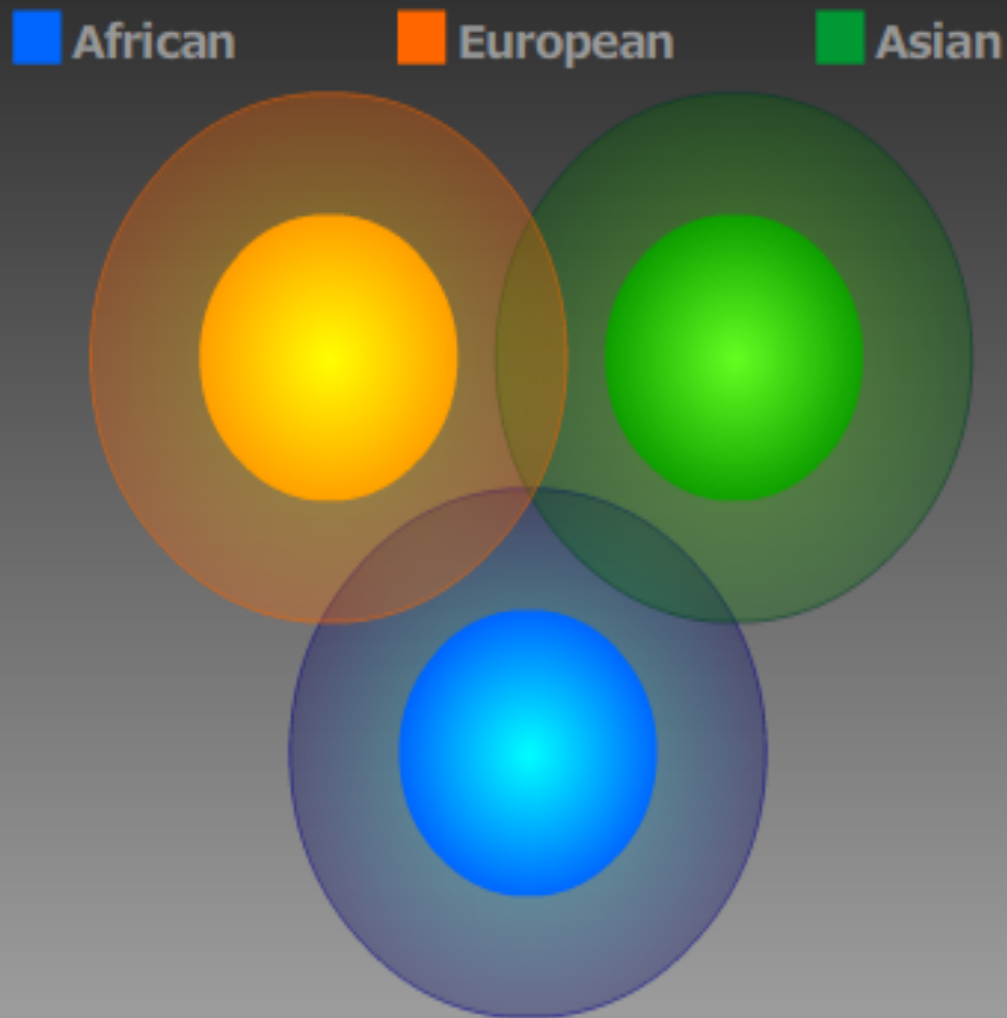


\*At the time of examination had a systolic pressure (during heartbeats) of 140 or higher, and/or a diastolic pressure (between heartbeats) of 90 or higher. Rates are not age-adjusted. \*\*Includes Asian/Pacific Islander, American Indian/Alaska Native, persons of more than one race, and persons of other races not specified.

WHEN EXAMINING RACIAL  
DISPARITIES IN HEALTH, WHAT ARE  
THE REMAINING BIG FACTORS  
THAT EXPLAIN THE SUBSTANTIAL  
DISPARITIES EVEN WHEN THE  
EFFECT OF SES, ACCESS TO  
HEALTH CARE, AND HEALTH  
BEHAVIORS ARE ELIMINATED?

# GENETIC VARIATION, CLASSIFICATION AND 'RACE' (JORDE AND WOODING 2004)

- Genetic variation between a randomly selected pair of humans is about 1 in 1,000 nucleotides (0.1% genetic variation among individuals)
- The genetic difference between 2 random people from 2 different geographical regions (e.g., continents) would be about 5-15% greater than those from the same region
  - So variation divides roughly geographically...
    - But this also depends depends on how many geographical clusters you tell the computer program to generate



### **The Essentialist Concept, an Abstract Interpretation**

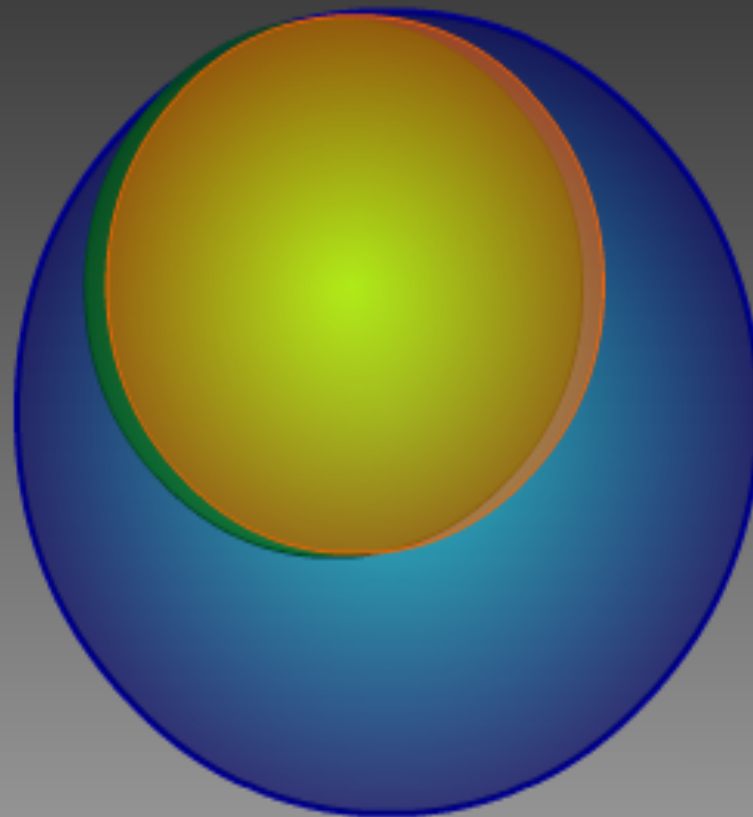
In this view, the human species is divided into races defined by anatomical features; individual variations and mixtures between races (shown here by the overlapping translucent circles) are seen as unimportant deviations from the basic pure races (shown here by the solid circles).



■ African

■ European

■ Asian



View Genetic  
Diversity by  
Population:

▶ Asian ■

▶ European ■

▶ African ■

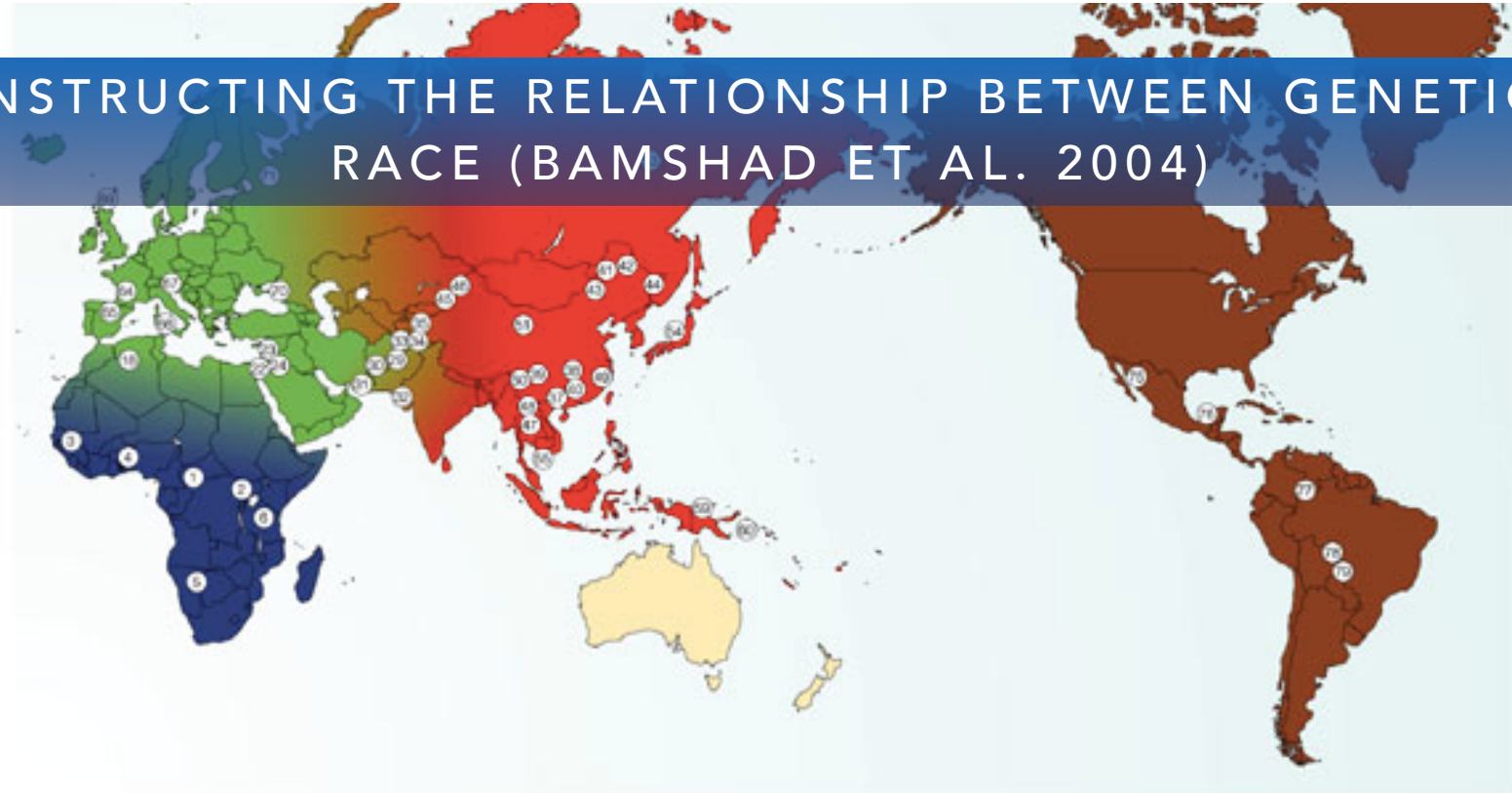
▶ All

▶ None

### **Actual Patterns of Diversity Based on Observed Data**

The pattern of DNA variation across populations shows a nested subset. African populations harbor some alleles (gene variations) that are absent in non-African populations; however, all of the alleles that are common in non-African populations are also common in African populations.

# DECONSTRUCTING THE RELATIONSHIP BETWEEN GENETICS AND RACE (BAMSHAD ET AL. 2004)



ID population\*

## Africans

- 1 Biaka pygmy
- 2 Mbuti pygmy
- 3 Mandenka
- 4 Yoruba
- 5 San
- 6 Bantu (Kenya)

## Europeans

- 18 Mozabite
- 22 Bedouin
- 23 Druze
- 24 Palestinian
- 29 Balochi
- 30 Hazara
- 31 Makrani
- 32 Sindhi
- 33 Pathan
- 34 Kalash
- 35 Burusho
- 64 French
- 65 Basque
- 66 Sardinian
- 67 Bergamo
- 69 Orcadian
- 70 Adygei
- 71 Russian

## Asians

- 37 Han
- 38 Tuja
- 39 Yizu Yi
- 40 Miaozi Miao
- 41 Oroqen
- 42 Daur
- 43 Mongola
- 44 Hezhen
- 45 Xibo
- 46 Uyghur
- 47 Dai
- 48 Lahu
- 49 She
- 50 Naxi
- 51 Tu
- 53 Yakut
- 54 Japanese
- 55 Cambodian
- 59 Papuan
- 60 Melanesian

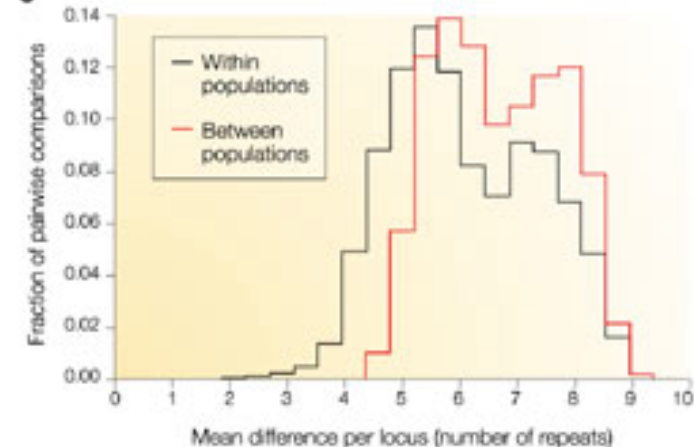
## Native Americans

- 75 Pima
- 76 Maya
- 77 Piapoco
- 78 Karitiana
- 79 Surui

## b

	Africans	Europeans	Asians
Europeans	0.635		
Asians	0.645	0.617	
Native Americans	0.739	0.666	0.650

## c

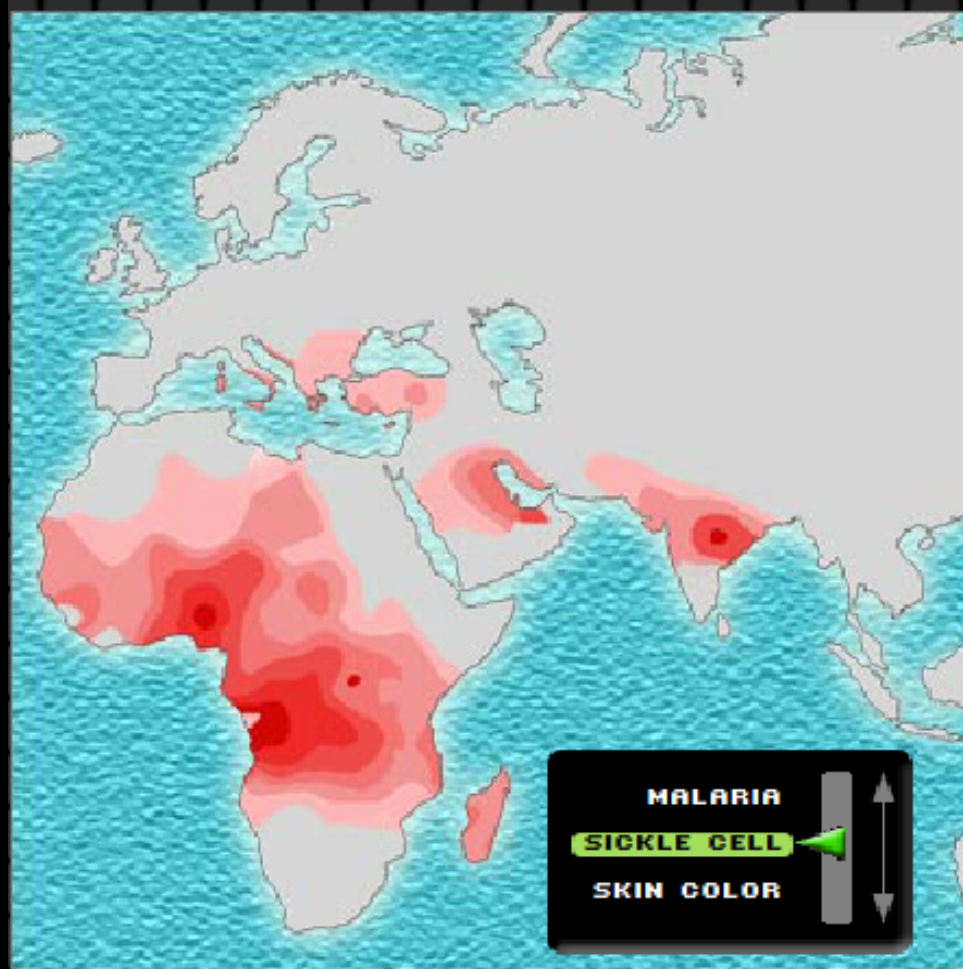


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# SICKLE CELL AND MALARIA INCIDENCE



“[Genetic] clustering of individuals is correlated with geographic origin or ancestry. These clusters are also correlated with some traditional concepts of race, but the correlations are imperfect.”

–JORDE AND WOODING, 2004



# GENES/ENVIRONMENT EXAMPLE

- Gravalee et al. 2009: Genetic ancestry a significant predictor of systolic blood pressure among Puerto Ricans
  - But association went away when SES and socially constructed racial categories ("color") was taken into account
- Gravalee et al. 2005a; 2005b: Culturally defined racial categories stronger predictor of blood pressure than skin color (phenotypic marker)

# 'RACIAL' MEDICINE

**BiDil**  
isosorbide dinitrate/hydralazine HCl

**PAY AS LITTLE AS \$25\***

- Reduce your co-pay on your BiDil prescription

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**I am a healthcare provider** interested in prescribing BiDil to my patients

**I am a patient/ caregiver** interested in learning about BiDil for African Americans with heart failure



THE GENOMIC  
REVOLUTION AND  
BELIEFS ABOUT  
ESSENTIAL RACIAL  
DIFFERENCES

