

**“Large Populations, Ethnic Communities and**

*Dichotomy Between Social Identity and Ancestry in Large  
Population Studies*

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*Secretary's Advisory Committee on Genetics, Health, and Society  
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## Desired Level of Resolution??

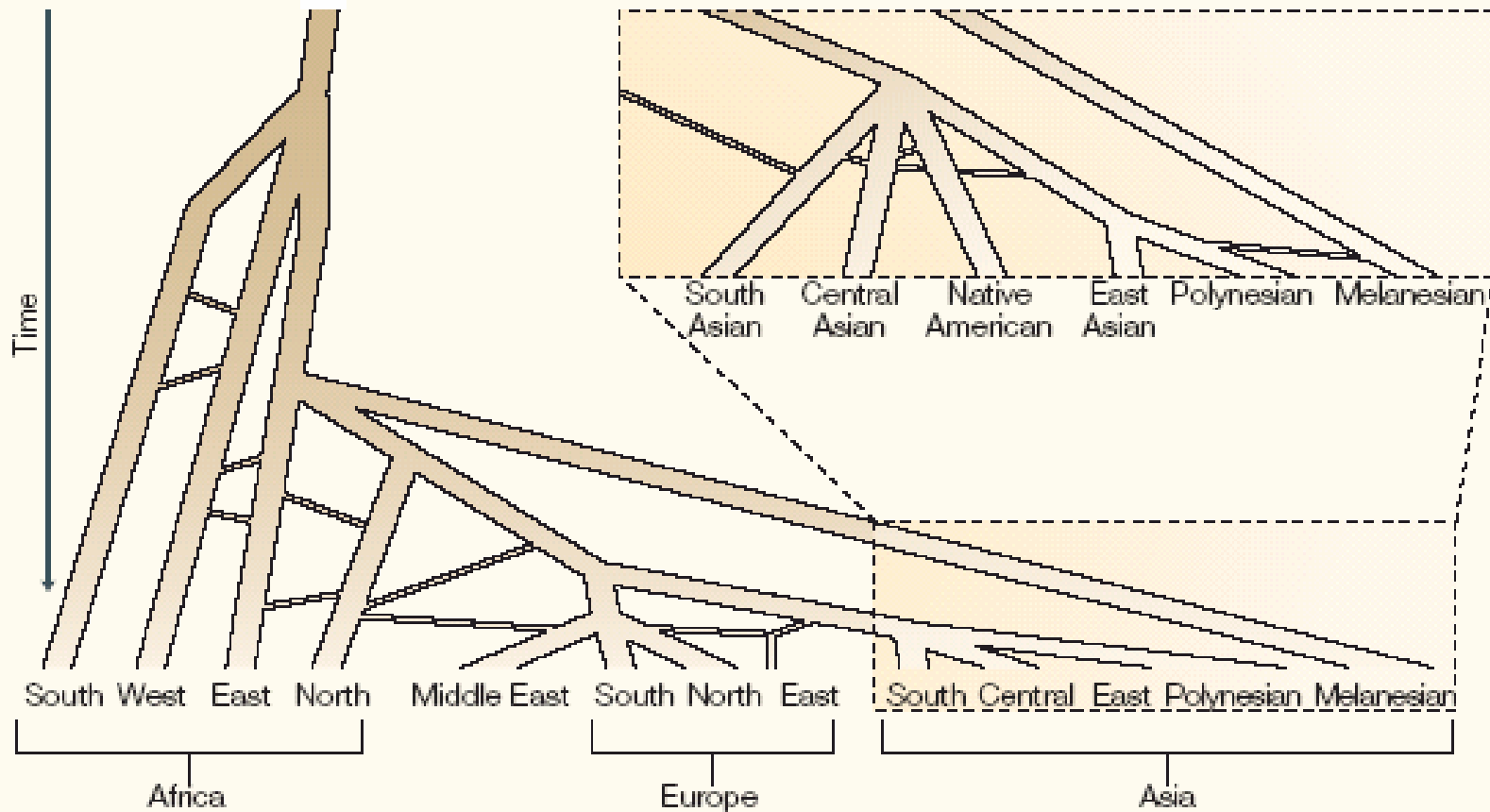


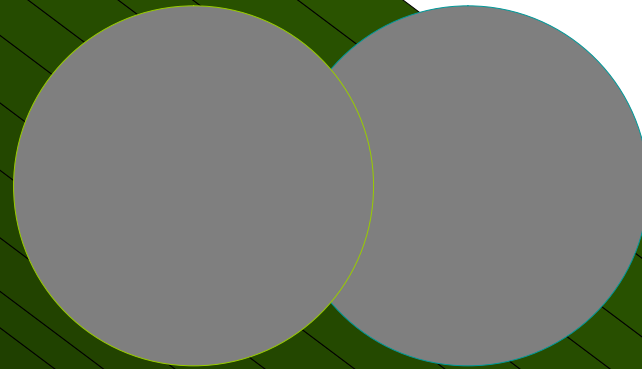
Figure 1 | A schematic tree of evolutionary relationships among the principal human population groups. Primary branch points in human evolution are shown, as well as admixture and gene-flow events (indicated as horizontal or slightly sloping connections between adjacent branches).

Shriver and Kittles – nature review

# Human Diseases

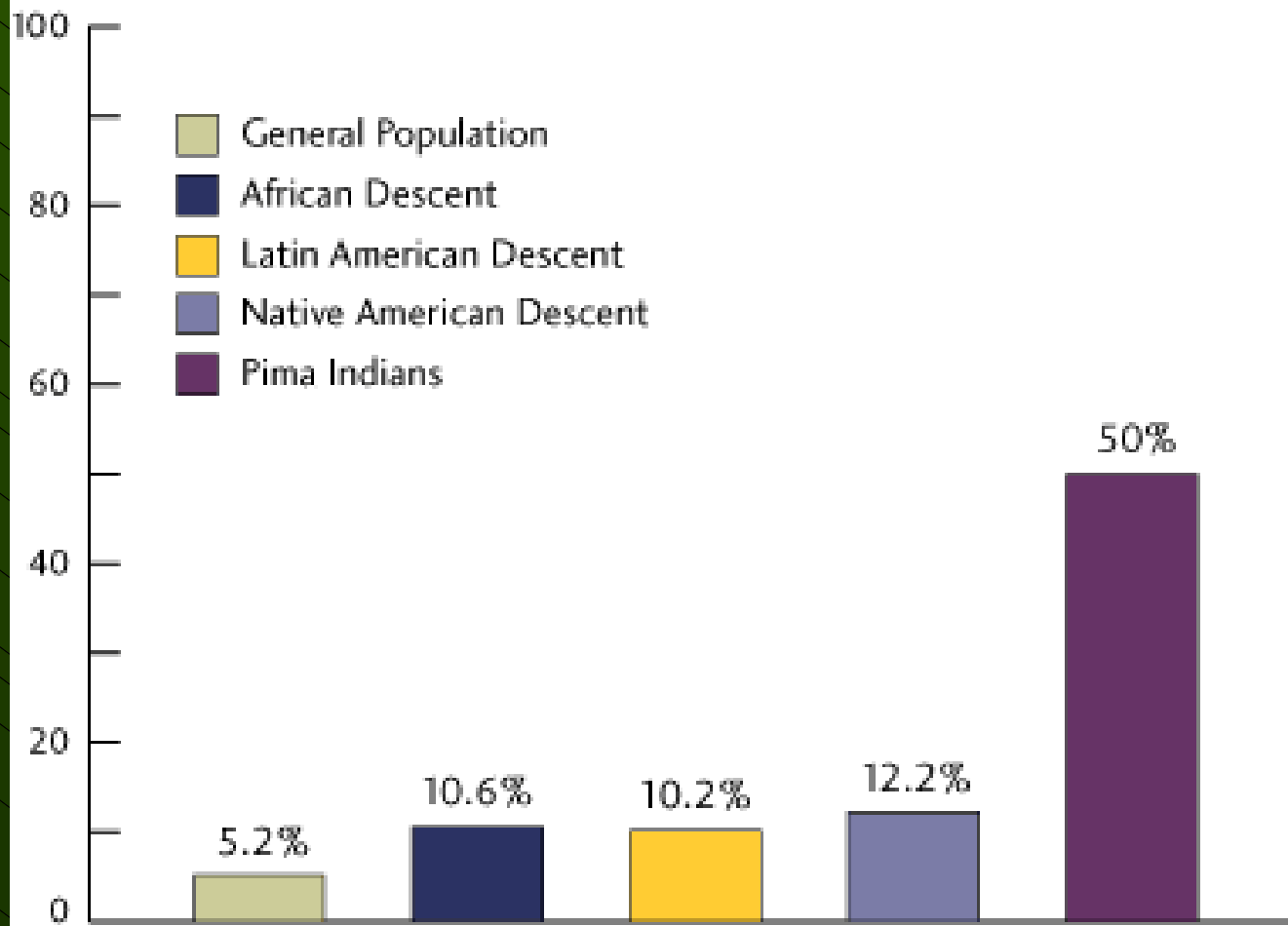
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**Understanding Disease Etiology**



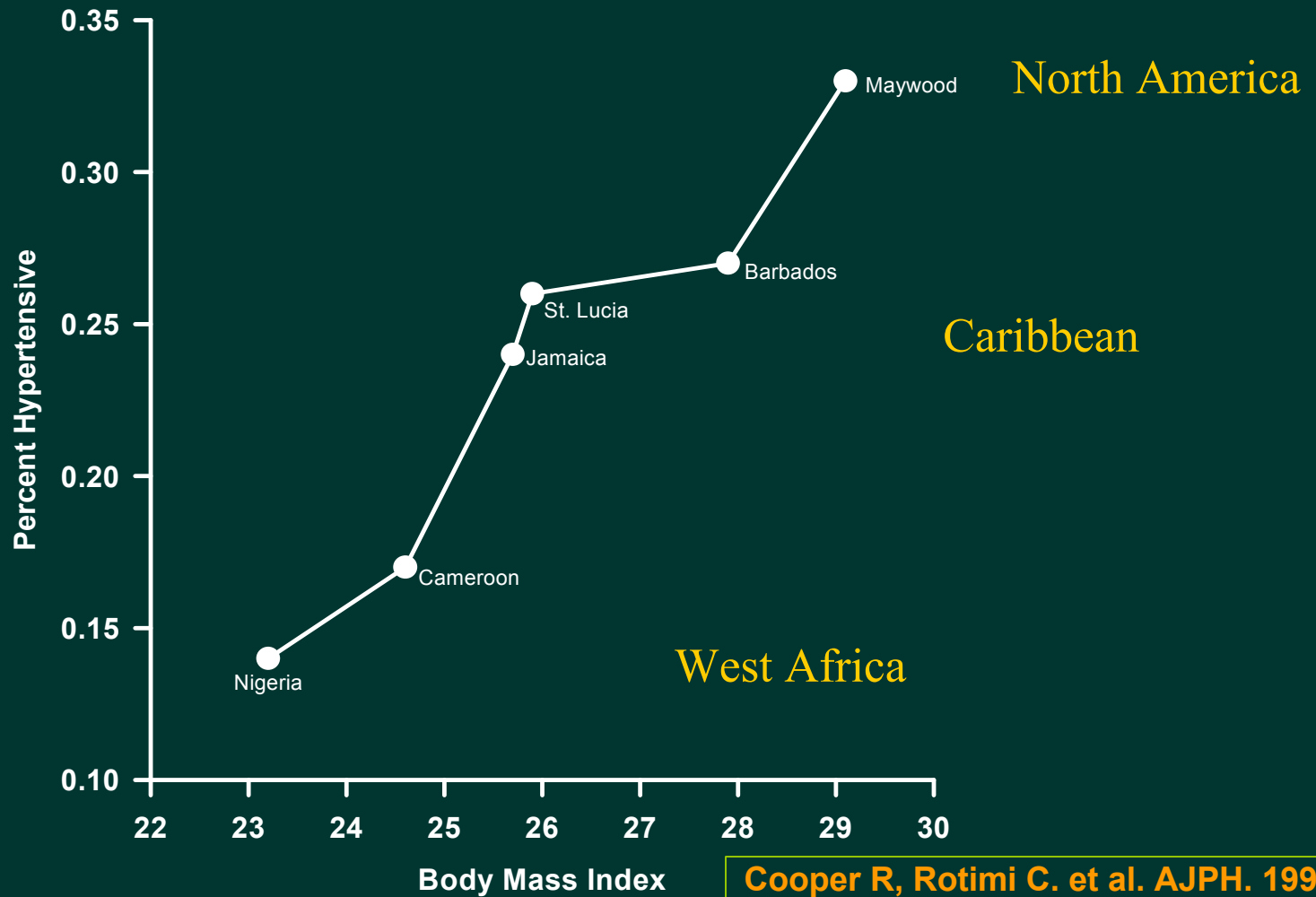
**Eliminating Health Disparity**

## Prevalence of Type 2 Diabetes By Ethnic Groups



[http://www.genetichealth.com/DBTS\\_What\\_Is\\_Type\\_2\\_Diabetes.shtml](http://www.genetichealth.com/DBTS_What_Is_Type_2_Diabetes.shtml)

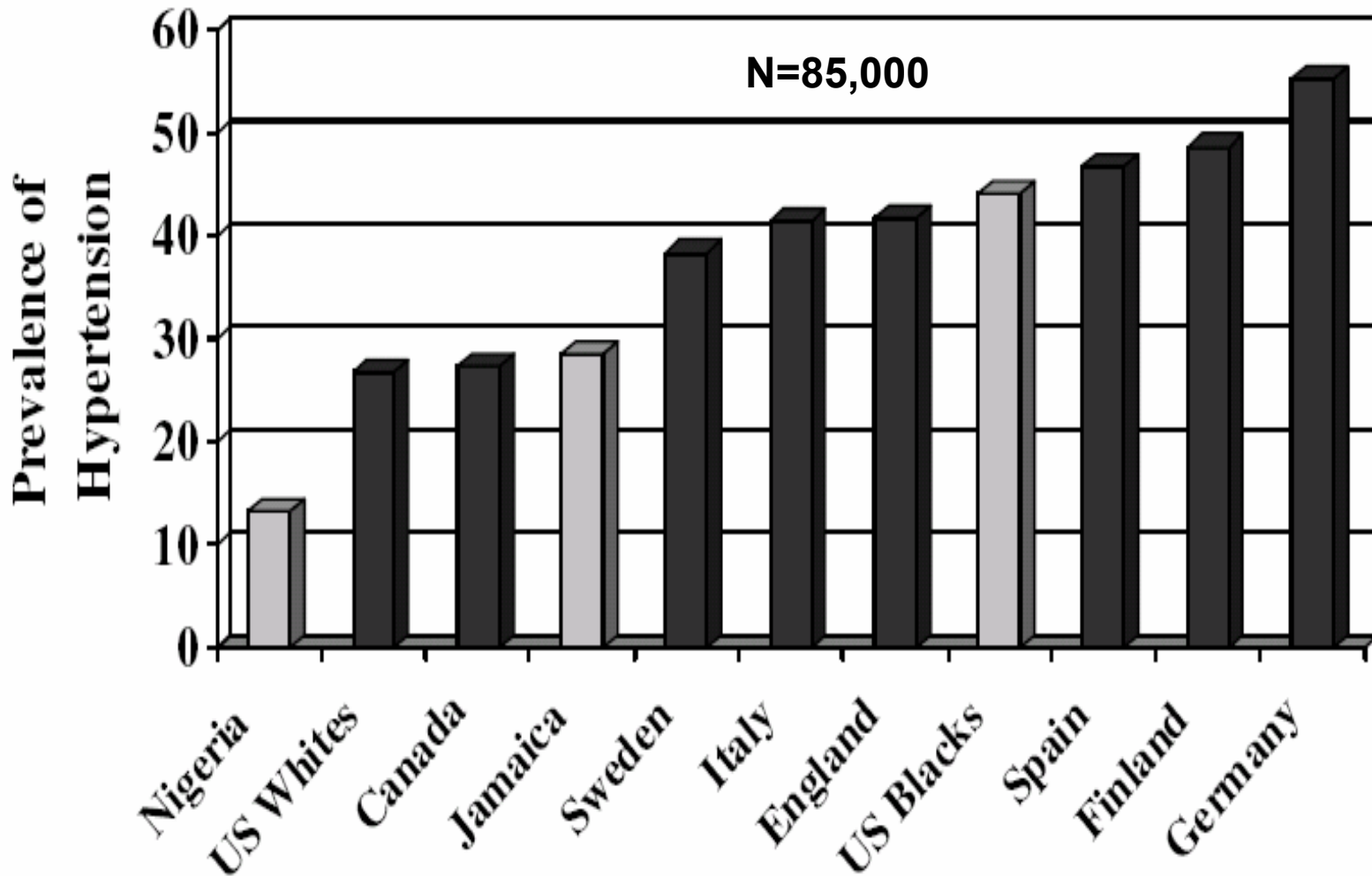
# Prevalence of Hypertension by Mean Body Mass Index Among Populations of the African Diaspora



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

BMC Medicine 2005, 3:2 doi:10.1186/1741-7015-3-2

Richard S Cooper ([rcooper@lumc.edu](mailto:rcooper@lumc.edu))



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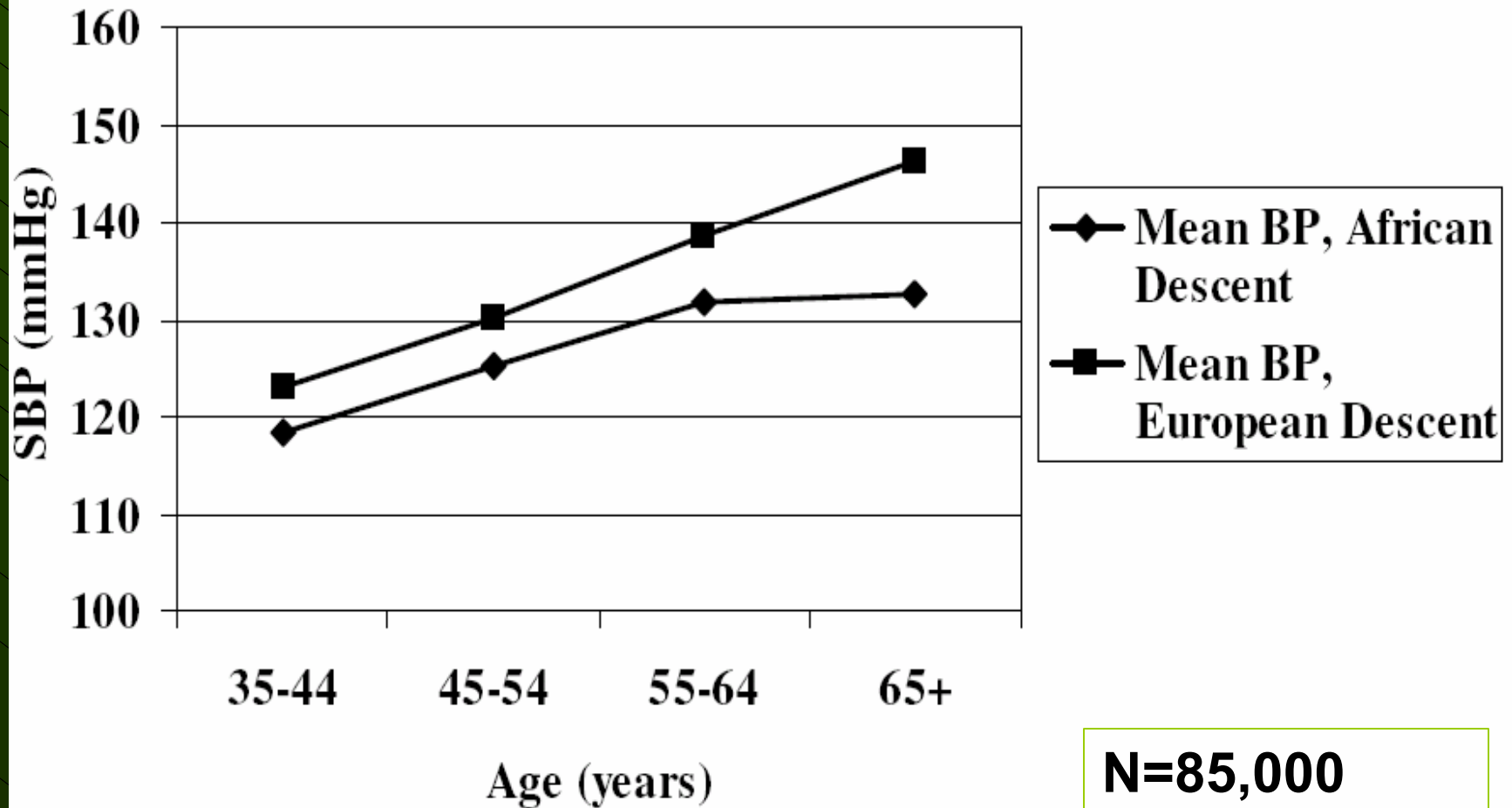
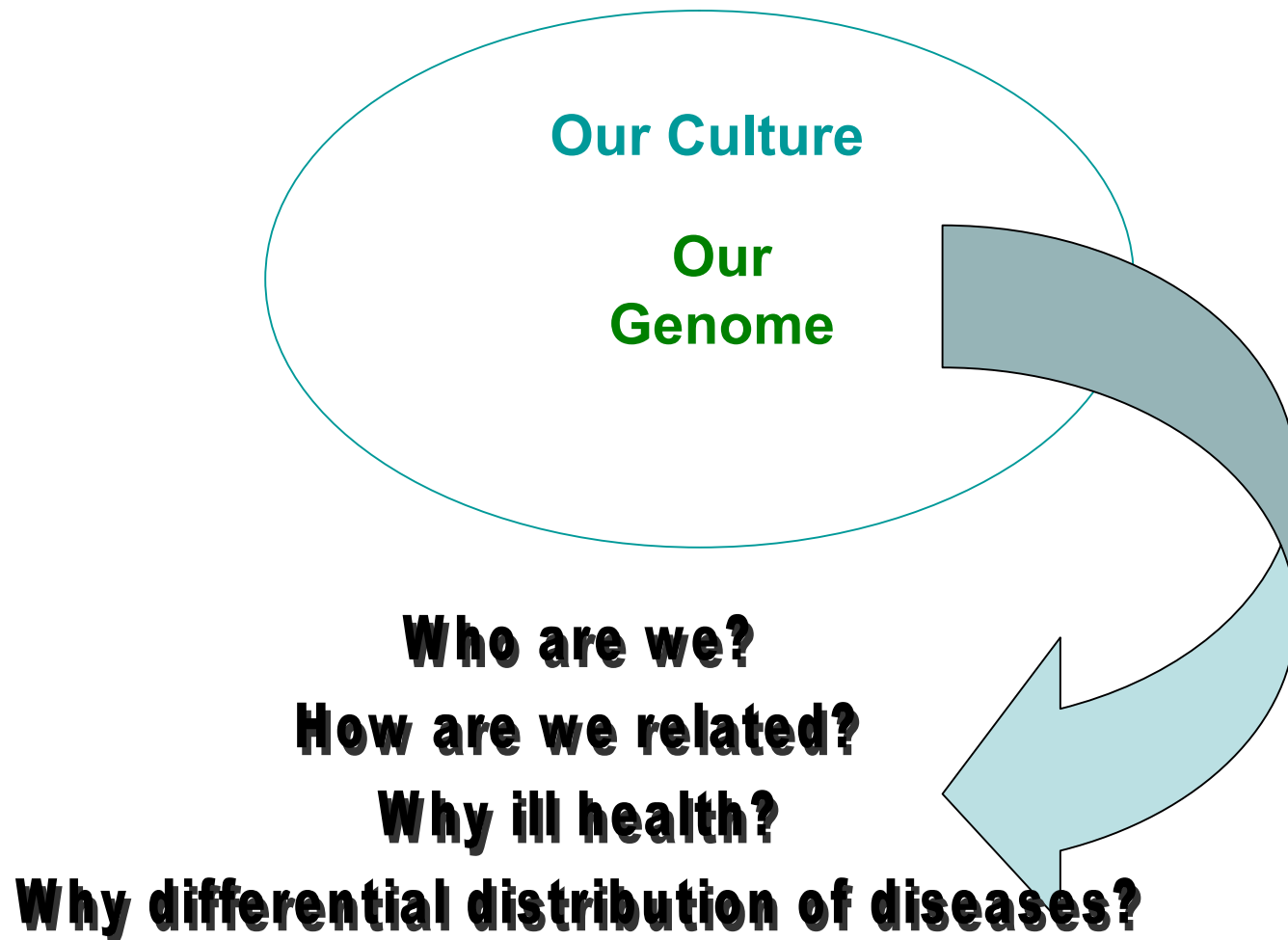


Figure 3

# “Large Population Studies: The Opportunities and Challenges ”

## *Dichotomy Between Social Identity and Ancestry in Large Population Studies*





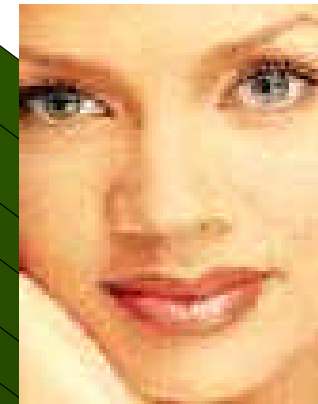
**Who is Black?**  
**Widely Different**  
**Ancestry**



**Australian Aboriginals**



**Surma bribe from Ethiopia**



AADM

Study

Ghana

Akan

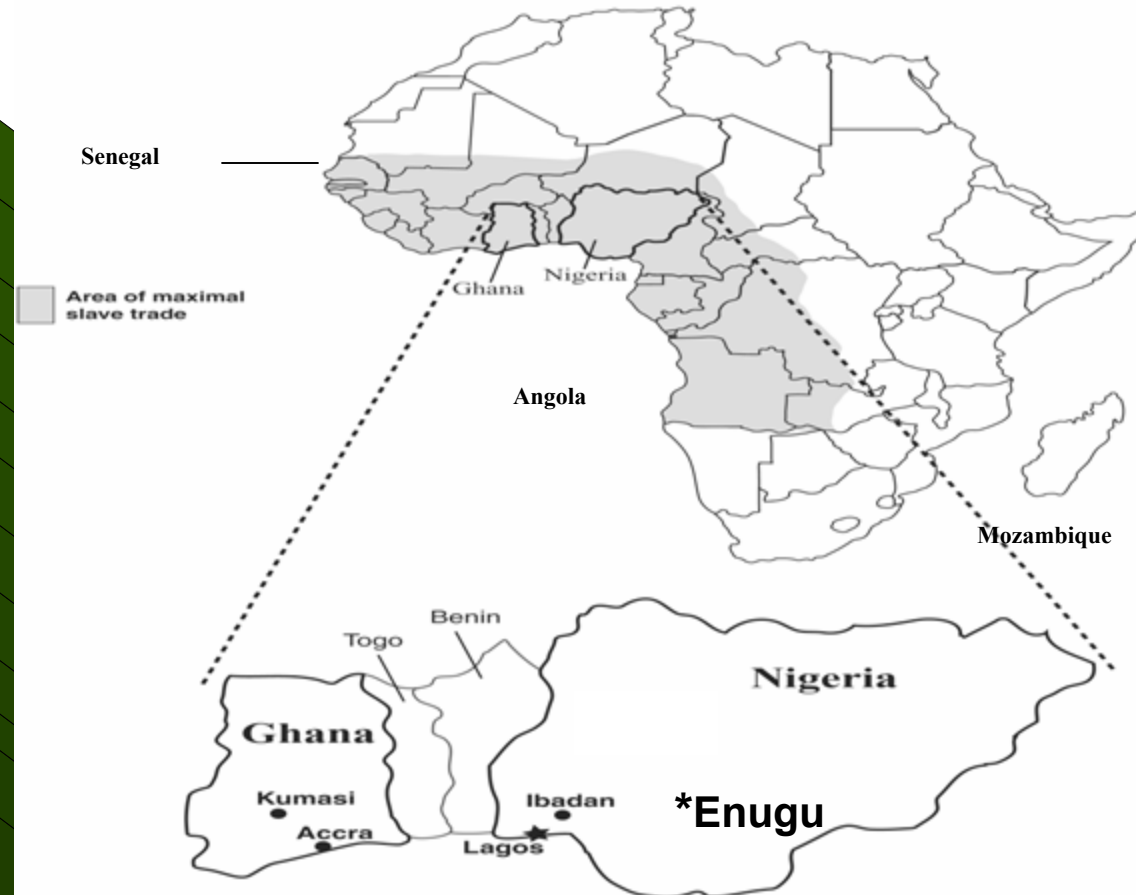
Gaa

Nigeria

Yoruba

Ibos

Figure 1



**Confusion: Group identity is confused with group ancestry. The group identity African Americans does not reflect a single path of ancestry.**

**Self-identification is confused with more complex tapestry of ancestry.**

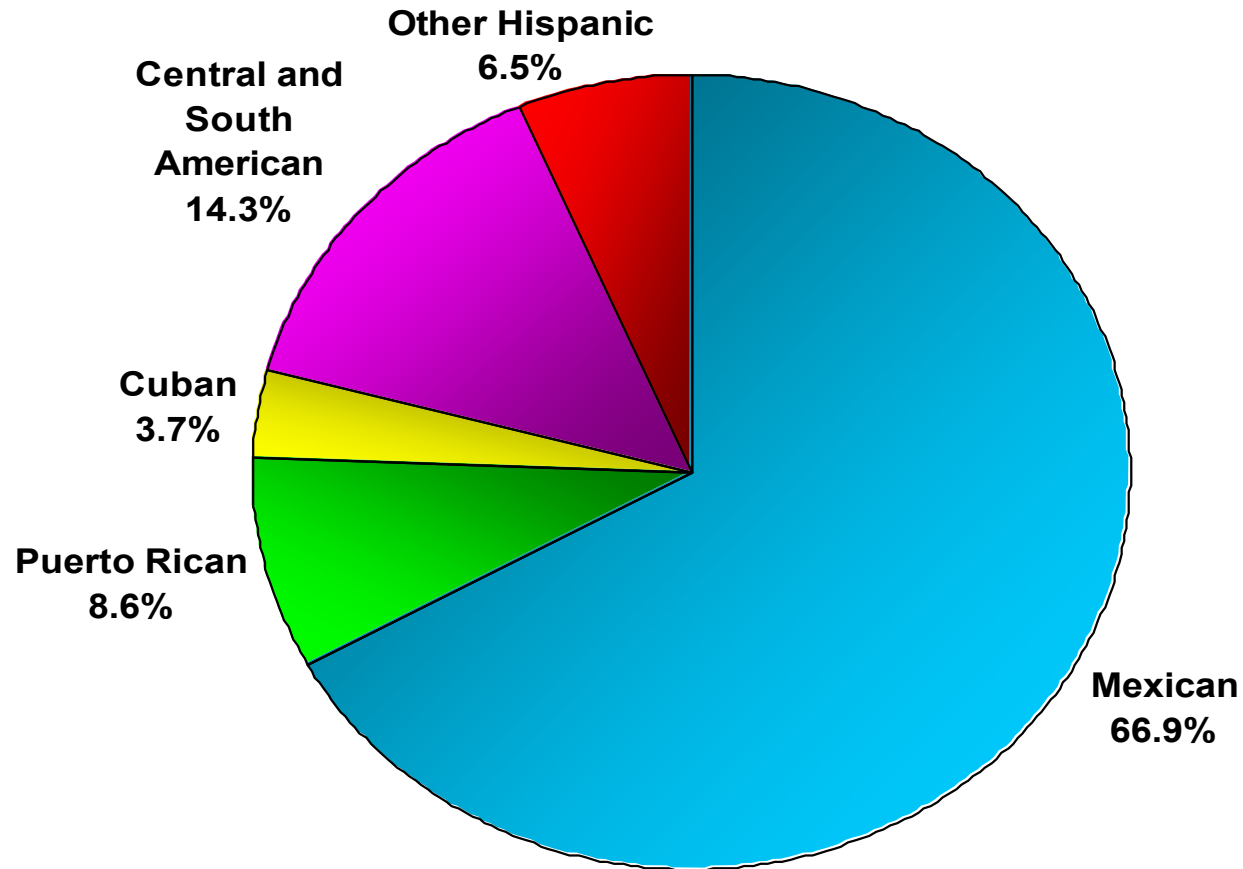
## Ancestry, Ethnicity, Race and Hispanic Origin

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- The concept of race is a social construct that reflects self-identification and does not have a clear-cut scientific definition.
- The Census Bureau uses four broad categories of race: 1) White, 2) Black, 3) American Indian or Alaska Native or Aleut and 4) Asian or Pacific Islander.
- Persons of Hispanic origin may be of any race (Hispanic and non-Hispanic).

## Percent Distribution of Hispanic by Type: 2002

13.3% of the U.S. population is Hispanic (37.4 million)



Source: Current Population Survey, March 2002, PGP-5

## Hispanic population by origin or ancestry

	population in thousands	percent
<b>ALL HISPANIC OR LATINO...</b>	<b>35,306</b>	<b>100%</b>
Mexican .....	20,641	58.5%
Puerto Rican .....	3,406	9.6
Cuban .....	1,242	3.5
Other Hispanic or Latino .....	10,017	28.4
Dominican .....	765	2.2
Central American .....	1,687	4.8
Costa Rican.....	69	0.2
Guatemalan.....	372	1.1
Honduran.....	218	0.6
Nicaraguan.....	178	0.5
Panamanian.....	92	0.3
Salvadoran.....	655	1.9
Other Central American.....	104	0.3
South American .....	1,354	3.8
Argentinean.....	101	0.3
Bolivian.....	42	0.1
Chilean.....	69	0.2
Colombian.....	471	1.3
Ecuadorian.....	261	0.7
Paraguayan.....	9	0.0
Peruvian.....	234	0.7
Uruguayan.....	19	0.1
Venezuelan.....	92	0.3
Other south American.....	58	0.2
Spaniard.....	100	0.3
All Other Hispanic or Latino.....	6,112	17.3

Source: Bureau of the Census, Census 2000

# Rio de Janeiro, Brazil

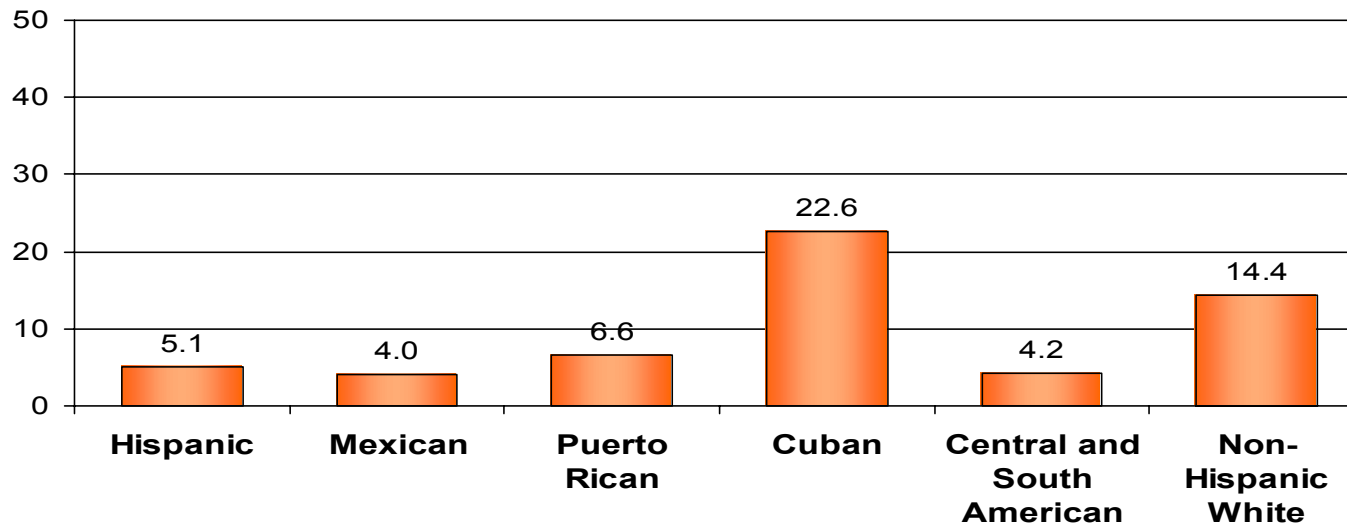
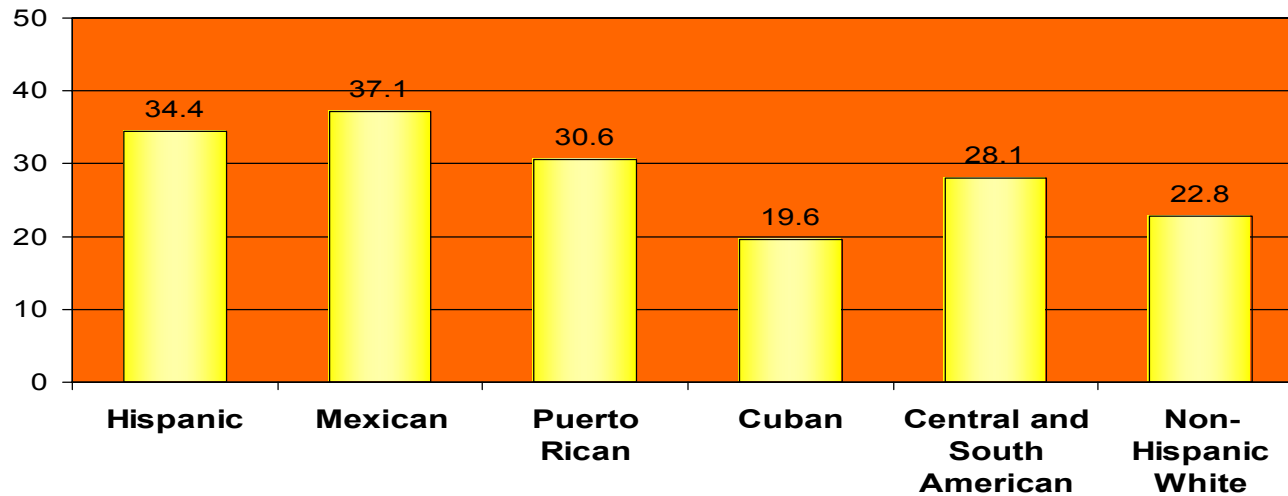
Rio from above.



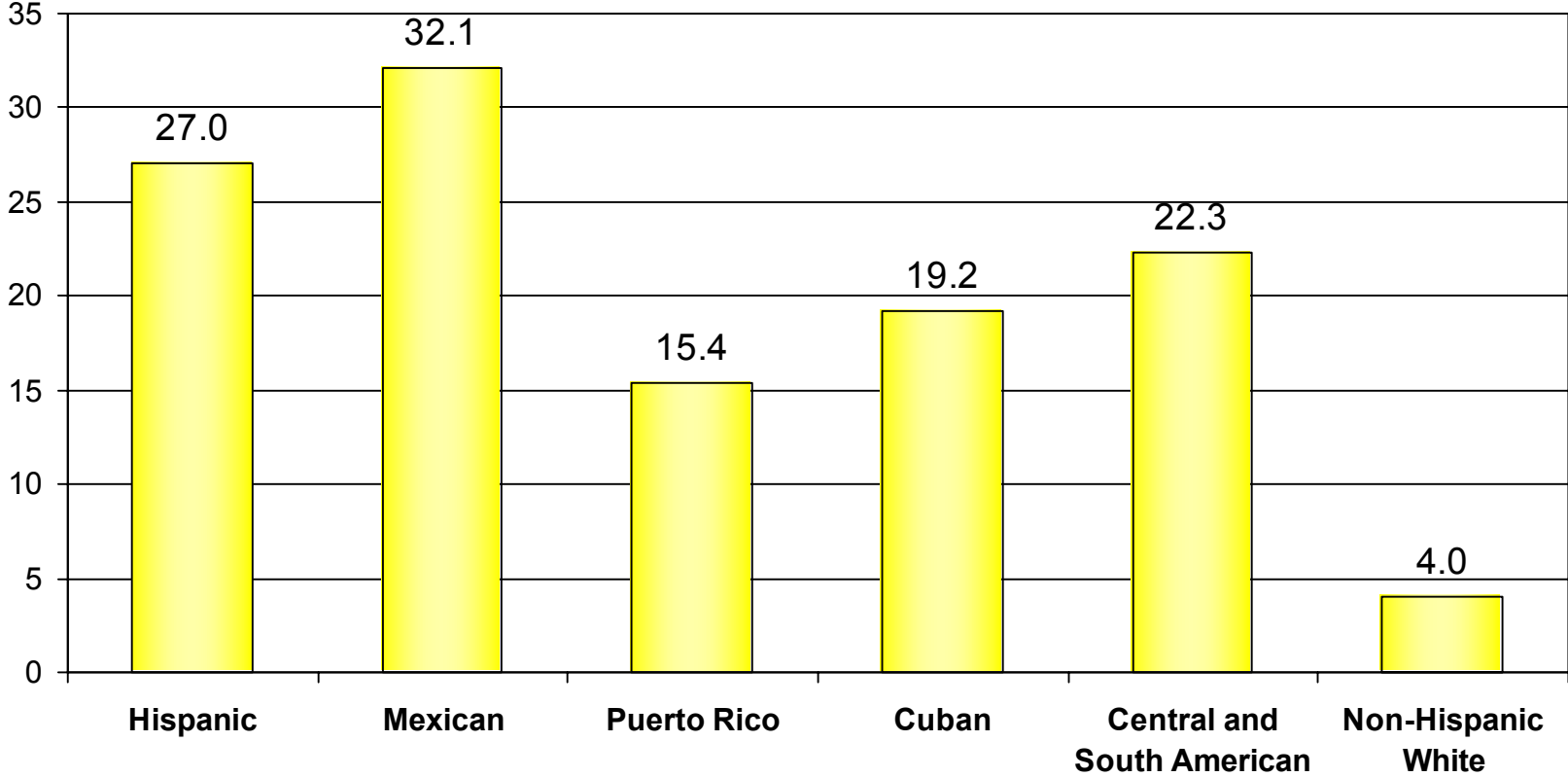
**3,000,000 Angolans** were brought to Brazil to work on the different **plantations** of tobacco, cotton, and coffee.

Geographic locations of **Haiti, Cuba, Brazil, and Jamaica** played a major role in the amount of similarities between these cultures and those of W. Africa.

## Percent of Population Under Age 18 and 65+ by Hispanic Origin: 2002



# Percent of Population with Less Than 9th Grade Completed by Hispanic Origin: 2002





<b>Asian and Pacific Islander Ancestry</b>	<b>Population</b>	<b>Percent of Total Asian and Pacific Islander Population</b>
<b>All Asian</b>	<b>10,242,998</b>	<b>96.3%</b>
--- Asian Indian	1,678,765	15.8%
--- Chinese	2,432,585	22.9%
--- Filipino	1,850,314	17.4%
--- Japanese	796,700	7.5%
--- Korean	1,076,872	10.1%
--- Vietnamese	1,122,528	10.6%
--- Other Asian	1,285,234	12.1%
<b>All Native Hawaiian and other Pacific Islander</b>	<b>398,835</b>	<b>3.8%</b>
--- Native Hawaiian	140,652	1.3%
--- Guamanian or Chamorro	58,240	0.6%
--- Samoan	91,029	0.9%
--- Other Pacific Islander	108,914	1.0%

# European-Americans Dropping Ancestral Roots - Except Italian-Americans

In the US the number of people who identify themselves as German, Irish, English, and other European heritage have dropped since the 1990s.



Members of different European Groups (Danes and Spaniards) wearing clothes that identify their ethnicity

## Ethnic Identity in Africa

Why do we assume that individuals from the Luhya or Xhosa have always been there? Africa has over 350 linguistic groups.

The sense of identity of the Yorubas, for example, is reinforced by the myth of common origin of the principal ruling families in the ancient city of Ife and to some extent by the effort of the missionaries to translate the bible to a common language – Yoruba.

The Yoruba identity and, indeed, most identity issues are multi-layered and depending on the question at hand, genetics could be a major or a minor or an irrelevant factor.

We know from oral, historic and other accounts that none of these groups have remained exclusive or historically static

The kingdom of Benin (12th century to 17th century), in what is now Nigeria, produced some of Africa's finest artwork.



Who is telling the story?



When British forces entered Benin City in 1897 they were surprised to find large quantities of cast brass objects. The technological sophistication and the overwhelming naturalism of these pieces contradicted many 19th-century Western assumptions about Africa in general and Benin. **The objects must, it was supposed, have been made by the Portuguese, the Ancient Egyptians, even the lost tribe of Israel.** Their status was marked by the establishment of the term 'Benin bronzes', despite their being largely of brass.

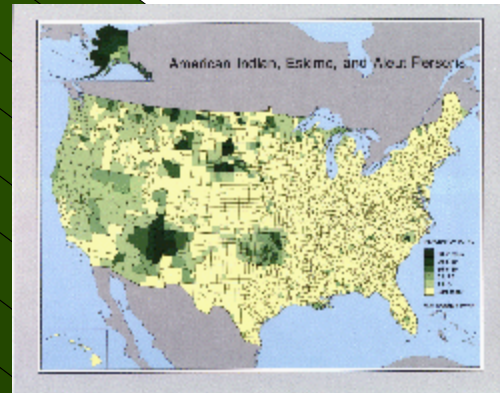
# Ethnic Identity in Africa

Whatever the terms, the fact that identities in Africa are ambiguous, complex, mobile, and fluid is not unlike other parts of the world.

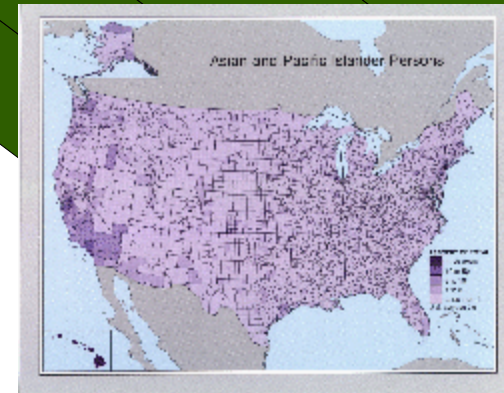
Also, it is important to understand that the ethnic identities and divisions now labeled as ancient and unchanging were not there before colonial presence in Africa.

# Where do we sample within the United States?

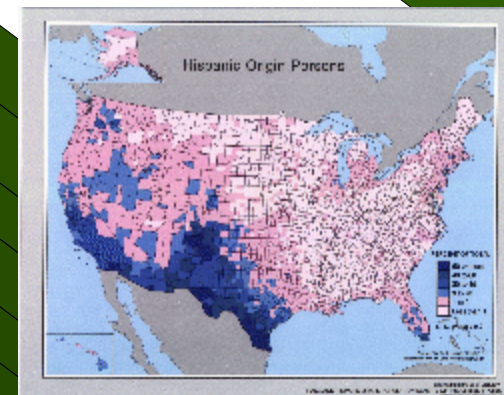
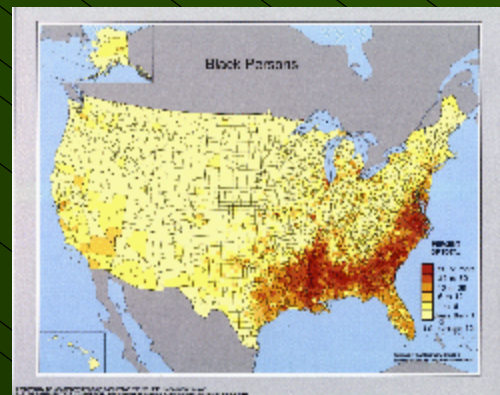
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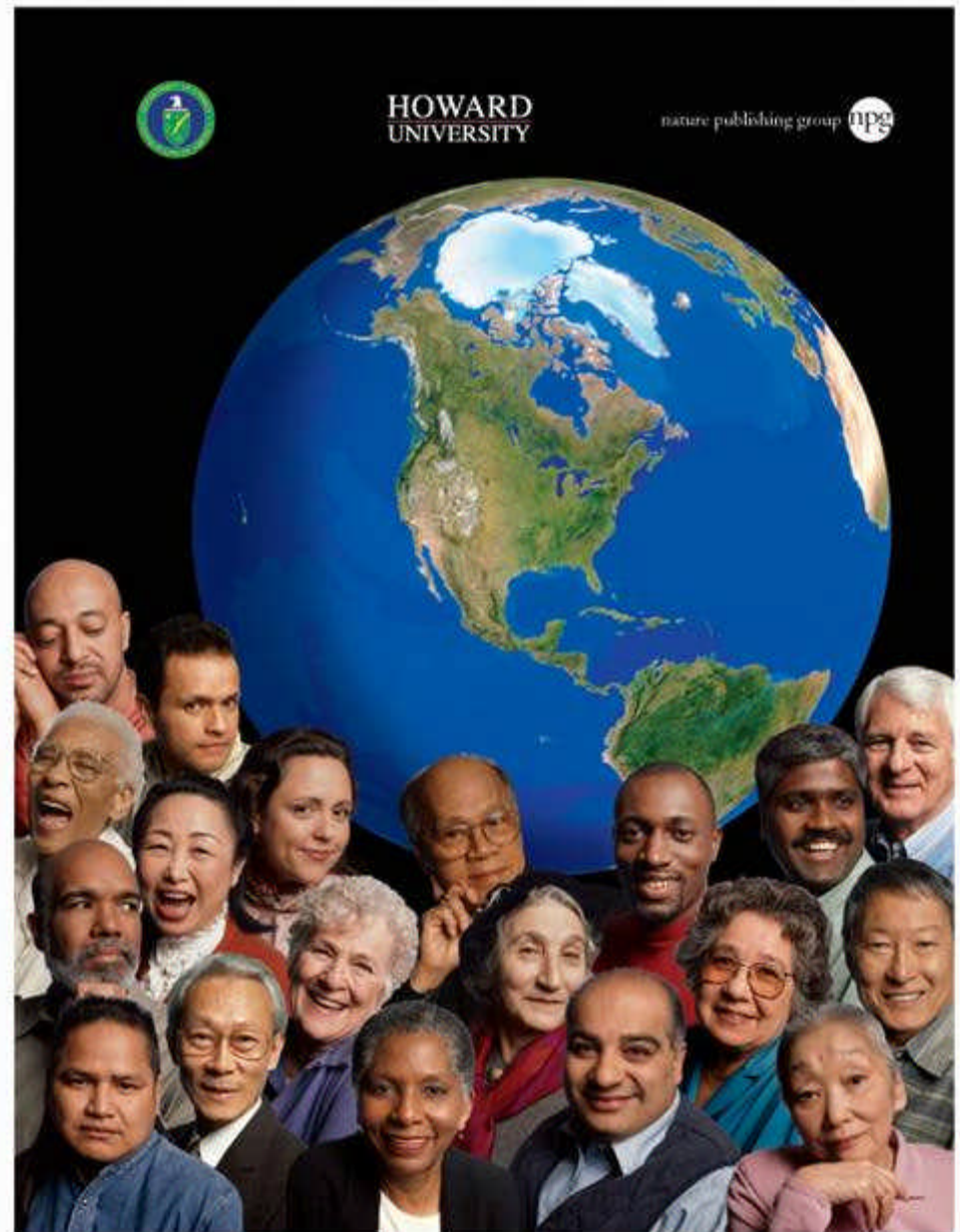
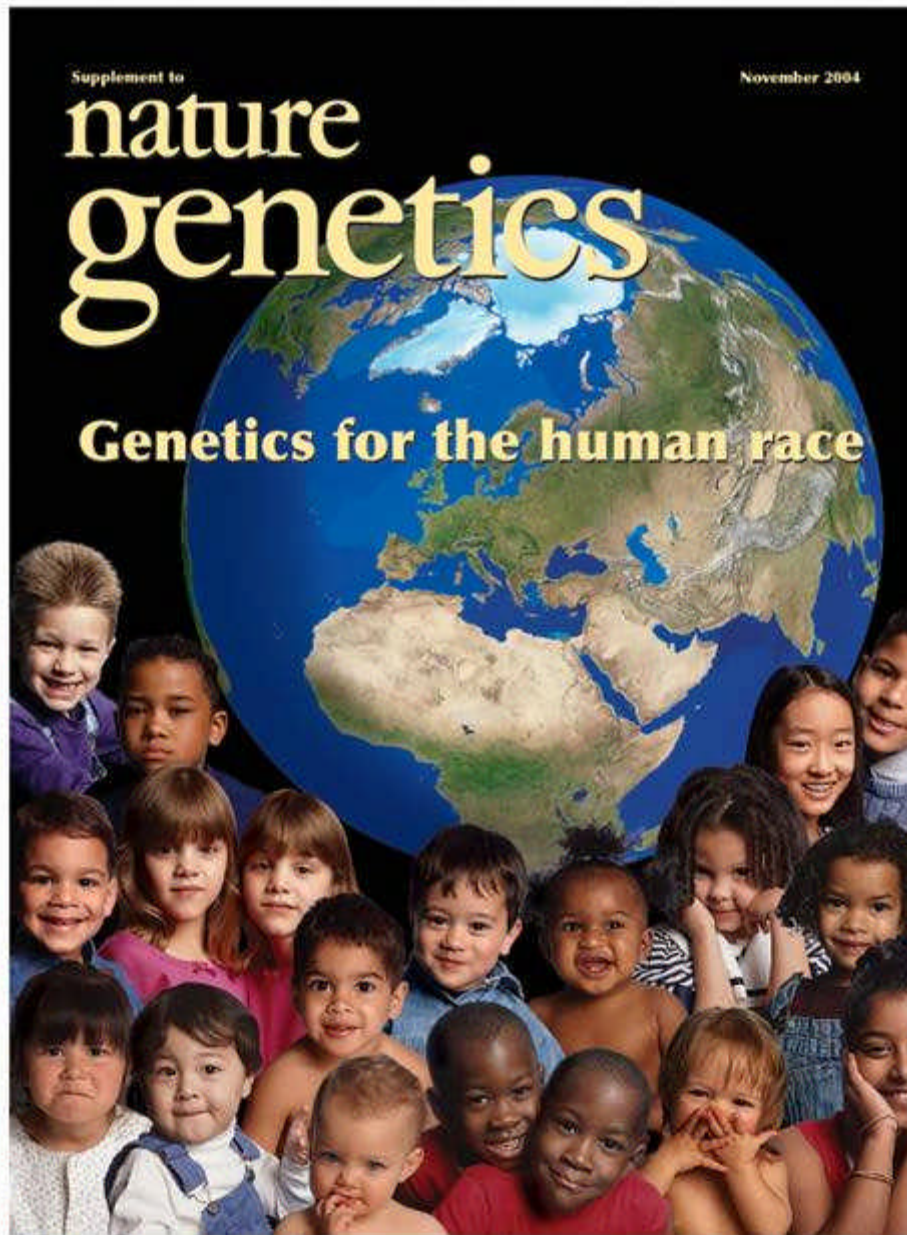
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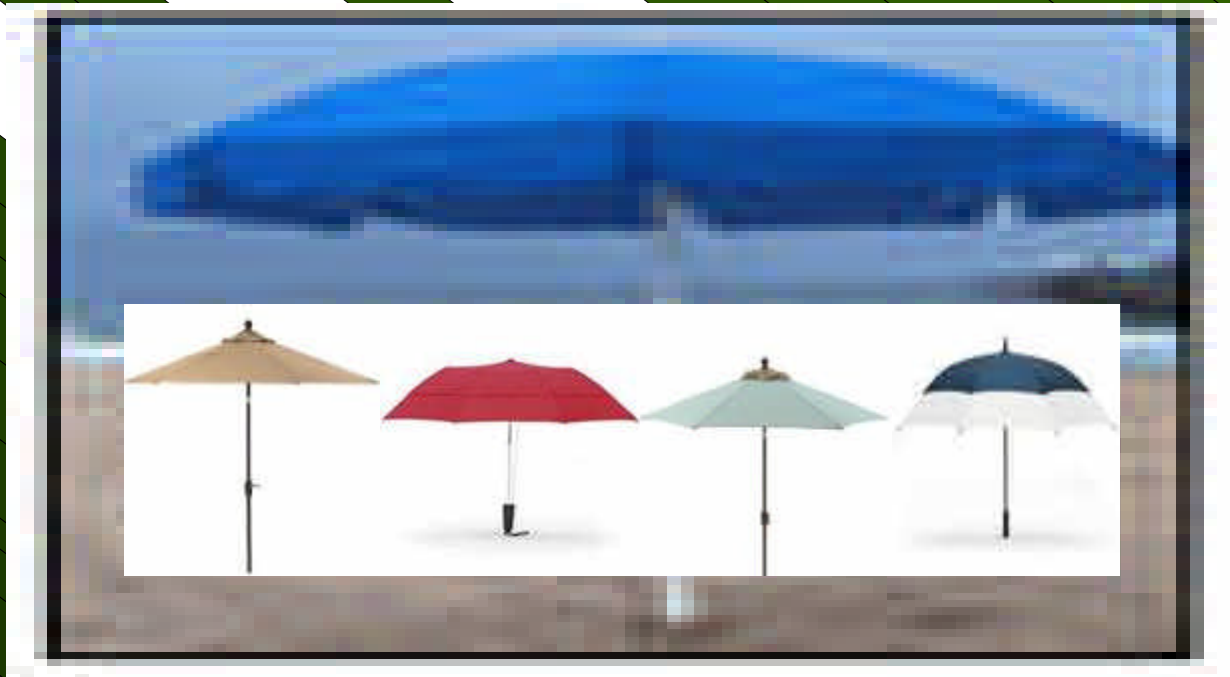
3



1. American Indian, Eskimo, and Aleut Persons
2. Asian and Pacific Islander Persons
3. Black Persons
4. Hispanic Origin Persons



# “Large Population Studies: The Opportunities and Challenges ”





## “Large Scale Genetic Studies: The Opportunities and Challenges”

The historical, anthropological, and linguistic information about the “populations” with which genetic findings are compared often represent superficial understandings of the dynamic processes of present-day ethnic populations and how these populations were formed--*Lundy Braun: Perspective in biology and medicine 2002.*

**Future use of drug therapy will not depend on the imprecise indicators as race or ethnicity, but on the individual patient's genotype.**

The idea, then, is not to eradicate or ignore differences but to redefine or move beyond social group label such as “race” to more precise categories of difference with justification for establishing such differences. *M. Rothstein and P. Epps, Pharmacogenomics 2001*