Health Disparities and Getting to Health Equity: Definitions and Concepts

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What do we mean when we talk about health disparities?

Health Disparities

Systematic differences *in health* between social groups due to differences in social characteristics

A baby born to an African American mother is 2.5 times more likely to die before age one than a baby born to a White mother

African Americans and Latinas with breast cancer are more likely to be diagnosed with advanced stage disease than Whites

Healthcare Disparities

Systematic difference *in healthcare received* between social groups due to differences in social characteristics

Health disparities can in part result from being underserved in healthcare

Health(care) Disparity Populations

- Racial/ethnic minorities defined by OMB
- Less privileged socio-economic status
- Underserved rural residents
- Sexual gender minorities

A health(care) outcome that is worse in these populations compared to a reference group defines a disparity

Meaning of Race Categories

- **Race is a social construct**

- **Geographic origin of racially classified groups: genetic ancestry**

- **Contrast of White and Black – simple**

Racially Admixed Populations

- **Latin America admixture laboratory for 500 years**

- **South Asian admixture for 20,000 years — White and African**

- **Hawaii 200 years: Pacific Islanders, White, East Asian**

- **African Americans in the US have moderate admixture**

Definition of Ethnicity

- **Ethnicity refers to self-identity with a group defined by geographic origin, culture, religion and/or language or some other factor**

- **Characterized by sharing non-phenotypic characteristics**

2010 U.S. Census Questions

- **Ethnicity question preceding race question: Is this person Spanish/Hispanic Latino? Includes 20 countries**

Race response options:

- **White – includes Middle East**

- **Black or African American**

- **American Indian or Alaska Native – tribe**

- **Asian: Asian Indian, Korean, Chinese, Vietnamese, Japanese, Filipino, Other Asian**

- **Pacific Islander: Native Hawaiian, Guam, Chamorro or Other PI**
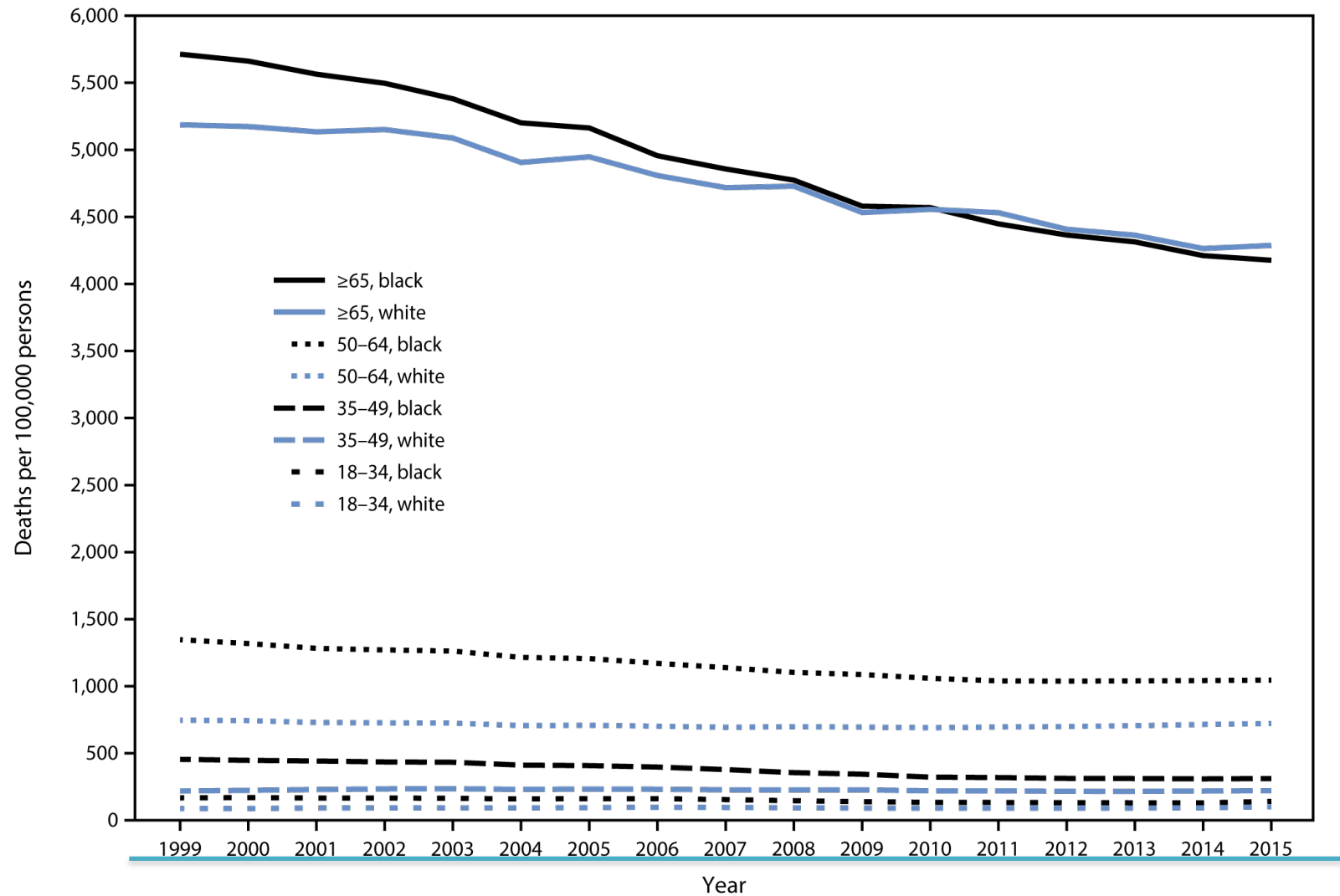
- **Mixed or more than one race**

Life Expectancy in the U.S. by Race/Ethnicity, 2014

	Men	Women
Whites	76.5	81.1
Blacks	72.0	78.1
Latinos	79.2	84.0
Total in 2017	76.1	81.1

Arias E, NCHS, CDC, 2016

All-Cause Mortality: Whites and Blacks

FIGURE 1. Death rates among blacks and whites, by age group (years) — United States, 1999–2015

Cunningham TJ, et al MMWR 2017; 66:444-456

Trends in Premature Mortality
U.S. 1999-2014, age 25-64

Death certificates from NCHS and Census data using age-period cohort models

- **Increase in Whites and AI/AN from accidental OD, CLD/cirrhosis, suicide**

- **Women at age 30: +2.3% W; +4.3% AI/AN**

- **Marked decreases in Latinos (–3.2%), Blacks (–3.9%) and Asian/PI (–2.6%) from decline in HIV, cancer and heart disease**

- **AI/AN highest mortality; Blacks second**

Shiels MS, et al, Lancet. Online January 25, 2017

Assessment of Socioeconomic Status or Social Class in Health Research

- **Education – years of formal, usually translated into categories**
- **Income – defined in terms of annual household $$$ by number of dependents.**
- **Occupation – laborer, technical, professional, business, information**
- **Life course SES — effects understudied**
- **Parental education (children)**

Wealth or Total Assets

- **Wealth defines social class but not simple to measure total assets**
- **Stocks, accounts, insurance, retirement, property, legacy**
- **Generation of "class"–1st in family to attend college**
- **Type of Health Insurance as proxy**

Relative risk of All-Cause Mortality by US Annual Household Income Level
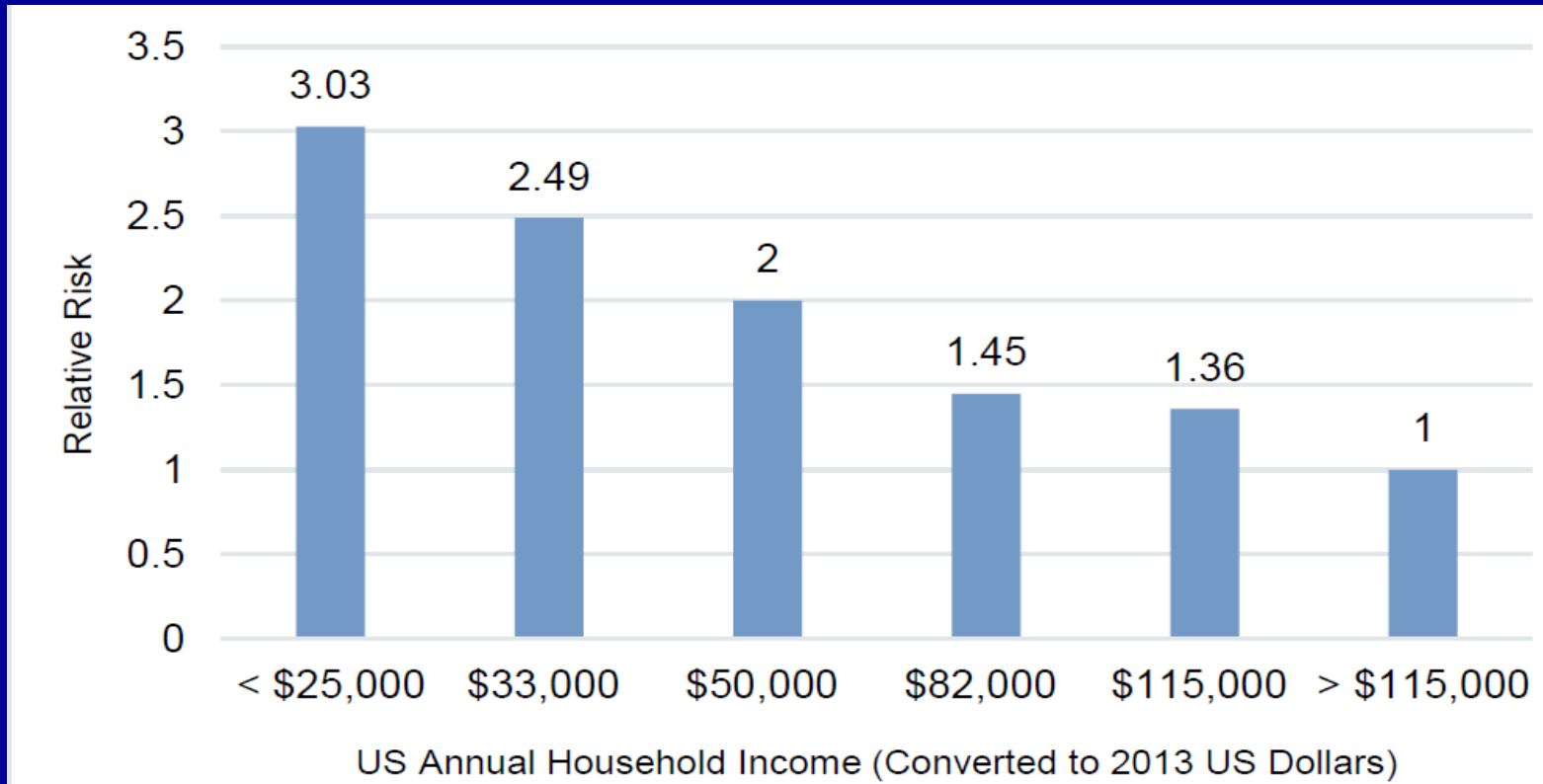
Cigarette Smoking in the U.S., 2016

	Men	Women
White	17.8%	15.5%
Black	20.2%	13.5%
Latino	14.5%	7.0%
AI/AN	29.3%	34.3%
Asian	14.0%	4.6%
Multiple race	27.7%	22.9%
9th to 11th Grade	35.1%	26.2%
High school graduate	23.1%	16.5%
Undergraduate degree	9.1%	6.4%

Once we identify a health disparity, what next?

    understanding mechanisms

    developing and testing interventions

National Institute on Minority Health and Health Disparities Research Framework

		Levels of Influence*			
		Individual	**Interpersonal**	**Community**	**Societal**
Domains of Influence *(Over the Lifecourse)*	**Biological**	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		Individual Health	Family/ Organizational Health	Community Health	Population Health

Mechanisms Leading to Health Disparities

Individual Behaviors, Lifestyle, Beliefs and Attitudes: racism, childhood adverse conditions, food insecurity, witness to or victim of violence, immigrant, limited English proficiency, response to chronic stress
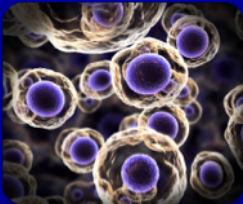
Biological Processes and Genetics: earlier age of onset, gene variants, metabolic differences, susceptibility, faster progression or greater severity, brain networks, microbiome, extracellular RNA, sleep

Physical and Cultural Environment: place, social system, neighborhood, infrastructure, family, social interactions, network, community cohesion

Clinical Events and Health Care: differential treatments, poor communication, adverse events to medications, falls, progression of disease, access, use/abuse of appropriate services, end of life care

Getting to Health Equity

- Considerations in developing interventions
  - Tailoring an intervention known to be effective for advantaged group
  - Targeting an intervention to a disadvantaged group
  - Find commonalities so that core components of an intervention work across groups
  - Working with stakeholders – community groups, target population – to design research question, intervention, identify important outcomes

- Applying interventions
  - Pragmatic trials in communities / diverse settings
  - Inclusion of diverse populations in clinical trials
  - Implementation science – pay attention to which populations are or are not getting benefit & why

- Thank you to Eliseo Pérez-Stable for sharing slides, many of which were adapted for this talk

Additional Resources:

- The National Institute on Aging Health Disparities Research Framework (Ethn Dis 2015) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4671408/

- NIMHD Research Framework and adaptation for AI/AN Nations https://nimhd.nih.gov/about/overview/research-framework/

- Kilbourne et al. Advancing Health Disparities Research Within the Health Care System: A Conceptual Framework. *Am J Public Health.* 2006;96:2113–2121. doi:10.2105/AJPH.2005.077628