The Role of Work in Health Disparities in the US

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Eliseo J. Pérez-Stable, M.D.
Director, National Institute on Minority Health and Health Disparities
eliseo.perez-stable@nih.gov
Populations with Health Disparities

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

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

- Social disadvantage that results in part from being subject to discrimination or racism, and being underserved in health care
Race and Socioeconomic Status are Fundamental in Determining Health

• Race/ethnicity predict life expectancy and mortality that are not fully explained
• African Americans have more strokes when compared to Whites
• Black persons with hypertension have less heart attacks and more cardiomyopathy
• Among persons with diabetes, all race/ethnic minorities have less heart disease compared to Whites
<table>
<thead>
<tr>
<th>Race</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>76.5</td>
<td>81.1</td>
</tr>
<tr>
<td>Blacks</td>
<td>72.0</td>
<td>78.1</td>
</tr>
<tr>
<td>Latinos</td>
<td>79.2</td>
<td>84.0</td>
</tr>
<tr>
<td>Total in 2017</td>
<td>76.1</td>
<td>81.1</td>
</tr>
</tbody>
</table>

Arias E., [NCHS data brief](https://www.cdc.gov/nchs/data/series/sr_02/sr02_244.pdf), CDC, (2016), no 244
Murphy SL, et al., [NCHS data brief](https://www.cdc.gov/nchs/data/series/sr_02/sr02_328.pdf), CDC (2018), no 328
Mortality Rates Increased for All Persons, age 25 to 44, from 2012-2017

NCHS Data Brief No. 342, July 2019


Age-specific death rates for persons aged 65 and over, by Hispanic origin and race: United States, 2000–2017
Relative Risk of All-Cause Mortality by US Annual Household Income Level in 2016

Place, Income and Life Expectancy

• Income categories defined life expectancy with top 1% living 10-14 y longer than bottom 1% – inequality gap growing (Chetty, JAMA, 2016)

• Bottom quintile in income in some areas lived an average of 3 to 4.5 years longer than in other areas — why?

• Housing voucher experiment improved A1C and BMI in mothers moving to higher SES community

• Low income persons have higher mortality in high-SES community (Yen, AJE, 1999)
Assessment of Socioeconomic Status or Social Class in Research

• Education – years of formal, usually translated into categories

• Income – defined in terms of annual household $$$ by number of dependents; poverty level

• Occupation – laborer, technical, professional, business, information

• Life course SES — effects understudied

• Parental education (children)

• Impute based on census tract from address
Whitehall Study British Civil Servants
Marmot MG, The Lancet 1991; 337: 1387-93

• 1967 — steep inverse relationship between grade of employment and mortality
• 1985-1988: new cohort of 10,314 civil servants showed similar relationships with morbidity
• Employment grade differences in risk behaviors and self-perceived health status
• Work with low control, less satisfaction, monotonous, and with less income
• Administrative, executive, clerical
# National Institute on Minority Health and Health Disparities Research Framework

<table>
<thead>
<tr>
<th>Domains of Influence (Over the Lifecycle)</th>
<th>Levels of Influence*</th>
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<tbody>
<tr>
<td><strong>Biological</strong></td>
<td>Individual</td>
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<tr>
<td>Biological</td>
<td>Biological Vulnerability and Mechanisms</td>
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<tr>
<td></td>
<td>Caregiver–Child Interaction</td>
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<tr>
<td></td>
<td>Family Microbiome</td>
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<tr>
<td><strong>Behavioral</strong></td>
<td>Interpersonal</td>
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<tr>
<td>Health Behaviors</td>
<td>Caregiver–Child Interaction</td>
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<td>Coping Strategies</td>
<td>Family Functioning</td>
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<td></td>
<td>School/Work Functioning</td>
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<tr>
<td><strong>Physical/Built Environment</strong></td>
<td>Community</td>
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<tr>
<td>Personal Environment</td>
<td>Community Illness</td>
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<tr>
<td></td>
<td>Exposure</td>
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<td>Herd Immunity</td>
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<tr>
<td><strong>Sociocultural Environment</strong></td>
<td>Societal</td>
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<tr>
<td>Sociodemographics</td>
<td>Sanitation</td>
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<tr>
<td>Limited English</td>
<td>Immunization</td>
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<tr>
<td>Cultural Identity</td>
<td>Pathogen Exposure</td>
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<tr>
<td>Response to Discrimination</td>
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<tr>
<td><strong>Health Care System</strong></td>
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<td>Insurance Coverage</td>
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<td>Health Literacy</td>
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<td>Treatment Preferences</td>
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<tr>
<td><strong>Health Outcomes</strong></td>
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<tr>
<td>Individual Health</td>
<td></td>
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<td>Family/Organizational Health</td>
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<tr>
<td>Community Health</td>
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<tr>
<td>Population Health</td>
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</tbody>
</table>

*Health Disparity Populations: Race/Ethnicity, Low SES, Rural, Sexual/Gender Minority
Other Fundamental Characteristics: Sex/Gender, Disability, Geographic Region

National Institute on Minority Health and Health Disparities, 2018
Social Determinants of Health

- Demographics including family background
- Urban or rural residence or geographic region
- Cultural identity, religiosity, spirituality
- Language proficiency, Literacy, numeracy
- **Structural determinants**: housing, green space, broadband, economic opportunity, transportation, schools, healthy food access, public safety
- PhenX Toolkit on Social Determinants of Health: https://www.phenxtoolkit.org/collections/view/6
Common Data Elements for Social Determinants of Health

Toolbox of Measures on SDOH

Adoption of CDEs will promote and facilitate:

- Data harmonization
- Domestic and international cross-study analysis
- Accelerated translational research
- Greater understanding of the causes of health disparities
- Effective interventions to reduce disparities
For Native Americans, COVID-19 is ‘the worst of both worlds at the same time’

The Striking Racial Divide in How Covid-19 Has Hit Nursing Homes

Homes with a significant number of black and Latino residents have been twice as likely to be hit by the coronavirus as those where the population is overwhelmingly white.

Rural America Could Be the Region Hardest Hit by the COVID-19 Outbreak

Black Americans Face Alarming Rates of Coronavirus Infection in Some States

Data on race and the coronavirus is too limited to draw sweeping conclusions, experts say, but disparate rates of sickness — and death — have emerged in some places.

Many Who Need Testing For COVID-19 Fail To Get Access

COVID-19 in Prisons and Jails in the United States

Laura Hawks, MD1,2; Steffie Woolhandler, MD, MPH2,3; Danny McCormick, MD, MPH1,2

Author Affiliations | Article Information
COVID-19 and Racial/Ethnic Disparities

Webb Hooper M, Nápoles AM, Pérez-Stable EJ, JAMA Viewpoint, May 11, 2020

• Disproportionate burden of COVID-19 on racial and ethnic minority populations
• >50% of cases and 45% of mortality in Latinos, AI/AN and African Americans; represent about 33% of population
• Underlying causes of this burden related to long-standing disparities and disadvantage, higher rates of co-morbid conditions, higher proportions of public facing jobs, and crowding in housing and communities
• Imperative need for implementing prevention and healthcare strategies aligned with the needs of these communities to address effects of pandemic and mitigation efforts as well as underlying inequities
Perception of Unfair Treatment: 2015

In past 30 days were you treated unfairly because of racial or ethnic background in store, work, entertainment place, dealing with police, or getting healthcare?

<table>
<thead>
<tr>
<th></th>
<th>Percent Agree</th>
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<tbody>
<tr>
<td></td>
<td>All</td>
</tr>
<tr>
<td>Latinos</td>
<td>36%</td>
</tr>
<tr>
<td>African Americans</td>
<td>53%</td>
</tr>
<tr>
<td>Whites</td>
<td>15%</td>
</tr>
</tbody>
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Trust in clinician/institution? Role of Unconscious Bias?

Kaiser Family Foundation Survey of Americans on Race, November 2015.
Racism as Research Construct

- **Interpersonal**: Most work done, good measures developed, associations established, most common

- **Structural**: History, culture, institutions, policies and codified practices that perpetuate inequity; imperative to research

- **Internalized**: How discrimination (as above) effects individuals who are not aware or sublimate; accept cultural or biological inferiority

- Perceived societal and second-hand effects
Community Engaged Research to Reduce Health Disparities: What is Needed?

- Shift models of care to population health with standardized social determinants of health
- Enhance access to health care services: portal for patients, e-referrals, tele-medicine, proxies, visuals
- Address access to real food and safe places
- Engage community resources in promoting health: nutrition, physical space, tobacco
- Recognize and manage discrimination
Challenges for this Workshop

• Work and occupation are primary SDOH
• What is the contribution to health outcomes independent of SES?
• Does race/ethnicity matter? Gender?
• Exposure to environmental toxins, physical injury, emotional stress, discrimination, economic instability
• What about occupational prestige?
Special Issue of AJPH: New Perspectives to Advance Minority Health and Health Disparities Research
Supplement 1, 2019, Vol 109, No S1

- Editor’s choice by NIMHD Director Dr. Eliseo J. Pérez-Stable and NIH Director Dr. Francis S. Collins
- Definitions for minority health, health disparities, and NIMHD Research Framework
- 30 research strategies in methods, measurement, etiology, and interventions
- Multi-year process with more than 100 authors, including NIH program officers and academic scientists
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