Identifying Compounding Disparities in Health, Education and Connectivity

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Minority Health Definition

• Minority Health Research focuses on health determinants that lead to specific outcomes within a minority group and in comparison to others

• Race and ethnic minorities share a social disadvantage and/or are subject to discrimination as a common theme
Office of Management and Budget
Census Race/Ethnic Categories

• African American or Black
• Asian
• American Indian or Alaska Native
• Native Hawaiian or other Pacific Islander
• White
• More than one race
• Latino or Hispanic
Life Expectancy in the U.S., 2014

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>76.5</td>
<td>81.1</td>
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<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>
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Arias E., *NCHS data brief*, CDC, (2016), no 244
Murphy SL, et al., *NCHS data brief*, CDC (2018), no 328
Health Disparity Populations

- 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 disparity
- Social disadvantage results in part from being subject to discrimination, and underserved in health care
Relative Risk of All-Cause Mortality by US Annual Household Income Level in 2016

# National Institute on Minority Health and Health Disparities Research Framework

<table>
<thead>
<tr>
<th>Domains of Influence (Over the Lifecourse)</th>
<th>Levels of Influence*</th>
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<tbody>
<tr>
<td>Biological</td>
<td>Individual</td>
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<tr>
<td>Biological</td>
<td>Caregiver-Child Interaction</td>
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<td>Biological</td>
<td>Family Microbiome</td>
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<tr>
<td>Behavioral</td>
<td>Individual</td>
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<td>Behavioral</td>
<td>Family Functioning</td>
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<td>Behavioral</td>
<td>School/Work Functioning</td>
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<td>Physical/Built Environment</td>
<td>Individual</td>
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<td>Physical/Built Environment</td>
<td>Household Environment</td>
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<td>Physical/Built Environment</td>
<td>School/Work Environment</td>
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<td>Sociocultural Environment</td>
<td>Individual</td>
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<td>Sociocultural Environment</td>
<td>Social Networks</td>
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<td>Sociocultural Environment</td>
<td>Family/Peer Norms</td>
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<td>Sociocultural Environment</td>
<td>Interpersonal</td>
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<tr>
<td>Sociocultural Environment</td>
<td>Discrimination</td>
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<tr>
<td>Health Care System</td>
<td>Individual</td>
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<td>Health Care System</td>
<td>Patient–Clinician Relationship</td>
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<td>Health Care System</td>
<td>Medical Decision-Making</td>
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<td>Health Outcomes</td>
<td>Individual Health</td>
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<tr>
<td>Health Outcomes</td>
<td>Family/Organizational Health</td>
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<tr>
<td>Health Outcomes</td>
<td>Community Health</td>
</tr>
<tr>
<td>Health Outcomes</td>
<td>Population Health</td>
</tr>
</tbody>
</table>

*Health Disparities Populations: Race/Ethnicity, Low SES, Rural, Sex/Gender Minority
Other Fundamental Characteristics: Sex/Gender, Disability, Geographic Region
Assessment of Socioeconomic Status or Social Class in Clinical Medicine

- Education – in years or categories
- Income – annual household/dependents
- Occupation categories – Whitehall
- Life course SES — effects understudied
- Parental education (children)
- Type of insurance
- Impute from census using zip code
- Wealth or total assets
Social Determinants of Health

• Age, gender, race/ethnicity, SES, occupation
• National origin or family background
• Urban or rural residence or geographic region
• Cultural identity, Religion, religiosity
• Immigrant, generation, documentation
• Language proficiency, acculturation
• Health literacy and numeracy
• Food and housing insecurity
• Sexual orientation, gender identity
Structural Social Determinants of Health

• Access to affordable housing
• Green space and sidewalks
• Access to broadband internet and Wifi
• Transportation — public and individual
• Schools and educational institutions
• Employment and economic opportunity
• Public safety and criminal activity
• Access to healthy and affordable food
NIMHD Research FOAs that Apply

• Immigrant Populations: etiology/interventions
• Disparities in Surgical Care and Outcomes
• Social Epigenomics
• Sleep Disparities
• Liver Cancer and Chronic Liver Disease
• Opioid Use Disorders
• Simulation Modeling and Systems Science
• Lung Cancer Etiology, Screening and Care
• Health Information Technologies
Workforce Diversity is an Urgent Issue

- Only 12% of medical school graduates were URM in 2017
- <10% of practicing physicians and 14% of entering class in 2017 were URM
- Evidence that training more diverse clinicians improves access to and quality of health care
- 50% of children in the US today are from race/ethnic minority groups
Black and Latino Physicians Provide More Care for Underserved

• MD practice locations in California 1990; survey of 718 PCPs in 1993 to evaluate their patients

• Black MDs cared for more Black patients (25%) and more with Medicaid coverage; Latino MDs saw more Latino patients (21%) and uninsured


• 7070 adults who identified a clinician as usual source of care in 2010 MEPS

• Minority MDs cared for 53% of minorities and 70% of LEP; more Medicaid pts and uninsured

Graduating Medical Students Intent to Work with Underserved

- AAMC graduate survey, 2010-12, N=40,836
- Predictors of intent to work in underserved communities by demographics, specialty plans, and debt burden
  - Women OR = 1.59
  - Primary Care = 1.65
  - URMM = 2.79 (other minorities = 0.99)
  - Adjusted for loan burden (63% URM had >200k)

Promoting Health Equity in Health Care to Reduce Disparities

• Expand Access: Health insurance, place and clinician as fundamental: ACA experiment
• Public Health Consensus: Rx hypertension
• Coordination of Care: Systems, navigators, and target conditions
• Patient-Centered Care: PCMH, effective communication, cultural competence, primary care saves lives
• Performance measurement: Risk of penalty
• Need Equity Quality Measure for systems
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
• Minorities as likely to use the patient portal once engaged in care (HINTS)
• Engage community resources in promoting health: nutrition, physical space, tobacco
• Recognize and manage discrimination
Precision Medicine and Clinical Care

• When is “more precise” individualized approach better than a standard one with demonstrated efficacy?
• One size fits all approach can work to improve outcomes in many clinical situations
• New is not always better and is usually more expensive — cost has to be considered
• Precision in patient-clinician interactions
Recommendations for Discussion

• Population health should be central focus of the health system
• Data on predictors, risks and outcomes of the defined population to include social factors
• Leverage technology to maximize access and quality
• Enhance cultural competence/humility and reduce structural discrimination
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• 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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