IC Director’s Report: NIMHD

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Advisory Committee to the Director
National Institutes of Health
Bethesda, Maryland
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NIMHD History

Established as an Office under the NIH Director through HHS Secretary Louis W. Sullivan, M.D. in 1990

1990

Transitioned to a Center through legislation championed by Representative Louis Stokes (D-OH) in 2000

2000

Established as an Institute in 2010

2010

- NIMHD Science Visioning Initiative
- NIMHD Scientific Advancement Plan
- NIH-Wide Minority Health and Health Disparities Strategic Plan
NIMHD Mission

• Improve minority health
• Reduce health disparities
• Promote health equity
• NIH-wide role to monitor, coordinate and guide research
• Opportunity to nurture and shape this scientific discipline
NIMHD Priorities

- Define and promote the science of minority health and health disparities
- Reorganize scientific program by themes and promote innovation from scientists: more R01s
- Enhance COEs, Endowment and RCMIs
- Establish intramural research program
- Promote diversity in the workforce
- Collaborate with other ICs
- NIH-wide Strategic Plan
Minority Health Research

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

• Racial and ethnic minorities share a social disadvantage based on being subject to discrimination as a common theme.
Race and Ethnicity Classification

- African American or Black
- Asian
- American Indian and Alaska Native
- Native Hawaiian and 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>
</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>

NCHS, National Vital Statistics System, Mortality
Health Disparity Populations

– Health disparity populations include:
  • racial/ethnic minorities defined by OMB
  • less privileged socio-economic status
  • underserved rural residents, and/or
  • sexual and gender minorities

– Populations have poorer health outcomes often attributed in part to social disadvantage, being subject to discrimination, and underserved in the full spectrum of 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>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological</strong></td>
<td>Individual</td>
</tr>
<tr>
<td></td>
<td>Interpersonal</td>
</tr>
<tr>
<td></td>
<td>Community</td>
</tr>
<tr>
<td></td>
<td>Societal</td>
</tr>
<tr>
<td>Biological</td>
<td>Biological Vulnerability and Mechanisms</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Health Behaviors Coping Strategies</td>
</tr>
<tr>
<td>Physical/Built Environment</td>
<td>Personal Environment</td>
</tr>
<tr>
<td>Sociocultural Environment</td>
<td>Sociodemographics Limited English Cultural Identity Response to Discrimination</td>
</tr>
<tr>
<td>Health Care System</td>
<td>Insurance Coverage Health Literacy Treatment Preferences</td>
</tr>
<tr>
<td>Health Outcomes</td>
<td>Individual Health</td>
</tr>
</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, 2019
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
  o NIH program officers
  o External scientists
New Supplement: Addressing Disparities Through the Utilization of Health Information Technology
Supplement 2, 2019, Vol 57, No 6

• Features commentary and research on the potential application of Health IT in reducing disparities via access to care, higher quality of care and patient-clinician communication

• 12 original research papers, 5 editorials and perspective pieces

“Health IT has tremendous potential for promoting health equity for disparity populations, and the clinical setting provides an optimal opportunity to better understand and address factors influencing health disparities in these patient groups.”

NIMHD Director Eliseo J. Pérez-Stable, M.D.
NIMHD Scientific Research Programs

Clinical and Health Services Research

Integrative Biological and Behavioral Sciences

Community Health and Population Sciences
NIMHD Research FOAs

• Immigrant Populations: etiology/interventions
• Disparities in Surgical Care and Outcomes
• Social Epigenomics
• Caribbean Initiative
• 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
NIMHD FY13–18 Spending Trends

NIMHD RPG Awards

Proportion of Center vs. Non-Center Funding
# RPG Application Numbers: New Challenge

<table>
<thead>
<tr>
<th>FY</th>
<th># of RPG applications</th>
<th>Source</th>
<th>% Increase over previous FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>907</td>
<td>Estimate</td>
<td>17%</td>
</tr>
<tr>
<td>2019</td>
<td>776</td>
<td>Estimate</td>
<td>18%</td>
</tr>
<tr>
<td>2018</td>
<td>656</td>
<td>Actual</td>
<td>52%</td>
</tr>
<tr>
<td>2017</td>
<td>432</td>
<td>Actual</td>
<td>49%</td>
</tr>
<tr>
<td>2016</td>
<td>290</td>
<td>Actual</td>
<td>32%</td>
</tr>
<tr>
<td>2015</td>
<td>219</td>
<td>Actual</td>
<td>– 25%</td>
</tr>
<tr>
<td>2014</td>
<td>293</td>
<td>Actual</td>
<td>5%</td>
</tr>
<tr>
<td>2013</td>
<td>280</td>
<td>Actual</td>
<td>99%</td>
</tr>
<tr>
<td>2012</td>
<td>141</td>
<td>Actual</td>
<td>40%</td>
</tr>
<tr>
<td>2011</td>
<td>101</td>
<td>Actual</td>
<td></td>
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</table>
Community-Academic Partnership to Address Obesity Among Youth

- Cluster randomized trial in 10 middle schools in LA County, low SES, minorities
- Multi-level intervention: School-wide access to chilled water, healthy food options in cafeteria, encouragement to eat these, and peer-led education
- At 2 y, no overall change in BMI by school assignment
- Obese students at baseline in intervention schools had BMI reduction and 9 lbs. lower than expected
- Target structural change of access to chilled water

Black/Latino/White Disparities in Neonatal and Maternal Morbidity and Mortality in New York

- Severe maternal morbidity was higher for Blacks in medium-Black serving (19.0 vs. 15.6/1000 deliveries) and low-Black serving hospitals (16.9 vs. 12.3/1000).
- Health risks among very preterm birth infants accounted for 48.8% of Black and 29.5% of Latino mortality difference.
- Quality of health care reflected in choice of hospital accounted for 39.9% of the Black and Latino infant mortality difference.
- Mother’s SES and health risk not significant.

Novel Genetic Predictors of Venous Thromboembolism Risk in African Americans

- African Americans have 30-60% higher rates of VTE compared with other racial/ethnic groups
- GWAS with 578 AA participants and replication in independent cohort of 159 AA participants identified three SNPs on chromosome 20 that increase VTE risk 2.3-fold
- These VTE risk variants occur at higher frequency among populations of African descent (>20%) compared with other ethnic groups (<10%), and are associated with reduced expression of the thrombomodulin (THBD) gene, suggesting a mechanism regulating VTE susceptibility and elevated VTE risk in AA populations

Future Research Directions

• Multi-level interventions needed to address health disparities and improve minority health

• Identify disparities mechanisms: biological pathways, social determinants, individual behavior, environment, health system

• Assess specific communication strategies between patients and clinicians to maximize trust

• Implement structural change to modify individual and group behaviors
NIMHD Specialized Centers of Excellence Program

- Mandated by the Minority Health and Health Disparities Research and Education Act of 2000 (P. L. 106-525)
- Charge to advance the science of minority health and health disparities by conducting transdisciplinary, multi-level research and providing research opportunities and support for post-doctoral fellows and junior faculty
- Institutional awards up to $950K (direct costs) per year
- Important changes in FY 2017: 1) emphasis on thematic focus and 2) addition of required Investigator Development Core; 3) One scientific core project; and 4) Continued community engagement
- Environmental Disparities COE in collaboration with NIEHS in 2019

Example: *Researchers found that greater frequency of cognitive activity is associated with better neurocognitive function such as global cognition, memory, and perceptual speed in older persons with HIV, particularly older African Americans*
NIMHD Research Centers in Minority Institutions

- Established in 1985 in the National Center for Research Resources (NCRR)
- Program moved to NIMHD in 2012 when NCRR was dissolved with the Consolidated Appropriations Act of 2012
- FY 2017 revisions: 1) Institutional awards up to $3M (direct costs) per year; 2) Addition of scientific research projects (R01 type); 3) Required Investigator Development Core and Community Engagement
- Basic, behavioral and clinical/population science
- Eligibility criteria by NIH funding, commitment to URM, and PhD or professional degree in health sciences
- Funded nine renewals or new RCMIs focused on minority health and health disparities research
NIMHD Research Endowment Program

Authorized by the Minority Health and Health Disparities Research and Education Act of 2000 (P. L. 106-525) and the Patient Protections and Affordable Care Act (P. L. 111-148) to institutions with NIMHD or HRSA COE

- Eligibility defined by having an institutional endowment at the 25th percentile or lower and commitment to training URM
- Strengthen the research and training capacity or infrastructure of educational institutions by providing grants that create permanent endowment funds
- Institutional awards up to $2M per year X 5 years
- Retain the $10M for minimum of 20 years after award ends
- Five current awardees; Example: San Diego State University researchers developing tablet, mobile and web-based applications for bilingual participants in clinical research, for data collection and intervention delivery

Photo Credit: San Diego State University
NIMHD Division of Intramural Research

Three Program Branches
• Population and Community Health Sciences
• Social and Behavioral Sciences
• Molecular Epidemiology and Genomic Sciences

Network with DIR programs with MH/HD interests: NCI, NIA, NIDDK, NICHD, NIEHS, NHLBI, NHGRI

• Raise awareness of health disparities research at NIH
Division of Intramural Research Themes

INTERVENTIONS
Late stage (T3 & T4) translation research in minority and other health disparities communities
- Delivered in real-world communities
- Reflects scientific evidence
- Fits target audience
- Considers complex SDOH
- Builds community capacity to reduce health disparities

MECHANISMS
How environmental, social, psychological, economic, and genetic risk factors produce health disparities
- Life course effects of early childhood exposures
- Genetic susceptibility and modifiable environmental factors
- Effects of health policies on population subgroups
- Psychoneuroimmunology
NIMHD Intramural Program: Investigators

Anna M. Napoles, PhD, Scientific Director: Translation of behavioral interventions for delivery in health disparities communities

Kelvin Choi, PhD: Effects of tobacco control policies and marketing on low-income youth and adults

Sherine El-Toukhy, PhD: Harnessing digital health technologies to reduce health disparities

Faustine Williams, PhD: Multilevel interventions to reduce breast cancer disparities
NIMHD Health Disparities Research Institute

• A week-long intensive and engaging training experience launched in 2016. Program includes:
  o Lectures by leading scientists in minority health and health disparities
  o Mock grant review session using real applications
  o Meetings with NIH scientific program staff engaged in minority health and health disparities research across the agency
  o Consultations on the development of research interests into a K or R01 application, as well as research strategies and methodologies for proposed studies

Health Disparities Research Institute
August 12-16, 2019
NIH Campus
Bethesda, Maryland

For application instructions, deadlines, and general information visit: www.nimh.nih.gov
HDRI Demographics 2016–2018

Race-Ethnicity (N=154)
- Black / African American, 44, 28%
- White, 41, 27%
- Latino, 31, 20%
- Asian, 19, 12%
- American Indian/Pacific Islander, 4, 3%
- More than 1 race, 4, 3%
- No response to either/unknown, 11, 7%

Degrees
- PhD, DSc, DrPH 66%
- MD 25%
- PhD + PA or RN 9%

Gender
- Female 81%
- Male 18%
- No answer 1%
NIMHD Training and Career Development Grant Program

Achieving diversity in the biomedical workforce is critical to the full realization of our national research goals.

- Career Development Awards
- Individual Fellowship Grants
- Loan Repayment Programs
- Diversity and Re-entry Research Supplements

Visit https://www.nimhd.nih.gov/programs/extramural/training-career-dev/
NIMHD as Vehicle to Diversify Workforce

Proportion of 112 R01 PIs by Race/Ethnicity

- African Americans 11.6%
- Latinos 11.6%
- American Indians/AN 2.7%
- More than one Race 2.6%
- Native Hawaiians/OPI 0.1%
- Asians 16.1%
- Whites 60.0%
NIMHD/Association of American Medical Colleges Collaborative

Addressing diversity in the biomedical research workforce through collaboration among scientific medical associations

Goal: To develop a collaborative initiative designed to incorporate multiple associations and institutes within NIH to address minority physician workforce diversity.

Meeting Charge:

• Meeting 1: Discuss challenges in recruiting and retaining a diverse research-clinician biomedical workforce
• Meeting 2: Review best practices, innovative ideas and suggestions for opportunities to address the lack of diversity within the biomedical workforce
• Meeting 3: Develop an action plan to move forward
NIMHD/NIH Collaborative Programs

- Centers in collaboration with NIEHS and NCI
- Jackson Heart Study: *NHLBI cohort*
- HCHS/Study of Latinos: *NHLBI cohort*
- ABCD Cohort: *led by NIDA and NIAAA*
- ECHO Program: *OD program*
- AD and related dementias supplements: *NIA*
- APOLLO Network: *NIDDK*
- CSER and Precision Medicine Center: *NHGRI*
- All of Us, Opioid Use Disorder/HEAL
Jackson Heart Study

• Longitudinal, community-based study investigating the reasons for the greater prevalence of cardiovascular disease among African Americans and to uncover new approaches for reducing this health disparity

• Enrolled cohort of 5,301 African Americans from 3-county Jackson, MS metro area

• Study Centers:
  o Coordination Center
  o Research Center
  o Education Center
  o Community Outreach Center

• Study supported by NHLBI and NIMHD and renewed for FY 2018–2024
NIH Minority Health and Health Disparities Strategic Planning Process

Congressional Mandate
Section 101 of P.L. 106-525, NIMHD is tasked with guiding formation of a trans-NIH minority health and health disparities strategic plan.

National Institutes of Health
Minority Health and Health Disparities Strategic Plan 2019–2023

Taking the Next Steps

2012
• Two NIH Working Groups
• Two Townhall Meetings

2015
• Trans-NIH Portfolio Analysis
• Minority Health and Health Disparities Definitions

2016
• NIMHD Visioning
  ✓ Measurement (April)
  ✓ Etiology & Intervention (May)

2017
• NIH Directors Meeting Presentation
• NIH-Wide Minority Health and Health Disparities Strategic Plan working group

2018
• Community Listening Sessions

2019
• NIH/HHS Clearance Process
Overview of the NIH-Wide Minority Health and Health Disparities Strategic Plan

• 3 Categories
  o 9 Goals
    o 31 Strategies
      • Action Priority Areas from ICs
        • Starting Line
        • Building Momentum
  • Leaps Forward
Strategic Plan Categories and Goals

- **Scientific Research**
  - Goal 1: Minority Health Improved
  - Goal 2: Etiology of Health Disparities
  - Goal 3: Interventions to Reduce Health Disparities
  - Goal 4: Measures and Metrics

- **Research-Sustaining**
  - Goal 5: Workforce Diversity and Training
  - Goal 6: Capacity Building
  - Goal 7: Inclusion of Minorities in Clinical Studies

- **Outreach, Collaboration and Dissemination**
  - Goal 8: Community Engagement, Dissemination and Implementation
  - Goal 9: Research Community Building
Promote research to understand and to improve the health of racial/ethnic minority populations

• Examine health determinants that underlie resilience or susceptibility to diseases and conditions experienced by racial/ethnic minority populations (goal 2)

• Develop and assess interventions to improve the health status of minority populations (goal 3)

• Promote and evaluate the impact of upstream preventive interventions on distal health disparity outcomes across the lifespan and across generations (goal 3)
Research-Sustaining Activity Goals and Strategies

- Support training to enhance the diversity of the biomedical workforce and to promote training of minority health and health disparities researchers (goal 5)
- Strengthen the national capacity of institutions to conduct minority health and health disparities research (goal 6)
- Assure appropriate representation of minority populations in NIH-funded research: inclusion (goal 7)
Outreach, Collaboration and Dissemination

- Design and test **community-based** prevention and disease self-management interventions that target health determinants within the context of specific populations to influence health disparity outcomes (goal 8)

- Embed **implementation science within intervention studies** to inform efforts to scale, sustain, and translate efficacious interventions within and across populations and settings (goal 8)
Action Priority Areas for Each Strategy

❖ Starting Line:
   ➢ Concrete and current Minority Health and Health Disparities efforts (intramural and extramural)
   ➢ Minority Health and Health Disparities initiatives underway at NIH or with NIH partners

❖ Building Momentum:
   ➢ Minority Health and Health Disparities Concepts in development
   ➢ Potential initiatives for advancing the sciences of Minority Health and Health Disparities

❖ Leaps Forward:
   ➢ Visionary ideas with bold actions to dramatically advance the sciences of Minority Health and Health Disparities, improve Minority Health and reduce Health Disparities
Percent of FY18 NIH MH/HD Research Funding

- NCI: 23%
- NIMHD: 13%
- NHLBI: 10%
- NIDA: 10%
- NIA: 7%
- NIDDK: 5%
- NIMH: 4%
- OD: 3%
- Other ICs: 19%
Percent of FY18 MH/HD Research Sustaining Funding

- NIAID: 23%
- NIGMS: 15%
- NHLBI: 10%
- NINDS: 10%
- NIAAA: 4%
- NIHHD: 6%
- NIDDK: 9%
- Other ICs: 16%
- NCI: 4%
- NIAMS: 3%
Future Directions for NIMHD

• Advance the science of minority health and health disparities by building cadre of scientists

• Incorporate race, ethnicity, SES and social determinants of health perspectives in all research with humans

• Leverage capacity building of RCMI and Endowment programs to create synergy with other ICs

• Establish world-class Intramural Research program in minority health and health disparities

• Implement and Monitor the NIH-Wide Strategic Plan 2019–2023
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