Minority Health and Health Disparities Research at NIH

Prepared for GRC Annual Webinar Series at the American Association of State Colleges and Universities

Washington DC, August 2017

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Section I: Brief Introduction of NIH
National Institutes of Health
Organizational Structure of NIH

Office of Research Infrastructure Programs

Office of the Director

National Institute on Aging
National Institute on Alcohol Abuse and Alcoholism
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Cancer Institute
National Institute of Child Health and Human Development

National Institute on Deafness and Other Communication Disorders
National Institute of Dental and Craniofacial Research
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute on Drug Abuse
National Institute of Environmental Health Sciences
National Eye Institute

National Institute of General Medical Sciences
National Heart, Lung, and Blood Institute
National Human Genome Research Institute
National Institute of Mental Health
National Institute of Neurological Disorders and Stroke
National Institute of Nursing Research

National Institute on Minority Health and Health Disparities
National Center for Complementary and Alternative Medicine
Fogarty International Center
National Center for Advancing Translational Sciences
National Library of Medicine
National Institute of Biomedical Imaging and Bioengineering

NIH Clinical Center
Center for Information Technology
Center for Scientific Review

No funding authority

http://www.nih.gov/icd
The NIH Funding Cycle

1. Applicant Initiates Research Idea
2. Conducts Research
3. University Submits Application
4. Electronic Submission (GRANTS.GOV)
5. National Institutes of Health
6. Assign to Institute and Study Section
7. Peer Review
8. Institute
   - Institute (24 with funding authority)
   - Advisory Council
   - Leaders in the biological and medical sciences, education, health care, and public affairs.
9. Institute Director
10. Takes Action
11. Recommend Action
12. Evaluate Relevance
13. Review of Scientific Merit
14. Allocation of Funds

1st NIH Study Section 1946
Research Training and Career Development

Fellowships & Career Awards

- Pre-doctoral Fellowships (NRSA -- F30, F31, T32)
- Post-doctoral Fellowships (NRSA -- F32, T32 -- NIH Intramural Program)
- K99-R00 Pathway to Independence Award
- K22 Career Transition Award
- K01 Mentored Research Scientist Development Award
- K08 Mentored Clinical Scientist Development Award
- K23 Mentored Patient-Oriented K Award
- K25 Mentored Quantitative K Award
- K02 Independent Scientist Award
- K24 Mid-career Award in Patient-Oriented Research

Research Grants

- R03 Small Grant
- R21 Exploratory-Developmental Grant
- R01 Research Project Grant
Funding Opportunities

- Ask colleagues/mentors in your scientific field
- Talk with your Office of Sponsored Research
- Visit NIH IC website (council meeting video, new concepts)
- Sign on listserv (e.g., NIMHD)
- Search on-line databases - [https://www.grants.gov/](https://www.grants.gov/)
- Attend scientific meetings/workshops
- Consult NIH Program Staff
New and Early Stage Investigators

- Definition of New Investigator:
  - Not previously competed successfully as PD/PI for a significant NIH independent research award (R01)

- Definition of Early Stage Investigator:
  - Within 10 years of completing terminal research degree or within 10 years of completing medical residency (or the equivalent)

- Applies only to R01 applications

- New Investigators/Early Stage Investigators will be clustered together for review
NIH Extramural Team

- Before Applying: Program Officers [POs]
- After Submitting: Scientific Review Officers [SROs]
- After the Review Meeting: Program Officers, Grants Officers
# Grant Application Scoring System

<table>
<thead>
<tr>
<th>Score</th>
<th>Descriptor</th>
<th>Additional Guidance on Strengths/Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exceptional</td>
<td>Exceptionally strong with essentially no weaknesses</td>
</tr>
<tr>
<td>2</td>
<td>Outstanding</td>
<td>Extremely strong with negligible weaknesses</td>
</tr>
<tr>
<td>3</td>
<td>Excellent</td>
<td>Very strong with only some minor weaknesses</td>
</tr>
<tr>
<td>4</td>
<td>Very Good</td>
<td>Strong but with numerous minor weaknesses</td>
</tr>
<tr>
<td>5</td>
<td>Good</td>
<td>Strong but with at least one moderate weakness</td>
</tr>
<tr>
<td>6</td>
<td>Satisfactory</td>
<td>Some strengths but also some moderate weaknesses</td>
</tr>
<tr>
<td>7</td>
<td>Fair</td>
<td>Some strengths but with at least one major weakness</td>
</tr>
<tr>
<td>8</td>
<td>Marginal</td>
<td>A few strengths and a few major weaknesses</td>
</tr>
<tr>
<td>9</td>
<td>Poor</td>
<td>Very few strengths and numerous major weaknesses</td>
</tr>
</tbody>
</table>

**High Impact**

**Moderate Impact**

**Low Impact**
How Funding Decisions are Made?

- Peer Review: scientific & technical merit
- Program Staff Recommendation: program priorities
- Institute National Advisory Council
- Director’s Decision: programmatic priorities and availability of funds
Resource: Office of Extramural Research

- Overview of the NIH Grants Process
- NIH Guide for Grants and Contracts
- Writing Your Application
  [http://grants.nih.gov/grants/writing_application.htm](http://grants.nih.gov/grants/writing_application.htm)
- Extramural Training Opportunities
  [http://grants.nih.gov/training/extramural.htm](http://grants.nih.gov/training/extramural.htm)
Resource: Center for Scientific Review

- CSR Study Section Information – Descriptions, Rosters, Meeting Dates, etc.: [http://public.csr.nih.gov/StudySections](http://public.csr.nih.gov/StudySections)
Section II: National Institute on Minority Health and Health Disparities
Eliseo J. Pérez-Stable, M.D.,
Director, NIMHD
NIMHD History

- Established as an Office under the NIH Director through DHHS Secretary Louis W. Sullivan, M.D. in 1990
- Transitioned to a Center through legislation championed by Representative Louis Stokes (D-OH) in 2000
- Patient Protection and Affordable Care Act contained language championed by Senator Ben Cardin (D-MD) to transition to an Institute in 2010
- John Ruffin, Ph.D. led all the entities until his retirement in March 2014; Yvonne T. Maddox, Ph.D. became Acting Director
- Eliseo J. Pérez-Stable, M.D., started September 1, 2015
- FY 2016 budget is about $280 million with 3.2% increase
NIMHD’s mission is to lead scientific research that advances understanding of minority health and health disparities

- Supports research in minority health, as defined by racial/ethnic groups in U.S. Census
- Supports research to understand the causes of and reduce health disparities in specific populations
- Supports the training of a diverse scientific workforce as part of broad NIH mandate
- Translates and disseminates research information
- Fosters innovative collaborations and partnerships
NIMHD Strategy to Advance the Science of Health Disparities

- Define minority health and health disparities to:
  - Scientifically investigate the health of racial/ethnic minority groups as defined by OMB US Census
  - Better design projects to reduce health disparities among traditionally disadvantaged groups

- Ensure that the best scientific strategies to address minority health and health disparities are part of all NIH Institutes and Centers research portfolio
Minority Populations

- African American or Black
- Asian
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander
- Latino or Hispanic

Source: [https://www.whitehouse.gov/omb/fedreg_1997standards](https://www.whitehouse.gov/omb/fedreg_1997standards)  
Health Disparity Populations

- Health disparity populations include:
  - Racial/ethnic minorities
  - Less privileged socio-economic status
  -Underserved rural residents, and/or
  - Sexual gender minorities

- Populations have poorer health outcomes attributed in part to social disadvantage, being subject to discrimination, and being underserved in health care.
Minority Health Research

- 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.
Health Disparities Research

A health disparity is defined as a health difference that adversely affects disadvantaged populations, based on one or more of the health outcomes.

Health disparities research is devoted to:

- Advancing scientific knowledge about defining mechanisms of how health determinants affect disparities; and
- How this knowledge is translated into interventions to reduce disparities.
Questions for Health Disparities Research

• **How** does the difference in risk factors translate to a health disparity or not?

• **What** social determinants interact with the behavior, environment, and biology that results in a health disparity?

• **Why** do more aggressive biological forms of disease exist in some populations?

• **How and where** does one intervene?

• **What** defines better health outcomes among traditionally disadvantaged groups?
Health Disparity Outcomes

- Higher incidence and/or prevalence
- Burden of disease measured by Disability-Adjusted Life Years (DALYS)
- Premature and/or excessive mortality in areas where populations differ
- Poorer health-related quality of life and/or daily functioning using standardized measures
Mechanisms Leading to Health Disparities

- Individual Behaviors, Lifestyle, Beliefs, and Response to Stress
  - Racism, adverse conditions, food insecurity, witness to violence, immigration, LEP status

- Biological processes and Genetics
  - Earlier age of onset, gene variants, metabolic differences, susceptibility, faster progression, greater severity

- Physical Environment
  - Place, social system, neighborhood, infrastructure

- Cultural Environment
  - 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
## Minority Health and Health Disparities Research Framework

### Fundamental Factors: Race/Ethnicity, Low Socioeconomic Status, Rural Residence

<table>
<thead>
<tr>
<th>Domains: Health Determinants</th>
<th>Levels of Influence</th>
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<tbody>
<tr>
<td></td>
<td>Individual</td>
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<tr>
<td>Biological</td>
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<tr>
<td>Vulnerability Mechanisms</td>
<td>Caregiver-Child Interaction</td>
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<tr>
<td>Family Microbiome</td>
<td>Family Function</td>
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<tr>
<td>Behavioral</td>
<td>Health Behaviors Coping Strategies</td>
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<td></td>
<td>Limited English</td>
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<tr>
<td>Physical Environment</td>
<td>Personal Environment</td>
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<td>Household School</td>
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<td></td>
<td>Work</td>
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<td></td>
<td>School</td>
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<tr>
<td></td>
<td>Work</td>
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<tr>
<td>Sociocultural Environment</td>
<td>Sociodemographic Cultural Identify</td>
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<tr>
<td></td>
<td>Discrimination</td>
</tr>
<tr>
<td>Healthcare System</td>
<td>Access</td>
</tr>
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<td></td>
<td>Congruent w/Patient</td>
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<tr>
<td>Health Outcomes</td>
<td>Individual Health</td>
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</table>

**Lifecourse**
Research Supplements to Promote Diversity in Health-Related Research (Admin Supp)

PA-15-322

A. Individuals from racial and ethnic groups that have been shown by the National Science Foundation to be underrepresented in health-related sciences on a national basis (see data at http://www.nsf.gov/statistics

B. Individuals with disabilities, who are defined as those with a physical or mental impairment that substantially limits one or more major life activities, as described in the Americans with Disabilities Act of 1990, as amended (http://www.ada.gov

C. Individuals from disadvantaged backgrounds, defined as:

1. Individuals who come from a family with an annual income below established low-income thresholds. These thresholds are based on family size, published by the U.S. Bureau of the Census; adjusted annually for changes in the Consumer Price Index; and adjusted by the Secretary for use in all health professions programs. The Secretary periodically publishes these income levels at http://aspe.hhs.gov/poverty/index.shtml (http://aspe.hhs.gov/poverty/index.shtml).

2. Individuals who come from an educational environment such as that found in certain rural or inner-city environments that has demonstrably and directly inhibited the individual from obtaining the knowledge, skills, and abilities necessary to develop and participate in a research career.
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Follow us on Twitter
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Section III: Academic Research Enhancement Award

https://area.nih.gov
Academic Research Enhancement Award (Parent R15) (PA-16-200)

- Release Date: April 18, 2016
- Expiration Date: May 8, 2019
- R15 Participating Institutes and Centers: NCCIH, NCI, NEI, NHGRI, NHLBI, NIA, NIAAA, NIAID, NIAMS, NIBIB, NICHD, NIDA, NIDCD, NIDCR, NIDDK, NIEHS, NIGMS, NIMH, NIMHD, NINDS, NINR, NLM, ORIP
- Electronic Submission – SF424 (R&R) form through Grants.gov
- NIMHD Scientific/Research Contact: DeLoris L. Hunter, PhD, Telephone: 301-402-1366, Email: hunterd2@mail.nih.gov
Receipt Dates and Review and Funding Schedule

<table>
<thead>
<tr>
<th>Submission Dates*</th>
<th>Study Section Review</th>
<th>Advisory Council/Board Review</th>
<th>Estimated Award Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 25</td>
<td>June/July</td>
<td>August/September</td>
<td>September or December</td>
</tr>
<tr>
<td>June 25</td>
<td>October/November</td>
<td>January/February</td>
<td>March</td>
</tr>
<tr>
<td>October 25</td>
<td>February/March</td>
<td>May/June</td>
<td>July</td>
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Research Objectives

- The AREA Program is implemented through the R15 funding mechanism. It was formed in 1985 to fulfill a unique Congressional mandate.

- Goals of the Program:
  - Support meritorious research
  - Expose undergraduate and graduate students to hands-on research in eligible environments
  - Strengthen the research environment of schools that have not been major recipients of NIH support

- It is distinct from other NIH initiatives that seek to increase diversity, enhance research in specific geographic areas, support individual or institutional training or career development, build research education infrastructure or capacity building.
Program Institutional Eligibility

- Only domestic accredited public or non-profit private institutions of higher education are eligible.
- The institution must grant baccalaureate or advanced degrees in the biomedical or behavioral sciences.
- The institution may not receive more than $6 million per year in NIH support in each of 4 of the last 7 years. Most NIH grants and cooperative agreements (all except C06, S10, and the G series) count towards this limit.
Principal Investigator Eligibility

- The PI must have a primary appointment at an AREA-eligible institution.
- The PI may not be the PI of an active NIH research grant at the time of an AREA award.
  - Instrumentation awards (S10), conference grants (R13), and institutional training grants (T32) are examples of grants that are not considered research grants.
- The PI may not be awarded more than one AREA grant at a time.
- Eligibility applies only to the PI and Multiple PIs, not to collaborators, consultants, or sub awardees.
The total budget for all years of the proposed project must be requested in Budget Period 1.

Applicants submitting an application with direct costs of $250,000 or less (total for all years, excluding consortium Facilities and Administrative [F&A] costs) must use the Modular Budget.

Applicants submitting an application with direct costs of $250,001 - $300,000 (total for all years, excluding consortium Facilities and Administrative [F&A] costs) must use the Research and Related (R&R) Budget form.

Effort: Since one 3-year budget period is completed, the PI might have 27 months effort in Year 01.
Types of Student Involvement

- AREA grants should provide meaningful, hands-on, research experiences to undergraduate and/or graduate students.

- The AREA program is a research grant program, not a training or fellowship program. While students typically participate in non-research activities, the AREA grant should not include a training plan that might include coursework, attending seminars, or developing professional skills.

- The 12 page Research Strategy should describe how undergraduate and/or graduate students will be exposed to and supervised conducting hands-on research. It should also describe how students will participate in research activities.

- The Research Strategy should communicate how the project will stimulate students' interest so that they consider a career in the biomedical or behavioral sciences.
RPPR/Progress Report

- There are special instructions for preparing and submitting RPPRs for R15s.
- RPPRs for MYF awards are due annually on or before the anniversary of the budget/project period start date of the award. NIH will send an email notification to the PD/PI two months before the anniversary of the award requesting that the MYF RPPR be submitted.
- The reporting period for the RPPR is the year preceding the anniversary date of the RPPR. For example, if an award is made on 04/01/2013, the R15 RPPR is due on or before 04/01/2014, and should report on the activities performed under the award between 04/01/2013 and 03/31/2014.
- NIH staff will review the submitted RPPR, but will not routinely communicate back to the grantee unless additional information is needed.
- Undergraduate and graduate students who have performed work on an R15 for at least one person month must be reported on the RPPR and must have a Commons account, even if they were not paid by the R15.
Active R15 PARs:

- PAR-15-149 - Enhancing Developmental Biology Research at Academic Research Enhancement Award Eligible Institutions (R15)
- PAR-15-319 - Biomedical and Behavioral Research Innovations to Ensure Equity (BRITE) in Maternal and Child Health (R15)
Key Features

- Project period is limited to 3 years.
- Direct costs are limited to $300,000 over the entire project period.
- An R15 is renewable.
- Preliminary data are not required but may be provided.
- Collaborators may be from AREA-ineligible schools.
- Availability of research opportunities to students.
- The PI’s experience supervising students in research.
- Evidence the project can stimulate the interests of students to consider a career in biomedical/behavioral science.
- Availability of well-qualified students and evidence students have or are likely to pursue biomedical careers.
- For a Multiple PI structure, all PIs must be eligible.