

NIMH Initiatives to Improve Racial and Ethnic Diversity in the HIV/AIDS Workforce

David M. Stoff

**Tenth RCMI International Symposium
on Health Disparities**

**San Juan, Puerto Rico
December 14, 2006**



Overview

- **NIMH/CMHRA Mission**
- **Disparities/Diversity Issues**
- **Initiatives to Enhance Diversity**

CMHRA Mission

Integrated HIV Research Programs on the Mental Health of AIDS

Basic & Clinical NeuroAIDS

Neuropathogenesis
Viral/Host Genetics
Neuropsychiatry
Therapeutics

HIV Primary Prevention

Social Epidemiology
Primary Prevention

- Epidemiology
- Genetics
- Infectious Diseases
- Neuroimmunology
- Neurology
- Neuropathology
- Neuroscience
- Nursing
- Psychiatry
- Psychology
- Public Health
- Radiology
- Social Work
- Sociology

Center for Mental Health
Research on AIDS

HIV Secondary Prevention & Translation

Secondary Prevention
Adherence
Commun Implement
Translational

Cross-Cutting HIV Programs

AIDS Centers
Infants, Children, Adolesc
International
Training
Health Disparities
Technology Transfer

<http://www.nimh.nih.gov/dahbr/9a-as.cfm>

Some CMHRA Priorities and Directions: Behavioral/Psychosocial Area

- ***Improved targeting of prevention efforts***
that are focused, adapted and sustained to address the most vulnerable groups and that address changing risk groups and societal norms (e.g., persons with recent HIV infection)
- ***Impact of new biomedical technologies***
(e.g., microbicides, pre-exposure prophylaxis, vaccines, rapid tests, genetic advances) and HIV risk
- ***Reasons for HIV disparities***
in access to care and prevention services such as the sociocultural determinants of health disparities in HIV/AIDS
- ***Children and families affected by HIV,***
including perinatal transmission, in domestic and international settings

Some CMHRA Priorities and Directions: Behavioral/Psychosocial Area

- ***Challenges of HIV as a chronic disease***
such as medical and/or neuropsychiatric comorbidities and complications associated with HIV infection, development of integrated comprehensive intervention programs, coping, continued riskiness and re-infection
- ***Translating effective primary and secondary HIV prevention***
findings into utilizable practical strategies—including dissemination, implementation and adoption
- ***Research on routine and rapid HIV testing:***
barriers and facilitators for its implementation as part of medical care
- ***Large-scale changes in HIV prevention***
with greater involvement of community leaders, government, schools and health departments to create more open national dialogue and discourage stigma that has hindered HIV prevention

Some CMHRA Priorities and Directions: Biological Area

- ***Mechanisms of HIV-1 neuropathogenesis:***
e.g., entry of virus into CNS compartment through blood brain barrier; role of cytokines and chemokines in facilitating HIV trafficking; altered signal transduction pathways involved in neuronal damage
- ***Viral and host genetics in HIV-1 CNS disease:***
e.g., molecular diversity and resulting functional consequences; characs of virus, host, virus-host interacs in neurocog disorders
- ***Molecular and cellular markers in HIV-1 CNS disease:***
e.g., microarray analysis of HIV-infected human CNS tissue; animal models of neuroAIDS at various stages of disease progression to identify modulation of unique genes
- ***Neuroimaging approaches:***
e.g., magnetic resonance spectroscopy (MRS), positron emission tomography (PET), magnetic resonance imaging (MRI), functional MRI (fMRI), blood oxygenation level dependent functional magnetic resonance imaging (BOLD fMRI) and diffusion tensor imaging (DTI)—to delineate key biological markers that correlate with disease symptoms and progression
- ***New treatment targets that prevent or treat HIV-1 CNS disease:***
e.g., neuroprotective strategies, novel gene therapies

Some HIV/AIDS Research at RCMI's of Interest to NIMH AIDS

NIMH HIV Prevention Priority

- RCMI: Stigma
- RCMI: Child Abuse

NIMH HIV Comorbidity Priority

- RCMI: Hepatitis C/HIV Co-Infection
- RCMI: Depression

NIMH Basic and Clinical NeuroAIDS Priority

- RCMI: Pathobiology of HIV-associated Disorders
- RCMI: Mechanisms by which Chemokines Affect Immunity
- RCMI: Neurochemical Abnormalities of HIV-induced AIDS
- RCMI: Influences of Apo-E4 and Amyloid Beta on Development
- RCMI: Murine Model for AIDS Research

NIMH HIV Therapeutics Priority

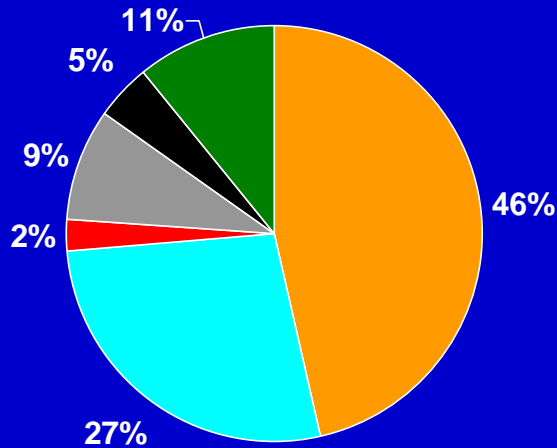
- RCMI: Synthesis of Anti-HIV Drugs for AIDS and Related Infections
- RCMI: Immune Restoration to HAART

Current NIMH/AIDS Domestic Minority Research

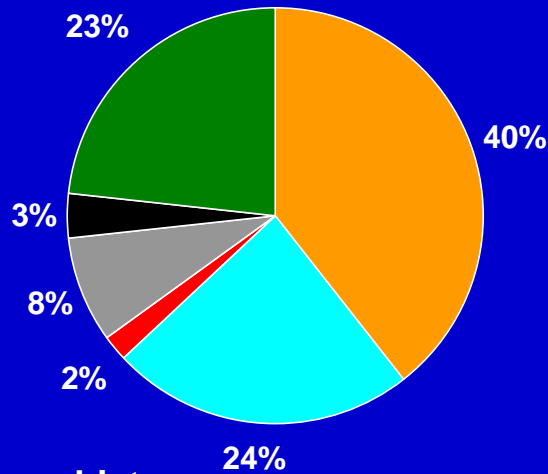
- NIMH has made a major budgetary commitment to address disproportionate impact of HIV infections in racial and ethnic minority (REM) populations
- 54.7% of Grants in the CMHRA Clinical Research Portfolio (FY 2006) have >75% REM Inclusion
- AIDS Minority Grants (more than 75% REM Inclusion) Account for 54.6% (\$25.5M) of the AIDS Clinical Research Budget (TC, FY2006)
- In addition to RPGs, NIMH has employed a number of strategies to increase the number of HIV minority investigators and to support minority-focused research studies

Percentage of REMs Enrolled in Population Tracking Eligible Grants (FY 2006) for CMHRA Programs

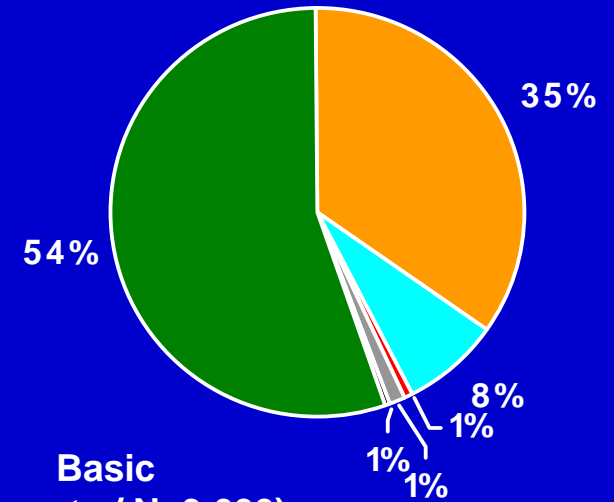
Pediatric
(18 grants / N=8,243)



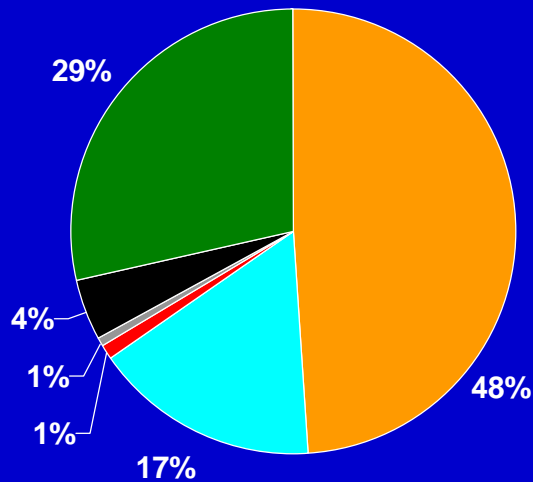
Primary Prevention
(11 grants / N=3,744)



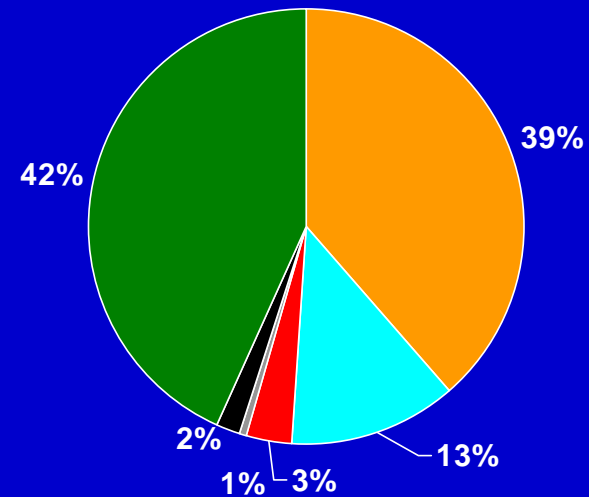
Secondary Prevention
(18 grants / N=5,831)



Neuropsychiatry
(14 grants / N=2,196)



Basic
(14 grants / N=3,600)



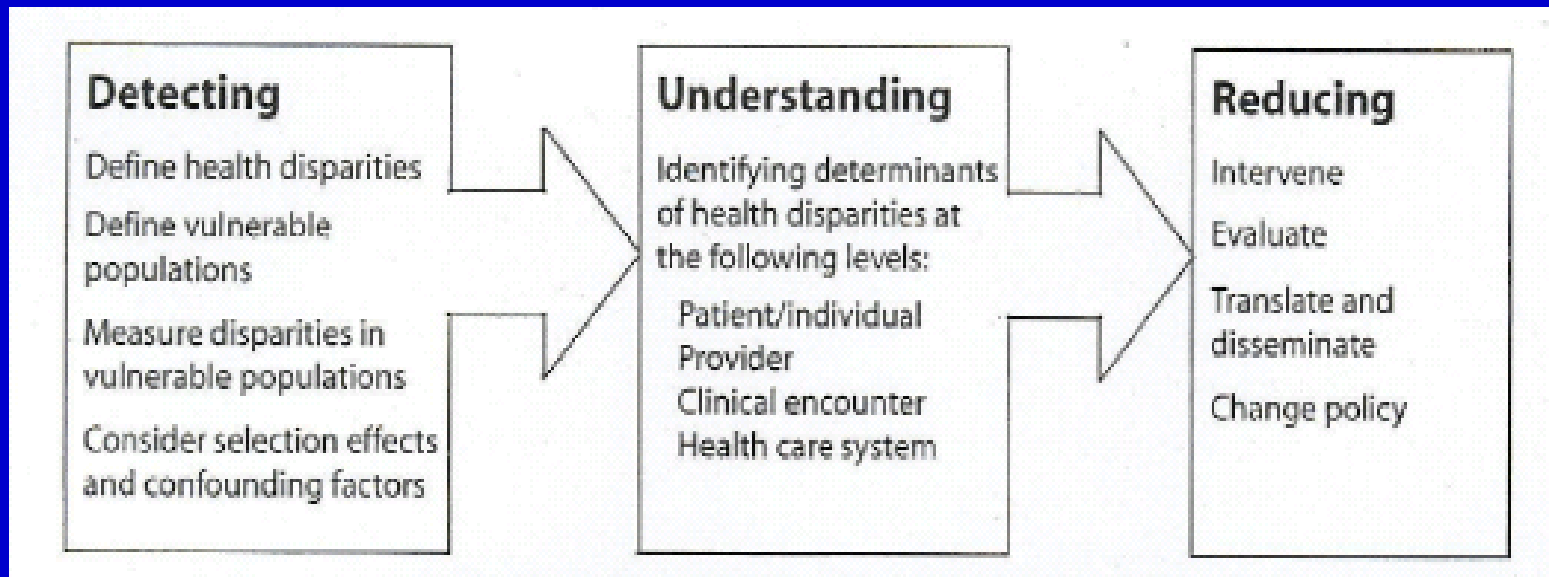
HIV/AIDS Health Disparities Program

- **Coordinate** and expand the scientific knowledge base on health disparities across the CMHRA research portfolio
- Support **infrastructure** development and facilitate the establishment of collaborative research **partnerships** for minority institutions to conduct multidisciplinary NIMH funded HIV mental health research
- Support programs for research **capacity building** by expanding and retaining the cadre of research scientists from minority groups to carry out a long-term research agenda in the mental health of HIV/AIDS

HIV/AIDS Health Disparities Objectives

- Increase research on the sociocultural determinants of health disparities in HIV/AIDS to *understand* reasons for HIV disparities in access to care and prevention services and to *reduce/eliminate* disparities
- Enhance and expand research capacity and infrastructure development for *multidisciplinary* HIV mental health research in *Prevention, Therapeutics, and NeuroAIDS* by minority investigators and institutions (minority-serving and minority predominant)

Phases of Disparities Research Agenda



Taken from: Kilbourne et al. (2006).
American Journal of Public Health, 96 (12), 2113-2121.

Disparities

Recent Reports Addressing Diversity

JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION

ORIGINAL COMMUNICATION

VOL. 97, NO. 8, AUGUST 2005

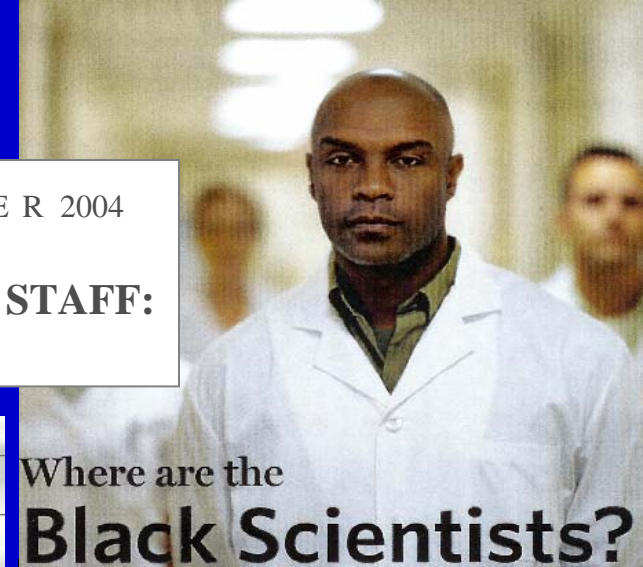
Barriers to Racial/Ethnic Minority Application and Competition for NIH Research Funding

Vickie L. Shavers, PhD; Pebbles Fagan, PhD, MPH; Deirdre Lawrence, PhD, MPH; Wonda McCaskill-Stevens, MD; Paige McDonald, PhD; Doris Browne, MD, MPH; Dan McLinden, ED; Michael Christian, MD; and Edward Trimble, MD
Bethesda, Maryland and Montgomery, Illinois

TheScientist

MAGAZINE OF THE LIFE SCIENCES

Volume 19 | Issue 21 | November 7, 2005



THE NIH CATALYST SEPTEMBER – OCTOBER 2004 FROM THE DEPUTY DIRECTOR FOR INTRAMURAL RESEARCH **INCREASING DIVERSITY IN THE NIH SCIENTIFIC STAFF: NEXT STEPS**

Smedley BD, Stith AY, Nelson AR, eds. **Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.**

Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Board on Health Sciences Policy. Institute of Medicine of the National Academies. The National Academies Press. Washington, DC. 2003



ASSESSMENT OF **NIH MINORITY RESEARCH AND TRAINING PROGRAMS**

NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADEMIES
2005

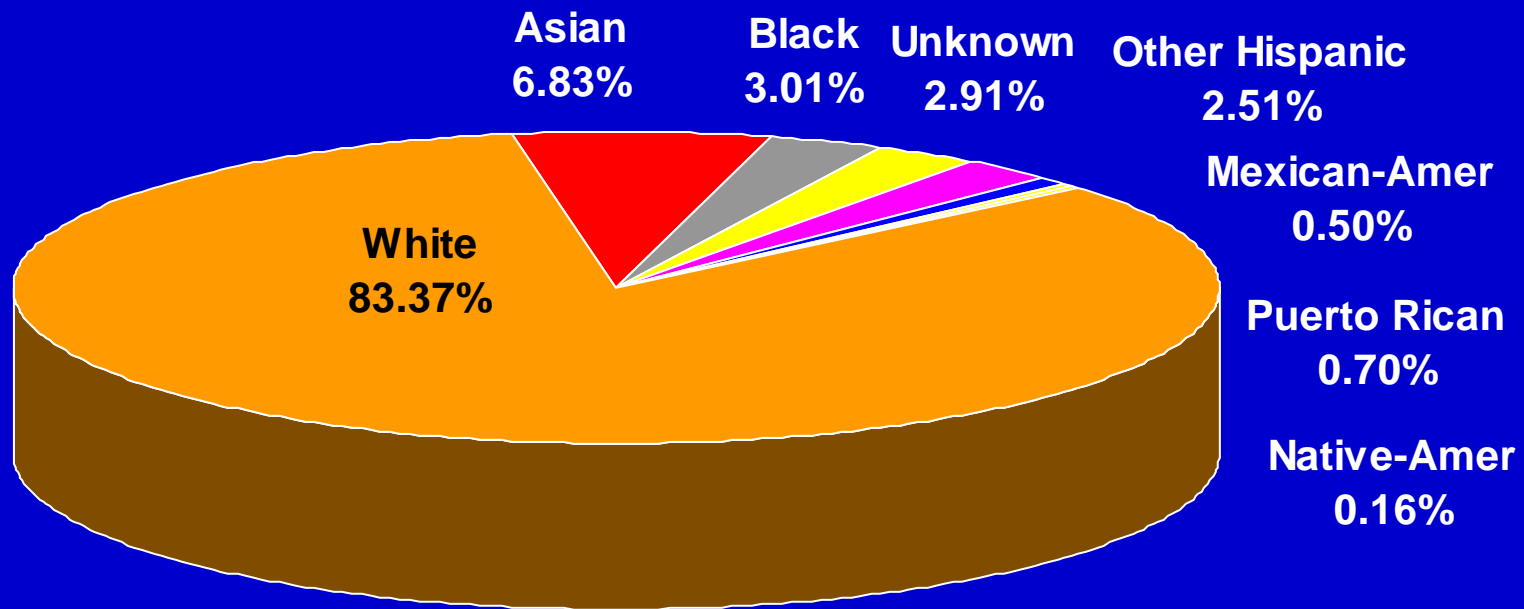
3

Where are the **Black Scientists?**

African Americans suffer a disproportionate burden of disease in the US. So why are there hardly any black scientists at the NIH?

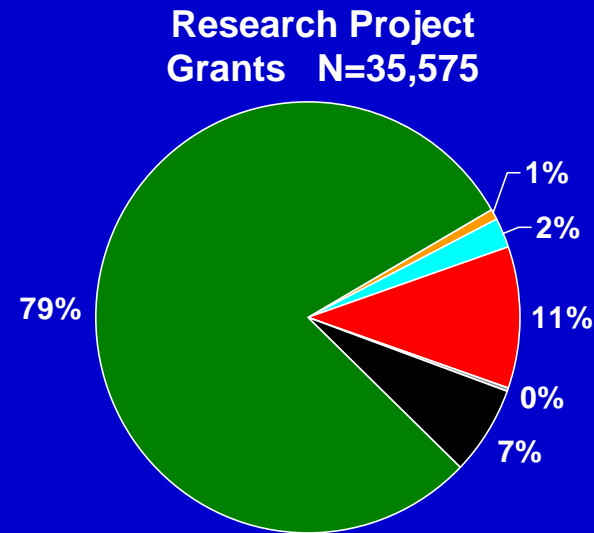
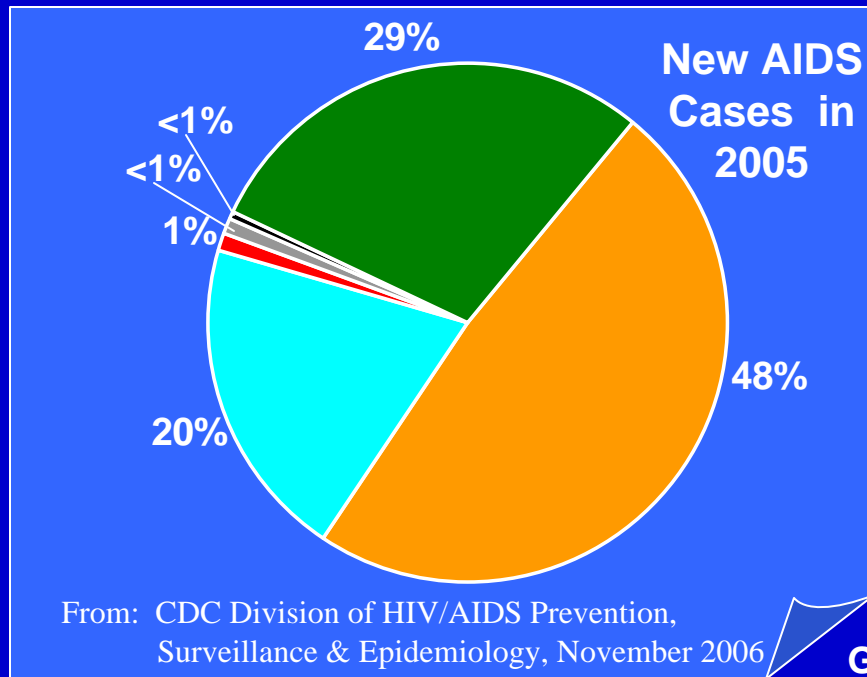
By Amri Johnson

Ethnic Distribution of Faculty: US Medical Schools (AAMC 1998)

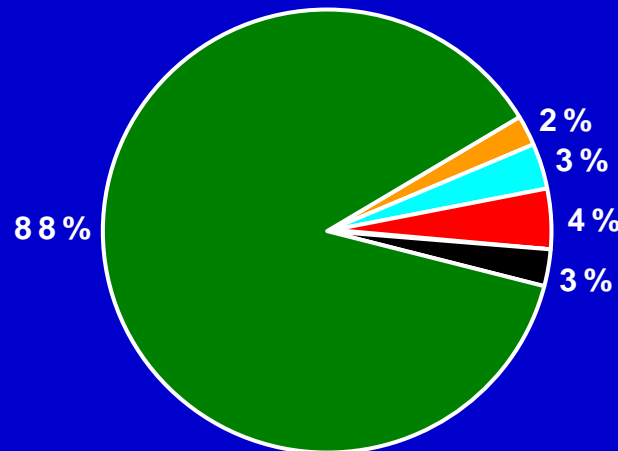


In the US Only 14% of Practicing Physicians are from a Minority Group

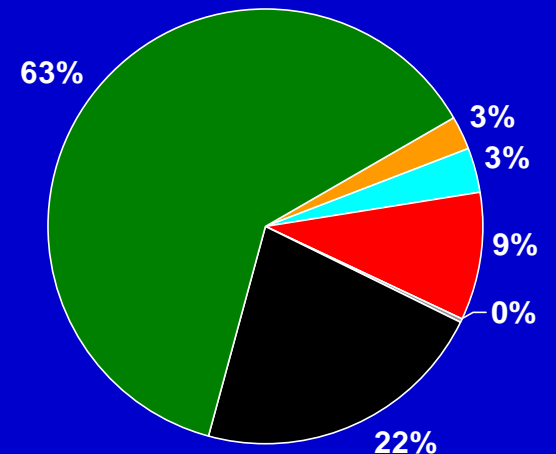
Over-representation of REMs with AIDS (FY 2005) yet under-representation of REM researchers (FY 2002)



NIH Training Grants N=2,221



NIH Research Career Program N=3,559



- African American
- Hispanic
- AAPI
- Native American
- White
- Other or unknown

From: Shavers, V.L., et al. (2005), *Journal of the National Medical Association*, 97 (8), 1063-1077. Adapted from the NIH IMPAC II database, courtesy of Dr. Belinda Seto.

Importance of Factors Identified as Barriers to Minority Investigator Application and Successful Competition for NIH Funding

- Inadequate research infrastructure, training and development (4.01)
- Barriers to development as independent researchers (3.94)
- Inadequate mentoring (3.86)
- Insensitivity, misperceptions and miscommunications (3.71)
- Institutional bias in NIH policies (3.67)
- Unfair competitive environment (3.56)
- Lack of institutional support (3.55)
- Unsupported research topics/methods (3.50)
- Social, cultural and environmental barriers (3.39)

MORE IMPORTANT



LESS IMPORTANT

From: Shavers, V.L., et al. (2005)

Journal of the National Medical Association, 97 (8)

1063-1077.

Suggested Actions to Increase Minority Investigator Application and Competition for NIH Funding

- Create opportunities for mentorship/collaboration (4.11)
- Increase commitment and accountability
- Sensitize and diversify review process
- Provide more technical assistance and skill-building programs
- Increase funding opportunities for career dev't
- Cultivate long-term relationships between NIH and its constituencies
- Broaden scope and type of funding
- Facilitate professional and organizational development (3.75)

MORE IMPORTANT

Rated highest
on importance
and feasibility

LESS IMPORTANT

NIMH / CMHRA-
Sponsored
Meeting, 2005

Minority Research
and Training Programs
for Mental Health
Research in HIV/AIDS:
*Mentoring and
Training Partnerships*

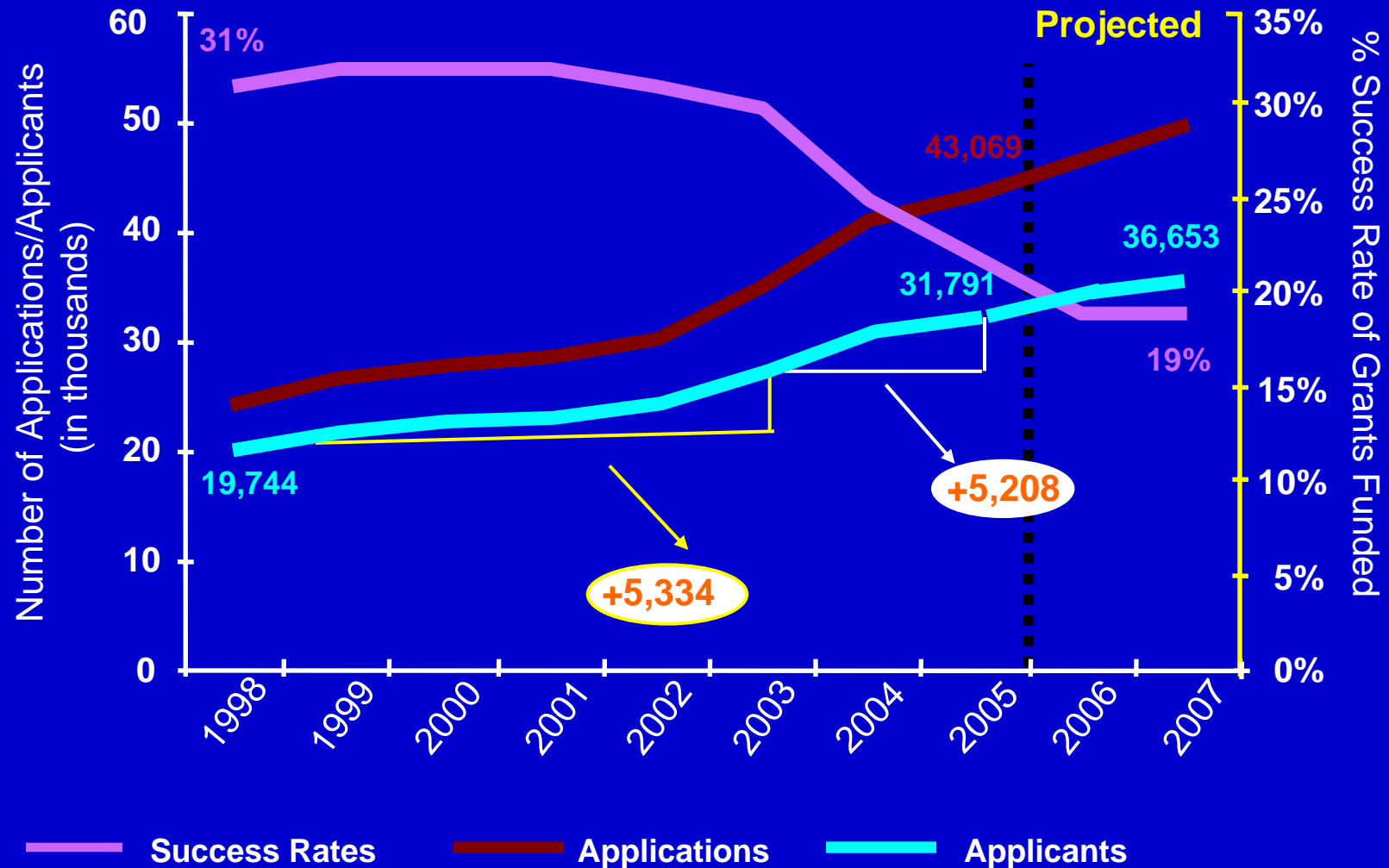


December 19-20, 2005
Bethesda Hyatt, Bethesda, MD



NIMH
National Institute
of Mental Health

National Research Capacity and Demand for Grants Surges at End of Doubling Period, Success Rates Fall



From: Zerhouni, E.A. (2006). *Science*, 314, 1088-1090.

Slide 21

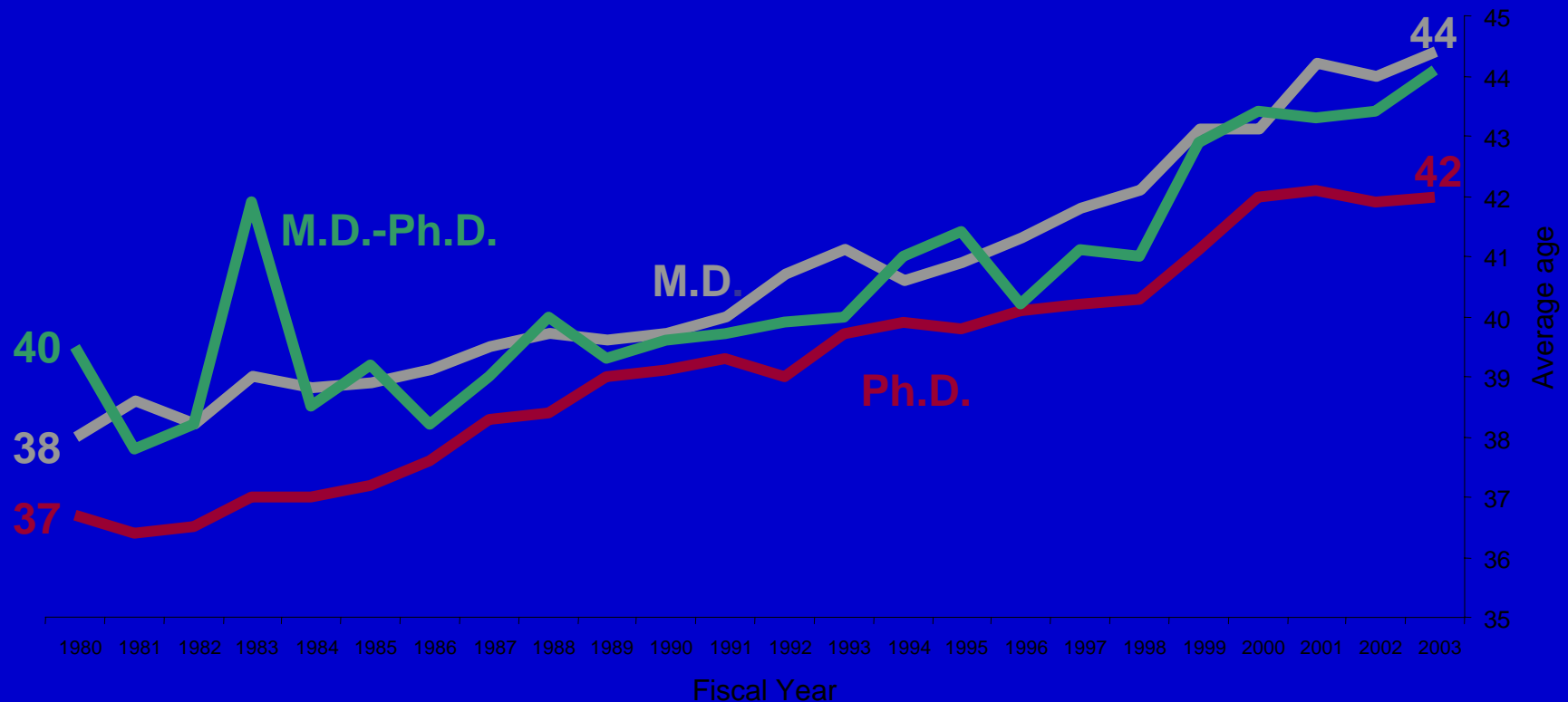
b3

Updated (no applicants)

boehma, 7/11/2006

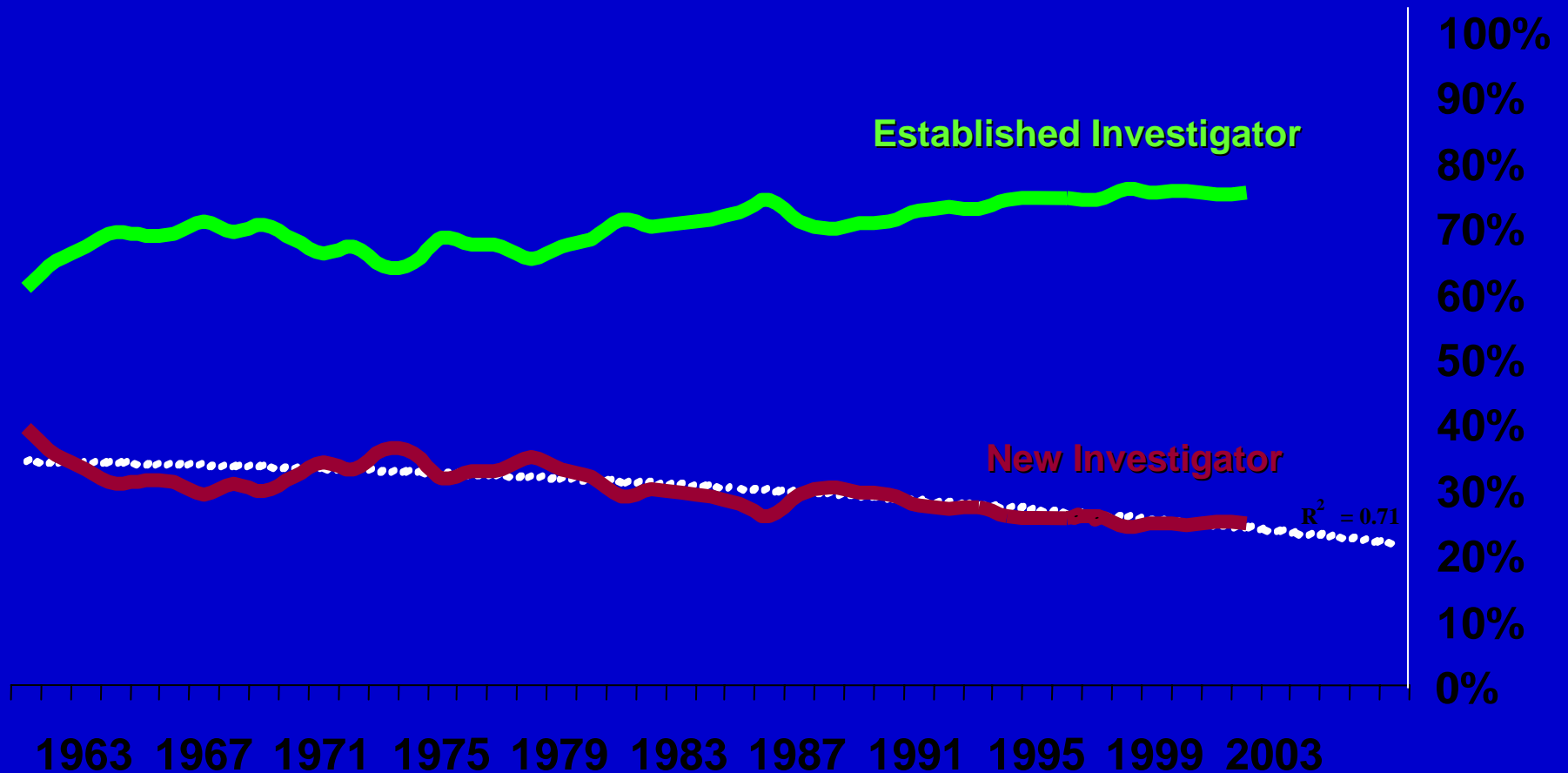
The Problem: First Major Independent Research Support Occurs at an Ever-Later Age

Average Age of Initial Type 1 R01/R23/R29 Award for Different Degrees Held



For more information, see http://grants.nih.gov/grants/20040712_New_Investigator_Talk.ppt

The Problem: Percentage of New Investigators in Competing R01 Awards Continues to Decrease (FY 1962-FY 2003)



Pathway to Independence Award Features

- Utilizes K99/R00 mechanism
- Five years of support consisting of two phases
- Phase I provides 1-2 years of mentored support for advanced fellows

Total cost of \$90,000 per award including 8% F&A

- Phase II provides up to 3 years of independent research support, contingent upon securing an independent research position and administrative review.

Total cost of \$249,000 per award including full F&A

- U.S. citizens and non-citizens are eligible to apply

<http://grants.nih.gov/grants/guide/pa-files/PA-06-133.html>

http://grants1.nih.gov/grants/new_investigators/index.htm

Who Should Apply?

- No More than 5 yrs Postdoctoral Research Experience
- Evidence of Research Productivity
- Creative Idea for Independent Research Project
- In Final Yrs of Mentored Research and Poised for Tenure-track Position

CMHRA's Diversity-Enhancing Initiatives

New NIMH Diversity-Enhancing Initiatives

- AIDS Mental Health Research Centers at RCMI (Mechanism: TBD)
 - ✓ Dual phased (planning, then research devpt)
 - ✓ Strong mentoring/career devpt component
 - ✓ Thematic in mental health/CNS HIV aspects
- Diversity/Minority Mentoring (R25)
 - ✓ Network of Established Mentors
 - ✓ Structured Special Institute
- Diversity/Minority Training (T32)
 - ✓ Partnerships between Majority and Minority Institutions
 - ✓ Interdisciplinary and Translational
 - ✓ Thematic in mental health/CNS aspects

Goal of AMHRC Initiative

**Expand NCRR-Supported RCMI Through Adding
MH Dimension of HIV/AIDS (e.g., CNS
Pathophysiology, Disparities, Prevention,
Treatment)**

AMHRC Objectives

Short-term:

- **Develop New Research Strategies in MH of HIV/AIDS**
- **Enhance Opportunities for Linkages and Multidisciplinary Research Collaborations**
- **Strengthen Clinical and Multidisciplinary/ Translational Research Approaches in Addressing HIV Disparities**
- **Provide Mentoring, Training and Career Devtpt Experiences**

AMHRC Objectives

Long-term:

- **Enhance Clinical Research Capacity of Eligible Institutions**
- **Stimulate Pool of REM Scientists Conducting MH-Relevant HIV Research**
- **Position Grantee Institutions to Compete Successfully for PHS-Supported Research in MH of HIV**
- **Improve Health of Nation's Citizens, Especially REMs, as a Result of Clinical Research by Participating Institutions**

AMHRC Research Plan

- **Mechanism: Cooperative Agreement (U01) or Competitive Supplement (S)**
- **Phase I: Capacity Building. Planning, Collaborations, Recruitment**
- **Phase II: Research Development—Two-three developmental or Exploratory Research Projects in HIV Neuropsychiatry, HIV Prevention or NeuroAIDS**
 - **Projects Coordinated and Inter-dependent**
 - **Administrative, Research Methods and Research Cores**
 - **Expand Career Development Opportunities of Junior Investigators**
 - **Partnerships w/ 'Research Intensive' Institution**

AMHRC Timeline

- **Council Concept Approval**
<http://www.nimh.nih.gov/researchfunding/conceptclrcsept06stoffs.cfm>
- **Planning Meeting (Spring 2007)**
- **Published in NIH Guide:
July 2007 (expected)**
- **Earliest Start Date:
Jan 2008**
- **Support 2 Programs Over 2 Yrs (\$2M)**

Goal of Mentoring Initiative

Develop research mentoring programs for graduate students, postdoctoral fellows, and early career faculty to improve the capacity for high quality HIV mental health/CNS research by and for racial and ethnic minorities

Program Types

Two kinds of mentoring programs:

- **Special institute for collaborative and intensive mentor-based thematic research programs in mental health/CNS of HIV/AIDS**
- **Network of senior mentors in HIV/AIDS mental health/CNS thematic research areas**

Two groups of individuals should be targeted:

- **REMs in various HIV mental health/CNS fields (e.g., disparities, neuropathogenesis, prevention, therapeutics, services)**
- **Non-minorities in HIV disparities**

Mentoring Timeline

- **Council Concept Approval**
- **Published in NIH Guide (2 receipts):**
 - July 2006**
<http://grants1.nih.gov/grants/guide/pa-files/PAS-06-447.html>
 - July 2007**
(expected)
- **Earliest Start Dates:**
 - April 2007**
 - April 2008**
- **Support 3-5 Programs Over 2 Yrs (\$2M)**

Goal of Diversity T32 Initiative

Support T32 institutional research training programs at MSIs and MPIs to recruit, train and retain pre-and/or postdoctoral trainees in HIV/AIDS MH research relevant to scientific areas and research mission of CMHRA

Key Elements of Diversity T32

- **For Domestic, Educational, Minority Institutions**
- **Institution Selects and Appoints Trainee (predoctoral and doctoral level)**
- **Collaboration w/ 'Research Intensive' Institution**
- **Interdisciplinary and Translational Approaches**
- **Thematic Focus in MH of AIDS**

Advantages of Diversity T32

- **Institution Enrichment and Framework for Research**
- **Networking Within Institution**
- **Collaborative Partnership Development**
- **More Focused and Relevant Training Experiences**
- **Potential Link With R25 or Other Enrichment Activities**

Diversity T32 Timeline

- Council Concept Approval
http://www.nimh.nih.gov/researchfunding/conceptclearance_may2005_minoritytraininghivaids.cfm
- Published in NIH Guide:
July 2007 (expected)
- Earliest Start Dates:
Jan 2008
- Support 2 Regional Programs (approx \$750,000)

Diversity Project Initiatives: CMHRA Collaborating

- Community-Based Participatory Research at NIMH (PAR-07-004; w/ NIMH/DSIR)
- Understanding and Promoting Health Literacy (PAR-06-132; w/ OBSSR)
- Health Disparities in HIV/AIDS: Focus on African Americans (PAS-06-069; w/ NIDA)
- Community Based Participatory Research (PAR-05-026; w/ OBSSR)
- Collaborative Neurological Sciences (CNS) Award (PAR-05-149; w/ NINDS)
- The Effect of Racial and Ethnic Discrimination/Bias on Healthcare Delivery (PA-05-006; w/ NCI)
- Research on Rural Mental Health and Drug Abuse Disorders (PA-04-161; w/ NIMH/OSP)

Funding and Other Challenges

- ***Funding Challenges Facing All:***

- Driving forces of today's funding challenges are flat budget, increased grant demand and inflation
- In a changing funding climate, need strategies to preserve innovation, new investigator support and translational research

- ***Other Challenges Facing Esp REM Communities:***

- Individual—failure to individualize and tailor programs; lack of long-term mentoring relationships; inadequate feedback and support
- Organizational—lack of grant supporting resources and heavy teaching load; limited 'critical mass'; inadequate no. minority investigators and infrastructure
- Research—instrument limitations; contextual variables; cultural differences; undervalued
- Community—failure to involve community in study planning; not sharing findings w/ community; no return to community

Funding Strategies (Recommendations)

- Need to design funding mechanisms and announcements to expand the pipeline and, at the same time, balance research training pipeline with RPG payline
- Need to justify continued funding based on achieving milestones and outcomes of improvement and productivity
- Need to carefully monitor and control the average cost of grants which rose 2.3% in FY '06
- Need to improve peer review quality, decrease time for application review cycle, shorten applications
- Need to set clear priorities (mission specific goals, new P.I.s, innovation, translation, impact) and redirect priorities (e.g., AIDS as chronic disease)



NIMH
National Institute
of Mental Health



Happy
Holidays



Continuing Our Dialogue

David M. Stoff, Ph.D.

**Program Director, Neuropsychiatry of HIV/AIDS Program
AIDS Research Training
HIV/AIDS Health Disparities Program**

NIMH Center for Mental Health Research on AIDS

Telephone: 301-443-4625

E-mail: dstoff@mail.nih.gov

NIMH Website

<http://www.nimh.nih.gov>

NIMH Center for Mental Health Research on AIDS

<http://www.nimh.nih.gov/dahbr/9a-as.cfm>