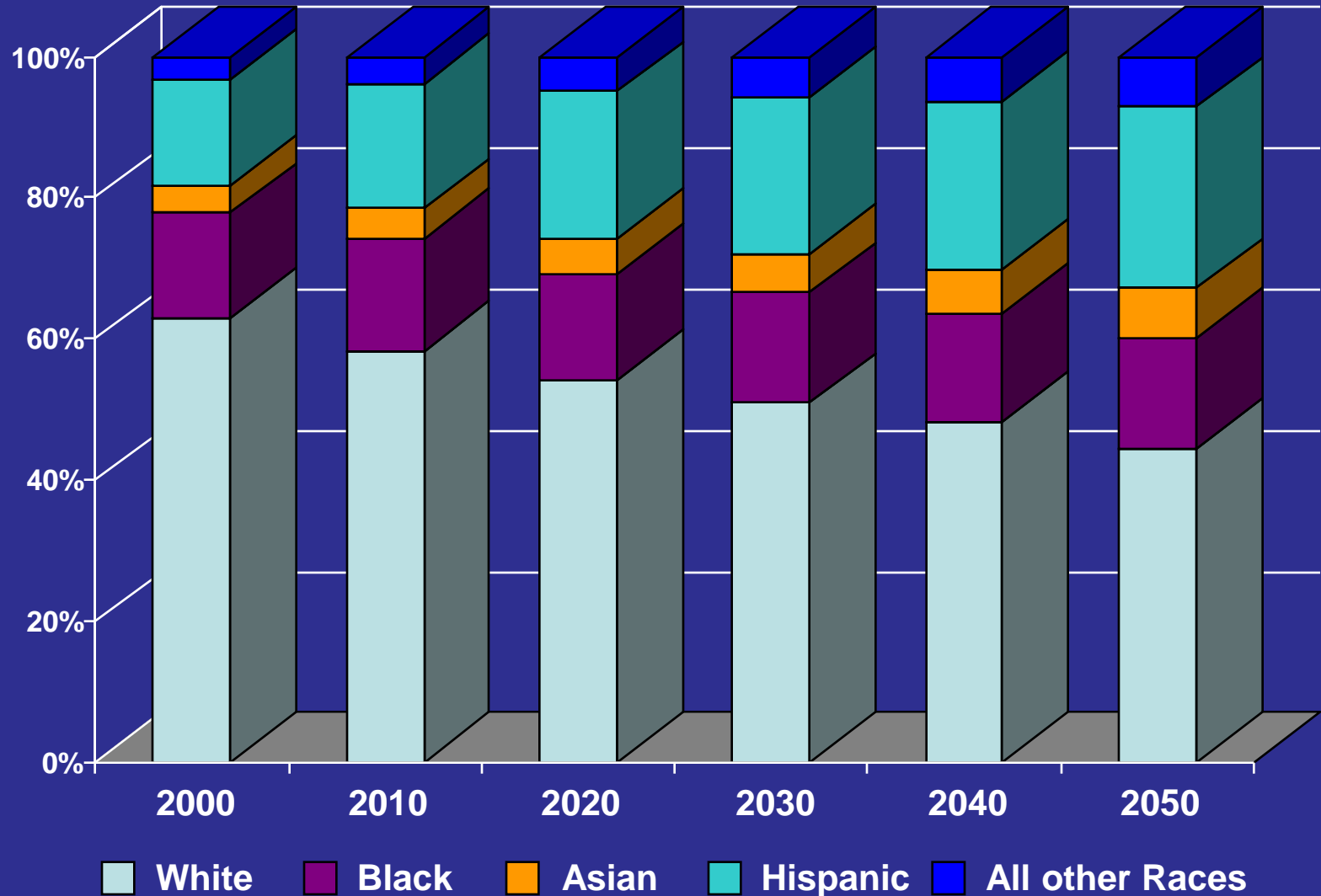


# The Challenge of Achieving Diversity in the NIH-Funded Biomedical Workforce

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Acting Director  
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# Demographic Distribution of 18 Year Old Population



Source: Census Bureau

Raynard Kington, M.D., Ph.D.

March 12, 2009



# Race And Ethnicity Representation of Research Grants



Fiscal Year	White <sup>1</sup>	African Amer. <sup>1</sup>	All Hispanic <sup>2</sup>	Other <sup>3</sup>
2000	86.2%	1.3%	2.9%	11.4%
2001	85.7%	1.3%	2.9%	12.1%
2002	85.2%	1.5%	3.1%	12.4%
2003	84.4%	1.6%	3.3%	13.2%
2004	83.5%	1.7%	3.3%	14.1%
2005	82.8%	1.7%	3.5%	14.8%
2006	82.1%	1.8%	3.5%	15.4%
2007	81.4%	1.7%	3.5%	16.3%
2008	80.8%	1.7%	3.5%	17.0%

<sup>1</sup>Race Data may contain individuals reporting Hispanic Ethnicity, as well as individuals reporting more than one race

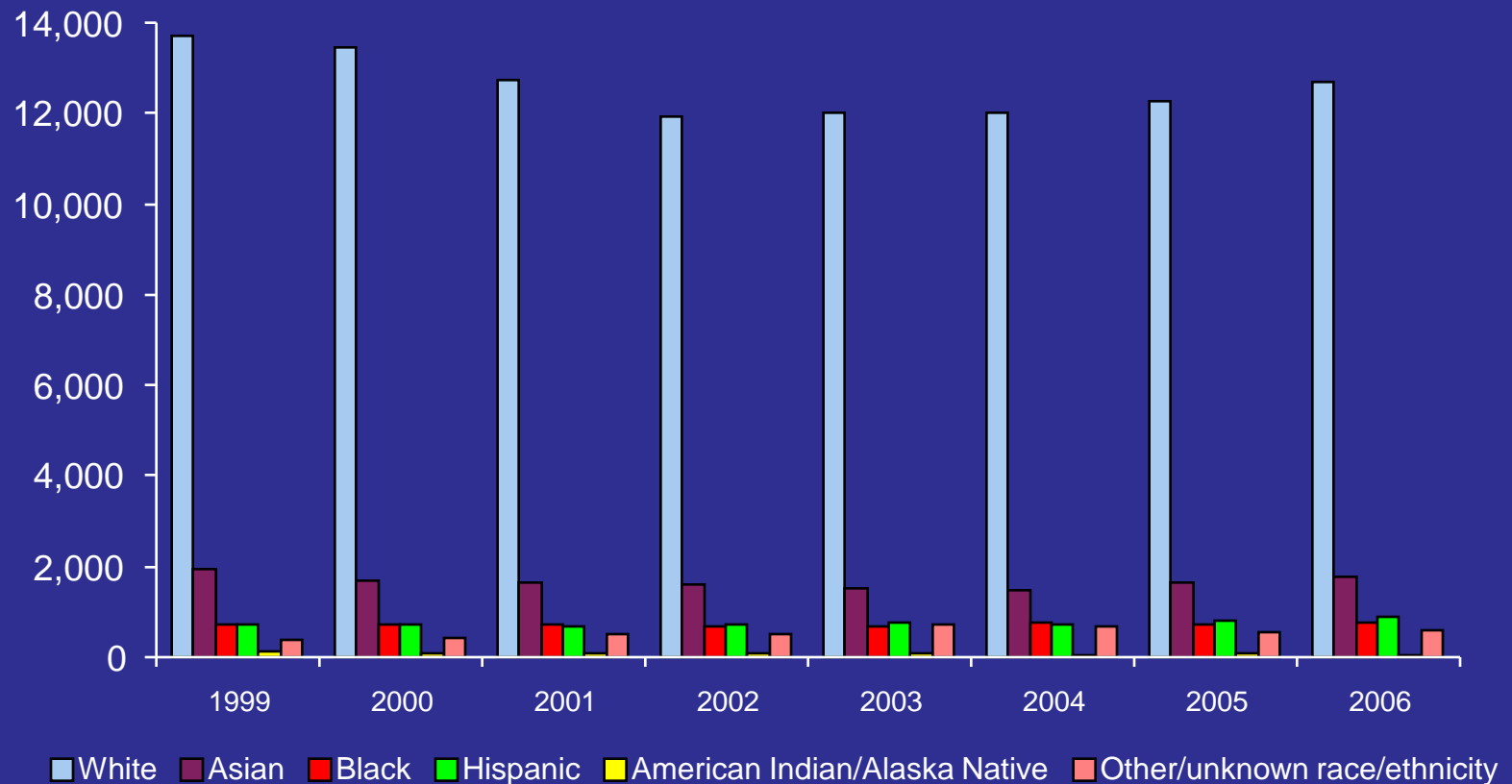
<sup>2</sup>“All Hispanic” includes Hispanic Race, plus individuals reporting Hispanic Ethnicity (for these individuals the data includes individuals who are represented in one or more of the racial groups).

<sup>3</sup>Includes Asian, Native Hawaiian or Pacific Islander, and American Indian or Alaskan



# The Broader Context:

S&E doctorates awarded to U.S. citizens and permanent residents, by field, sex, and race/ethnicity, 1999–2006



Source: National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, 1998–2006



# Gender or Race/Ethnicity Representation at Educational Milestones (Biomedical)

	High School (1992)	College (1996)	Grad/ Medical School (2001)	Post Doctoral Fellow (2003)	Asst Professor (2006) <sup>1</sup>
<b>Male</b>	51%	47%	56%	56%	61%
<b>Female</b>	49%	53%	44%	44%	39%
<b>White</b>	65%	72%	68%	*	75%
<b>Black</b>	11%	6%	6%	*	5%
<b>Hispanic</b>	8%	6%	5%	*	3%
<b>Asian</b>	4%	13%	18%	*	16%
<b>Native American</b>	1%	1%	1%	*	1%
<b>Unknown</b>	11%	2%	2%	*	0%

\*data not available

<sup>1</sup> data for gender from AAMC, data for race/ethnicity from SDR



# Differences in Faculty Outcomes Biomedical Sciences PhDs

	Tenure Track Position within 7 years	Tenure within 11 years	NIH Funding within 11 years
<b>Female</b> <sup>1</sup>	2%	-7%	8%
<b>Black</b> <sup>2</sup>	9%	22%	-1%
<b>Hispanic</b> <sup>2</sup>	10%	11%	6%
<b>Asian</b> <sup>2</sup>	-8%	1%	-12%
<b>Native American</b> <sup>2</sup>	-11%	-22%	24%

<sup>1</sup> compared to Male  
<sup>2</sup> compared to White

**significant at 10%**  
*significant at 5%*  
significant at 1%

Tenure Track position at U.S. university/college within 7 years of PhD:

- African Americans, Hispanics more likely
- Asians, Native Americans less likely

**Data Source:** National Science Foundation  
2006 Survey of Doctoral Recipients

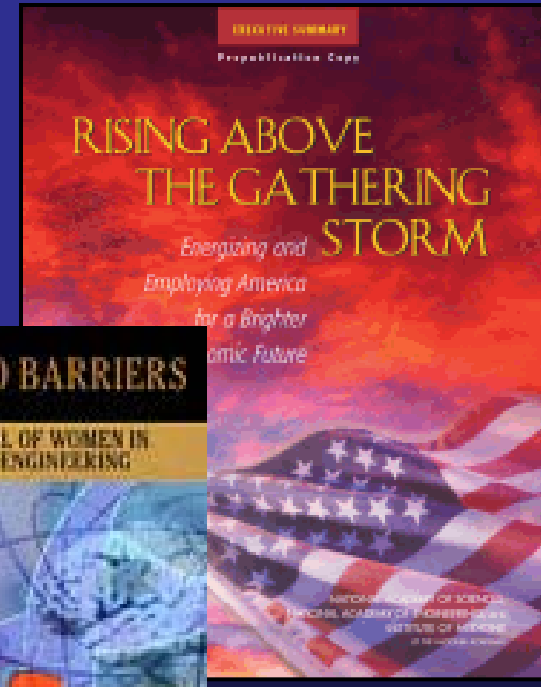
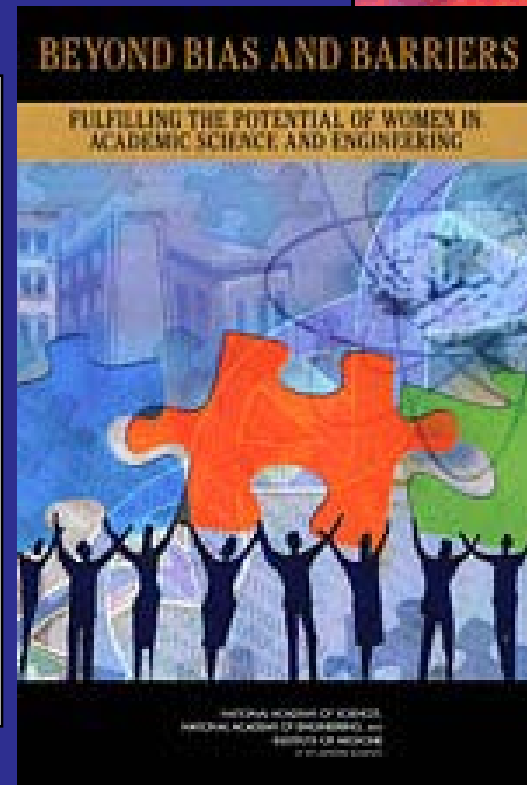
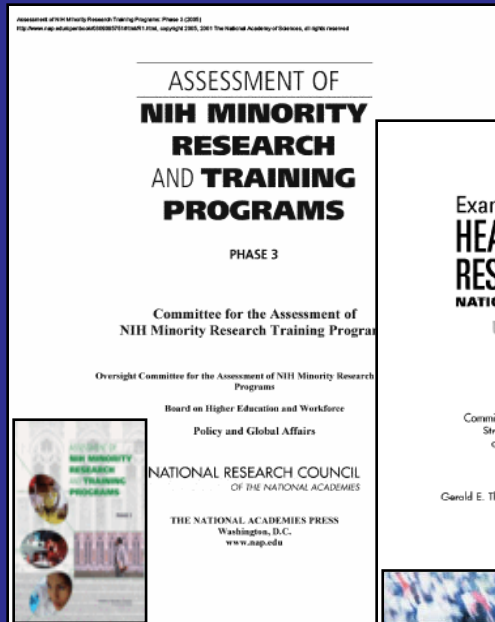


# Ongoing Analysis of Factors Affecting Success Rates for NIH Grant Applicants

- We see significant differences by race/ethnicity and gender across career paths and funding success:
  - In some cases, there are advantages; in other cases disadvantages
  - But even where there are advantages, the numbers are low.
- To determine appropriate policy actions, we need to know what factors are correlated with these effects. We are currently examining the effect of:
  - Institution
  - Degree type (MD, MD-PhD, PhD)
  - PhD, BS, MS institution
  - Prior NIH support



# Acknowledging – and Addressing – the Challenges in the U.S. Scientific Workforce





# What is NIH doing?



# National Center on Minority Health and Health Disparities (NCMHD)



## ■ Mission

- Promote minority health
- Lead, coordinate, and assess the NIH effort to reduce and eliminate health disparities

## ■ Goals and Purposes

- Assist in development of integrated national health research agenda, reflecting needs of racial and ethnic minorities and other health disparity groups
- Promote and facilitate creation of robust minority health research environment aimed at identifying potential risk factors for disparate health outcomes
- Promote, assist, and support research capacity building activities in the minority and medically underserved communities



# NIH Programs and Awards to Enhance Researcher Diversity

- The NIH remains committed to increasing the proportion of racial and ethnic minorities in the biomedical research workforce
- NIH's Institutes and Centers, individually and collectively, offer an array of programs and awards to enhance researcher diversity
  - Supporting both individuals and institutions
  - Spanning the training and professional spectrum, from community college to senior faculty levels
  - Developing networks to facilitate communication and support across all career stages



# A Sampling of NIH Programs & Awards to Enhance Researcher Diversity

- **Community college to senior faculty:** Minority Opportunities in Research (MORE) programs
  - Minority Access to Research Careers (MARC)
  - Minority Biomedical Research Support (MBRS)
  - Special Initiatives (SI)
- **Undergraduate research training:** Career Opportunities in Research (COR) grants
- **Predocctoral fellowships:** Ruth L. Kirschstein National Research Service Awards to Promote Diversity
- **Transition to research:** Loan Repayment Programs
  - For clinical researchers from disadvantaged backgrounds; for health disparities researchers
- **Junior and senior faculty:** Network of Minority Research Investigators



# NIH Loan Repayment Programs



- **NIH Loan Repayment Programs:** NIH repays half of qualified educational debt (up to \$70,000 in 2 years)
  - Requirements: U.S. citizenship (or national or permanent resident status); doctoral-level degree; educational debt equal to at least 20% of base salary
  - Commitment: Conduct research at qualified institution\* for 2 years
- **NIH-NCMHD Loan Repayment Programs:** have funded over 1200 doctorate-level health professionals
  - Clinical Research Loan Repayment Program for Individuals from Disadvantaged Backgrounds
  - Health Disparities Research Loan Repayment Program (50% to individuals from health disparities populations)

\*An average of least 20 hours per week during each quarterly service period; conducted at a nonprofit institution, funded by a domestic nonprofit or US government entity



# NIH Minority Opportunities in Research (MORE) Programs



MORE: An NIH Division in the National Institute of General Medical Sciences (NIGMS)

- Administers research; research training programs to increase the number of minority biomedical and behavioral scientists
- Supports
  - Both individuals and institutions
  - Community college students, senior faculty members, and all stages between
- 3 branches of support:
  - **MARC**: Minority Access to Research Careers
  - **MBRS**: Minority Biomedical Research Support
  - **SI**: Special Initiatives



# MORE Support: Examples



- **MARC:** to increase number, competitiveness of underrepresented minorities in biomedical research
  - U-STAR: Undergraduate Student Training in Academic Research Awards
  - Individual fellowships:
    - MARC Predoctoral, for outstanding graduates of U-STAR
    - Faculty Predoctoral, for faculty at colleges/universities with significant minority enrollments to obtain research doctorate
- **MBRS:** to improve training capacity of minority-serving institutions
  - RISE: Research Initiative for Scientific Enhancement
  - ISMD: Initiative for Maximizing Student Development
  - SCORE: Support of Competitive Research
- **SI:** to enhance research; training capabilities of institutions with substantial enrollments from underrepresented groups
  - Bridges to the Baccalaureate; Doctorate (NCMHD, participating)
  - MORE Faculty Development Awards



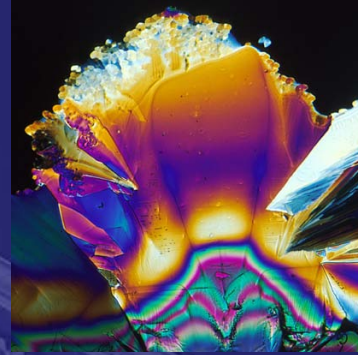
# Example from an NIH Institute\*: Network of Minority Research Investigators



- National communication network of minority investigators: junior faculty; senior investigators; NIDDK staff
  - Senior investigators serve as role models and mentors to junior investigators
  - Annual National Workshop organized by NIDDK staff
  - Regional workshops being established
- *Objective:* encourage and facilitate members of underrepresented racial and ethnic minority groups to conduct research on diabetes, endocrinology, digestive diseases, nutrition, kidney, urologic and hematologic diseases

*\*National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK)*





# NIH *Transforming medicine and health through discovery*

