NIH Advisory Committee to the Director: Working Group on Diversity Update

Hannah A. Valantine, MD
NIH Chief Officer for Scientific Workforce Diversity

113th NIH ACD Meeting | December 8, 2016
### 13 Recommendations from the 2012 Report of the ACD WGDBRW

<table>
<thead>
<tr>
<th>Mentoring, Career Development, Recruitment, Retention</th>
<th>Research and Intervention Recommendations</th>
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</thead>
<tbody>
<tr>
<td>✓ Support for Underserved Institutions</td>
<td>✓ Review Feedback for All Applications</td>
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<td>✓ Mentoring Networks</td>
<td>✓ Racial Funding Disparity</td>
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<td>✓ Undergraduate Scholarships</td>
<td>✓ Peer Review Working Group</td>
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<td>✓ IRP Diversity</td>
<td>✓ Bias Education</td>
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<td>✓ K-12 Support</td>
<td>✓ Anonymous Bias Study</td>
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#### NIH Institutional Support and Oversight Recommendations

- ✓ Chief Officer for Scientific Workforce Diversity
- ✓ ACD Working Group on Diversity
- ✓ Tracking and Evaluation

### SWD Mission: NIH leads and catalyzes scientific workforce diversity through data-driven innovations to recruit and retain the most talented scientists

*Valentine and Collins. PNAS 2015: Oct 6;112:12240-2*

**Diversity Science**

- Mentoring, Recruitment, Retention: What Works and Why?
- Context matters

**Sociocultural Factors**

**Sustaining Diversity**

*The Difference - How the Power of Diversity Creates Better Groups, Teams, Schools, and Societies*
Understanding What Works:
NIH Diversity Program Consortium
Pipeline, Mentoring, Evaluation

Awards made October 2014
BUILD: 10 sites/experiments
NRMN CEC
Total: $250 million (5 years)

Hypotheses Being Tested by BUILD
- Stereotype threat
- Critical race theory
- Student entrepreneurship
- Living and learning communities

NRMN Activities
- Guided virtual mentorships
- MyNRMN tool
- Mentors trained: 250
- Mentee/mentors touched 3,100
- Grantwriting/coaching - mentees: 225

Outcome measures
- Student
- Faculty
- Institutional

Diversity of Student Populations at BUILD Sites

<table>
<thead>
<tr>
<th>Site</th>
<th>White</th>
<th>Asian</th>
<th>Non-resident alien</th>
<th>Race/ethnicity unknown</th>
<th>Two or more races</th>
<th>Native Hawaiian or other Pacific Islander</th>
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• Stereotype threat interventions at all levels
  - **Students:** Speaking Truth to Power
  - **Faculty:** Tools to create safe environments
    Depiction of faculty as essential change agents
  - **Institutional:** Curricular development and infrastructure for research relevant to local communities
  - **Renovations + Interdisciplinary facilities for cross-institutional collaboration**
  - Health equity research

• Two-institutional model
  - Teaching with research intensive (UC + SF-State U)
  - Joint core facility (UCSF and SFSU)
  - Training interventions
  - Undergraduate to graduate transitions
  - Sustainable strategies for addressing stereotype threat

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**Student-Centered Entrepreneurship Development (ASCEND)**

• Undergraduate entrepreneurial research training model
  - Support: faculty advisor; coordinator

• Student-led research center:
  - Space for research, mentoring, and networking

• Beginning with an 8-week summer research institute:
  - Group proposals, selection as ASCEND scholars

• Accelerate hands-on research experiences, knowledge, and recruitment/retention in biomedical careers
Measuring Success in Mentoring and Training

Individual Level Hallmarks
- Perceptions: culture, identity
- Persistence, retention, GPA
- Undergrad lab training
- Presentations at meetings
- Research fellowships, scholarships
- Authorship in peer-reviewed publications
- Application to grad program
- Matriculation in grad program

Institutional Level Hallmarks
- Undergrad retention rate
- Mentoring activities (students, faculty)
- URM retention in BUILD
- Research training opportunities (students, faculty)
- Inter-institutional collaborations for BUILD outcomes:
  - Linkages with community colleges, other partners
  - Collaborations at R1 schools
  - NRMN engagement

BUILD Student Logic Model

Independent variables:
- Smoking/Tobacco, Alcohol/Assistance,
- Geographic Location, Gender,
- Disability Status,
- Socioeconomic Status, High School GPA, Standardized Test Scores

Activities
- Purposeful Retention (Funding, Fellowships, Scholarships)
- Summer Research Programs
- Bio-Medical Science Curriculum (Enhanced & Supplemental)
- Academic Advising & Support
- Mentoring (Faculty)
- Research Training & Support
- Career Advancement Opportunities

Outputs
- Engagement in Research & Scholarship with Faculty Mentorship
- Enhanced Science Identity & Self-Efficacy
- Participation in Academic & Professional Student Organizations
- Social Integration/Perceived Fit with University Setting
- Pursuit, Persistence/Retention, & Success in Biomedical Science Disciplines
- Science Conference Presentations, Authorship on Papers
- Intent to Pursue Biomedical Research Career

Outcomes
- Completion of Undergraduate Degree in Biomedical Science Discipline
- Application to Attend Graduate Program in Biomedical Science Discipline
- Entrance to Graduate Program in Biomedical Science Discipline
BUILD: Dashboard of Activities

- BUILD Scholars
- Summer Students
- Student Seminars/Workshops
- Faculty Professional Development
- Faculty Mentor Training
- Faculty Release Time
- Institutional Partner Agreements
- Pilot Projects: Research & Classroom
- Novel Curriculum


Grantsmanship Coaching
- 225 mentees trained
  - 40% African American/Black
  - 22% Hispanic/Latino
  - 11% Hawaiian/Pacific Islander
  - 67% Women
Recruiting Tool for Junior Career Stage
Postdoctoral and Assistant Professors

- ~ 543 total, top 1/3rd culled
- 4-10 years post-doctorate (most 4-7)
- Authorship in top journals
- 10+ publications: 188
- 100+ citations: 198
- 200+ citations: 136

Race/Ethnicity

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<thead>
<tr>
<th>Race/Ethnicity</th>
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<tbody>
<tr>
<td>African American/Black</td>
<td>33%</td>
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<tr>
<td>Hispanic/Latino</td>
<td>10%</td>
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<tr>
<td>Native American</td>
<td>2%</td>
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<tr>
<td>White</td>
<td>5%</td>
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<tr>
<td>Asian</td>
<td>47%</td>
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<tr>
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<td>5%</td>
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Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Female</td>
<td>60%</td>
</tr>
<tr>
<td>Male</td>
<td>40%</td>
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Outreach Tools

Trans-NIH effort to engage talented early-stage biomedical and behavioral scientists from diverse backgrounds to promote knowledge and awareness about scientific career opportunities in the NIH intramural research program

2016 NIH Future Research Leaders Conference
September 13-15 | NIH Main Campus

#GREATMINDS
Think differently...

Outreach Tools
Unconscious Bias Education
Pilots in IRP Stadtman Search

• Raise awareness of unconscious bias and reduce its impact in the search process
• Test feasibility
• Scientifically test the efficacy of the educational module

  • Does unconscious bias education affect the Stadtman search process and outcomes?
  • Pre- and post-measurements of implicit/explicit bias

Gender Gap in Academic Medicine 2013-2014

Many reasons:
✓ Unappealing characteristics of academic/research careers
✓ Stereotypes and biases
✓ Marginalization
✓ Work-life balance and childcare
✓ Mentoring
✓ Gender inequity – IRP taskforce

Sexual Harassment?

Adapted from: The state of women in academic medicine 2013-14: AAMC Report, Diana M. Lautenberger, et. al.
Components of the Overall Anti-Sexual Harassment Plan

- Agency policy for Manual Chapters
- Agency guidelines to edify the policy
- Contract for sexual harassment hotline
- IDIQ for administrative inquiry investigators
- Mandatory sexual harassment training with Outlook suspension
- Trans-NIH committee to recommend discipline to the IC
- NIH Workplace Climate and Harassment Survey
- communications plan

Constructed with a Trans-NIH Group

ACD DWG – Subcommittee on Workplace Climate and Harassment

- **Charge:** Advise on NIH analysis of how workplace and/or climate may be affecting individual’s career and the diversity of our workforce
- **Survey:** Guidance on NIH workplace climate and harassment survey design, administration, analysis, and dissemination of results

**Members:**

<table>
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<th>Name</th>
<th>Title and University</th>
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<tr>
<td>Louise Fitzgerald</td>
<td>Ph.D., Professor Emerita, Psychology and Gender &amp; Women's Studies, University of Illinois</td>
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<tr>
<td>Lilia Cortina</td>
<td>Ph.D., Professor, Psychology, Women's Studies, and Management, University of Michigan</td>
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<tr>
<td>Jon Krosnick</td>
<td>Ph.D., Professor, Humanities &amp; Social Sciences, Communication, and Political Science, Stanford University</td>
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<td>John Pryor</td>
<td>Ph.D., Professor Emeritus, Psychology, Illinois State University</td>
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**Sustainability**

**Underrepresentation is Not Just a Pipeline Issue**

- URG PhD recipients have grown 9-fold in past 35 years, compare to 2.2-fold increase in well-represented groups*
- Annually, 10% of biomedical PhDs are awarded to URGs, yet only 2.6% faculty hires are URG scientists*
- Pipeline programs are necessary but not sufficient
- Need more focus on transition points especially from training into academic careers


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**Summary: Key Accomplishments Since 2012**

**Extramural**
- Diversity Consortium Program: BUILD, NRMN, CEC
- Future Research Leaders Conference and outreach platform
- ACD DWG Subcommittee on Potential Bias in Peer Review
- African American/Black R01 Funding Disparities Interventions
  - R01 re-submission awareness
  - Mentoring and coaching to improve score and award rate
  - Anonymized review study

**Intramural**
- Hi-STEP; Graduate summer program
- Search tools enhance applicant-pool diversity
- Outreach process to enhance success in recruiting
- Unconscious bias educational platform
ACD Working Group on Diversity: Going Forward

• Progress report (5-year progress)
• Request for Information and additional input
• New recommendations

Great minds think differently …

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