CREATING MENTORING PROGRAMS THAT ADVANCE MINORITY SCHOLARS

Spring 2022 HRA Members Meeting

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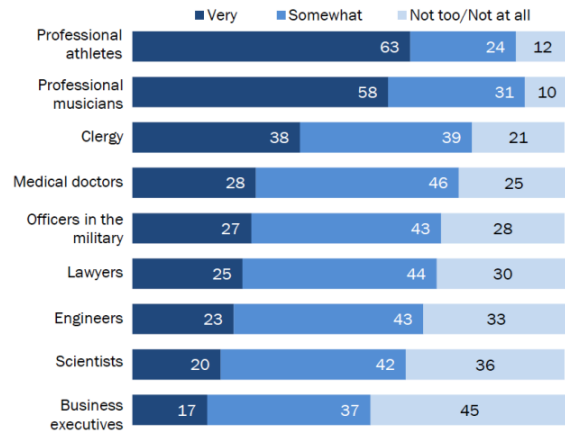CONFIDENTIAL

OUTLINE

- Intro/STEM Fields
- Diversity Recruitment
- Grant Review Bias
- Barriers
- Mentoring Program
- Resources
- Summary

INTRO/PERCEPTIONS FROM BLACK INDIVIDUALS ABOUT STEM

- 28%, 23% and 20% of Black Americans, respectively, say that the fields of medicine, engineering, and scientists are welcoming to Black people in these jobs.

- On the flip side 16%, 11% and 14% of Black adults with postgraduate degrees, respectively, view these fields as welcoming to Black people.

- 44% of Black high school graduates said someone made them feel excited about their abilities in STEM.

Scientists, engineering professions rated among the lowest for openness to Black people in these jobs

% of Black adults who say each of the following professional groups are _____ welcoming of Black people in these jobs

Legend: ■ Very ■ Somewhat □ Not too/Not at all

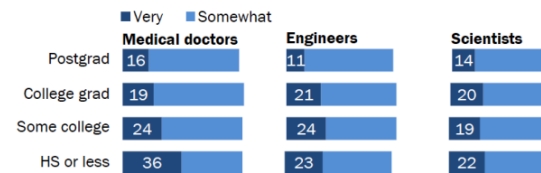| Group	Very	Somewhat	Not too/Not at all
Professional athletes	63	24	12
Professional musicians	58	31	10
Clergy	38	39	21
Medical doctors	28	46	25
Officers in the military	27	43	28
Lawyers	25	44	30
Engineers	23	43	33
Scientists	20	42	36
Business executives	17	37	45

Note: Respondents who did not give an answer are not shown.
Source: Survey conducted Nov. 30-Dec. 12, 2021.
"Black Americans' Views of and Engagement With Science"

PEW RESEARCH CENTER

Black adults with postgraduate degrees are less likely to view medical doctors, engineers as very welcoming to Black people in these jobs

% of Black adults with _____ education who say each of the following professional groups are very or somewhat welcoming of Black people in these jobs

Legend: ■ Very ■ Somewhat

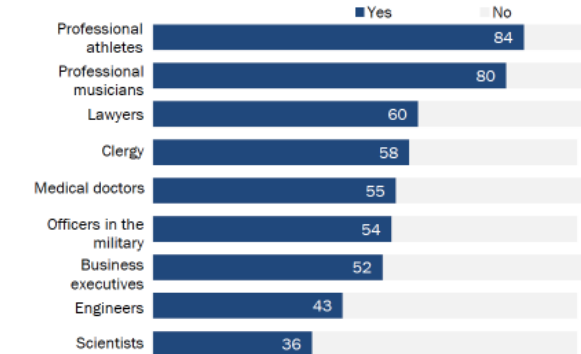|	Medical doctors	Engineers	Scientists
Postgrad	16	11	14
College grad	19	21	20
Some college	24	24	19
HS or less	36	23	22

Note: Respondents who gave other responses or did not give an answer are not shown.
Source: Survey conducted Nov. 30-Dec. 12, 2021.
"Black Americans' Views of and Engagement With Science"

PEW RESEARCH CENTER

Relatively few Black adults say Black people have found highest levels of success as scientists

% of Black adults who say Black people have reached the highest levels of success in the following professional groups

Legend: ■ Yes □ No

Group	Yes
Professional athletes	84
Professional musicians	80
Lawyers	60
Clergy	58
Medical doctors	55
Officers in the military	54
Business executives	52
Engineers	43
Scientists	36

Note: Respondents who did not give an answer are not shown.
Source: Survey conducted Nov. 30-Dec. 12, 2021.
"Black Americans' Views of and Engagement With Science"

PEW RESEARCH CENTER

Cary Funk, April 7, 2022; Pew Research Center: Black Americans' view of education and professional Opportunities in science, technology, engineering and math

DIVERSITY – EXPECTATIONS VS REALITY

- Many employers state that they are "looking for candidates from diverse backgrounds"
  - Racial, Ethnic, Orientation, Gender, Religion, etc.
- Universities and Grant Programs may ask applicants for Diversity statements.
- Why is it important?
  - Diverse teams bring unique experiences and ideas that collectively can increase creativity and improve-problem solving.
  - Will reduce changes of confirmation-bias and creating things that don't work for all.
  - Evaluate the diversity of your department and if it is diverse enough to represent who you want to hire? (California State University Bernadino (2012))
- Is it lip service?

NIH GRANT SCORING BIAS

- Having NIH RO1 grants establish you as an expert and allows you to sit on review committees.

- Black applicants are 1.7 times less likely to receive NIH RO1 funding than white applicants [1,2], and less likely to have R phases of the prestigious K99/R00s activated.

- Black applicants are also likely to receive lower impact and criterion scores due to scoring bias [2,4-5].

- While white applicants have been funding with grants in the 35th-59th percentile, the lowest range for grants by black applicants was in the 30-34th percentile[2].

1. Ginther DK et al., 2011. Science 333:1015-9
2. Hoppe TA et al., 2019. Sci Adv 5: eaaw7238
3. Pickett C, 2018
   http://rescuingbiomedicalresearch.org/blog/examining-distribution-k99r00-awards-race/

4. Eblen MK et al., 2016. Plos One 11: e0155060
5. Erosheva EA et al., 2020. Sci Adv 6: aaz4868

BARRIERS NAVIGATING ACADEMIA/INSTITUTIONAL ISSUES

MENTORING

- Absence or lack of
- Disregarding of ideas
- Micromanagement
- Distrust of your skills
- Intelligence overlooked
- Knowledge ignored

ENVIRONMENT

- Idea theft
- Favoritism/Exclusion
- Sexism
- Group-think
- Weak compliance or oversight

FINANCIAL

- Lack of support getting/writing grants
- Fear of speaking up (funding removal)
- Rent, Housing, Travel
- Reimbursements
- Stigma

BARRIERS OFTEN NOT MENTIONED TO ADVISORS/ STRUCTURAL ISSUES

INSTITUTIONAL/PERSONAL

- Family
- Socioeconomic
- Transportation
- Language
- Culture
- Immigration Status

BIAS/RACISM

- Random dress codes
- Selective exclusion from establishments
- Random ID checks
- Driving at night
- Profiling

MICROAGGRESSIONS

- Colorblindness
- Criminality or Dangerousness
- Racism Denial
- Meritocracy
- Affirmative Action
- Comportment/Communication
- Fetishization

#BlackInStem
#BlackInTheIvoryTower

Williams MT et al., (2020)

IMPACT OF THESE BARRIERS

- Minority researchers
  - spend more time doing resubmissions
  - timing out of career eligibility awards
  - leaving academia

- While some direct interventions/solutions have been proposed, they were met with fierce resistance and ultimately not implemented.[6,7]

- Though roughly 13% of the U.S. population, black patients represented less than 3% of pharma sponsored clinical trial participants for FDA approved immunotherapies[8], and black men have the highest lung cancer mortality rates.[9]

- Only 3% of medical oncologists in the US are black. [10]

- Mentoring, Workforce representation, and belonging are minimal.

6. Dzirasa K, 2020. Cell 183:576=9.
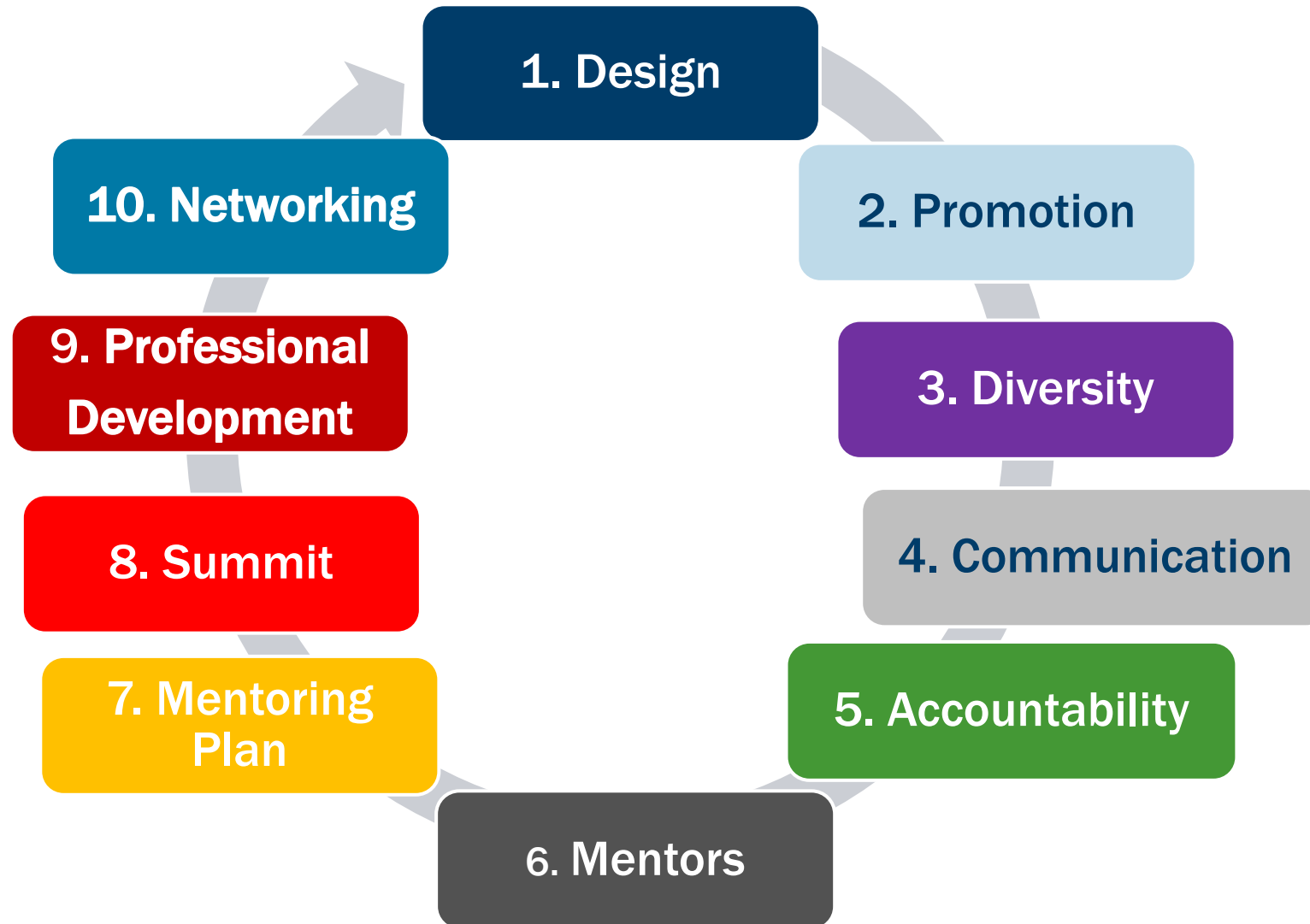7. Kaiser J, 2017. Sci. https://doi.org/10.1126/science.aan6947
8. Nazha B et al., 2019, ASCO Education Book 39:3-10
9. ACS Facts and Figures for African American 2019-2021.
10. Winkfield K et. Al., 2021, JCO Oncology Practice 17: 224-6.

CAREER DEVELOPMENT CIRCLE

1. Design
2. Promotion
3. Diversity
4. Communication
5. Accountability
6. Mentors
7. Mentoring Plan
8. Summit
9. Professional Development
10. Networking

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PROGRAM MUST STATE GOALS

Need: Define purpose of program.

WHO

- Is program designed for?
- Is participating?

WHAT

- Are the objective(s)?
- Efforts have org done in diversity?
- Are your timeline goals?
- Time commitments needed?
- Will it cost?

WHY

- Is program needed?
- Are you able to do it?

HOW

- Will it be organized?
- Will it be funded?
- Are you evaluating?
- Will it make an impact?
- The format and costs?

BUILD PROGRAM AWARENESS

Need: How to promote program and increase awareness?

- **Minority Conferences**
- **Social Media**
- **Networks**

Need: How is diversity being embedded into the program?

- What is the diversity of the funding organization?
- Amongst reviewers, mentors, and participants?
  - Is there geographic diversity?
  - Is there institutional diversity?
  - Is there ethnic/racial diversity?
  - If not, how will it be achieved?
- If grant is for other underserved/invisible populations, do reviewers have backgrounds related to this or cognizant of the issues these trainees face?

GRANT PROGRAM COMMUNICATION

Need: Grant/Program Administrators must meet with awardees regularly

- Meetings should be general touch points independent of formal annual reports
- Should also check to see about:
  - Lab Culture
  - Fit
  - Opportunity to grow and thrive
  - Check to see they aren't being marginalized or in toxic environment

PI AND INSTITUTIONAL ACCOUNTABILITY

Need: Checks and balances to reduce/minimize abuse?

- Awardees should be able to leave an untenable lab
- Awardees should be able to go to a different lab at that institution or a different university with no penalty
- Keep track of PIs/institutions that mistreat minority scholars, and start restricting applications
- Are the institutions already taking steps to address diversity and environment issues?

INTERNAL AND EXTERNAL MENTORS

Need: To have a set of mentors that provide different skills/viewpoints to awardees.

- Awardees should be awarded either an internal/external mentor that is not their PI
- Mentors vetted
  - Commitment to advancing minority and underserved scholars
  - Member of underrepresented group interested in mentoring
  - Questionnaire about core competencies
    - Systemic racism and structural racism
    - Interest
    - Number of Minority Scholars trained (degrees, matriculation time)
    - Mentoring philosophy
- Meeting Frequency
- Value of Time
  - Minority tax
  - Compensation

MENTORING PLAN DEVELOPMENT WITH PI

Need: To a plan for mentoring and advancement with the PI

- Its generally a standard document or part of an IDP.

- Just because it is written, does not mean it will be followed.

- Should include
    - Courses
    - Workshops
    - Trainings
    - Meeting frequency
    - Mentor's philosophy

ANNUAL SUMMIT

Need: In-person summit/event will/should wrap up the official program and foster connections.

- Awardees present their research
- Meet other awardees and mentors
- Mock Study Section on their grants
- Networking
- Practical and additional Career Skills

PRACTICAL SKILLS/ PROFESSIONAL DEVELOPMENT

- **Academia**
  - Grant Writing
  - Budgeting
  - Negotiating
  - People Management
  - Cover Letters
  - Personal Statements
  - Teaching and Research Philosophy
  - Different types of institution

- **Personal**
  - Discrimination
  - Racism
  - Sexism
  - Profiling
  - Navigating difficulty environments
  - Open session for barriers
  - Different types of institutions
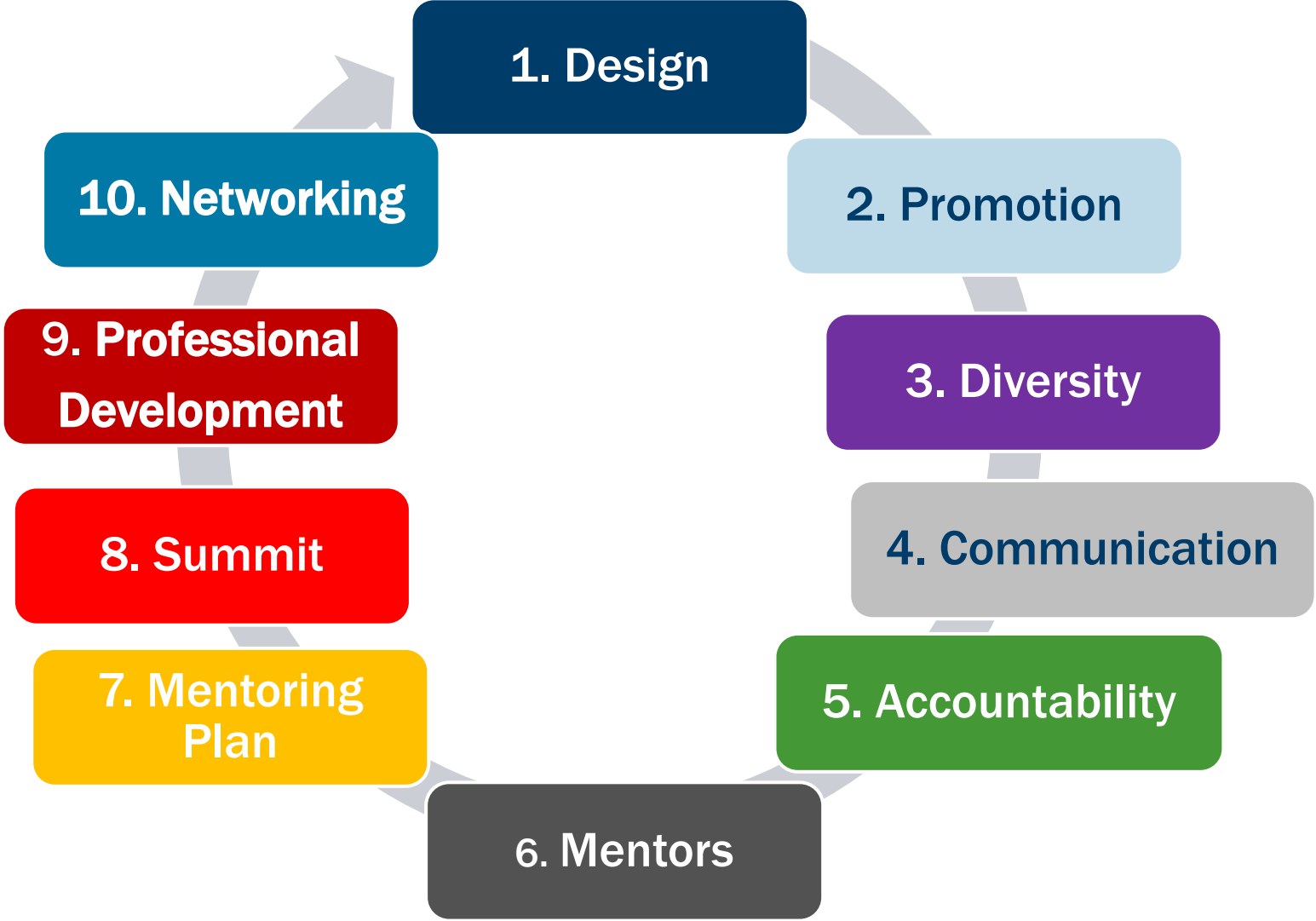
- **Alternative Paths**
  - Non-profit
  - Government
  - Science Writing
  - Science Communications
  - Venture Capital/Investing
  - Marketing
  - Biotech/Pharma
  - Business Development
  - Strategy
  - MSL
  - Consulting

NETWORKING

Need: There has to be a forum for awardees/participants to communicate and build into more sustained friendships, connections, and camaraderie.

- Online groups: Facebook, Twitter, LinkedIn
- Cohorts for each year vs all years
- Mentors with and without/cohorts
- Email list serve

CAREER DEVELOPMENT CIRCLE - GROWTH

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SUMMARY

- Taking into account all the barriers that minority and underserved trainees have to overcome, programs must make explicit efforts to recruit, retain, and advance

- Integration between the grant program, mentors, and trainees will be key to ensuring that scholars get support they need to grow professionally.

- If there is no accountability, things may not change at all.

RESOURCES/ RECRUITING/MENTORING

Recruitment/Training/Supplements	LINK
UTHSCSA – Minority Recruitment Website	https://lsom.uthscsa.edu/diversity/resources/minority-recruitment-websites/
Minority Postdoc	https://www.minoritypostdoc.org/
Meyerhoff Scholars Program - UMBC	https://meyerhoff.umbc.edu/
NIH CURE – Diversity Supplements, etc.	https://www.cancer.gov/about-nci/organization/crchd/diversity-training/cure
NCI- Geographic Management of Cancer Health Disparities Program	https://www.cancer.gov/about-nci/organization/crchd/inp/gmap

RESOURCES/ RECRUITING/MENTORING

Faculty Development	LINK
RIT Future Faculty Exploration Program	https://www.rit.edu/diversity/ffcep
NC State University Building Future Faculty Program	https://diversity.ncsu.edu/building-future-faculty-program/
Virginia Tech – Future Faculty Diversity Program	https://www.inclusive.vt.edu/Programs/FFDP.html
NSF AGEP – Alliance for Graduate Education	https://www.pathwaystoscience.org/agep.aspx

LESSONS LEARNED

- Have a vision and project where you want the program to be 5 and 10 years out.

- Have buy-in from leadership, staff, and external stakeholders.

- While you can't account for everything, be thorough about the design, benefits, and impact.

- Weave equity and diversity within the program (participants, mentors, staff) to reduce the chances of someone being isolated.

- Continuously measure short-, medium-, and long-term metrics and benchmarks to help assess the program and what the trainees need.

QUESTIONS

?