STRATEGIES FOR BUILDING CAPACITY FOR ADVANCING RESEARCH & RESEARCH IMPACTS
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INTRODUCTION

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BIG PICTURE – A GROWING INEQUITY

• Higher Education Research & Development survey captures total research expenditures (TREs)

• TREs are a lagging indicator of research activity

• Growing inequity between research-intensive institutions with large research portfolios and other IHES

• Top 150 IHEs TREs have grown by 70% from 2010 to 2022

• For other IHEs reporting in HERD, TREs have grown by 5%

• Expected there to be a difference (delta) in TREs but not the rate of increase (rise)
IN THE CONTEXT OF HERD, THIS IS A RECENT PHENOMENON

• Disclaimer: HERD data is imperfect – IHEs change how they report over time and some do not report

• Each color is a different source of funds (federal, state, instructional, and corporate)

• Y-axis is the ratio of Top 150 vs. All Other IHEs research expenditures

• Relatively stable delta for decades (1973-2009)

• Rate of rise for Top 150 increases in 2010
WHY? MAJOR TRENDS: FEDERAL FUNDING

• In 2012-2015, federally-sponsored research expenditures decreased
• Decrease corresponds with the tail-end of the American Recovery and Reinvestment Act investments of 2009 (ARRA), which supported multi-year projects
• Top 150 IHEs experienced a dip in federal funding, and recovered by 2017
• For all other IHEs federal funding decreased and still has not recovered to 2010 levels
WHY? MAJOR TRENDS: INSTITUTIONAL FUNDS

• During critical years of 2012-2015 when federal funding decreased, Top 150 spent more institutional funds on research

• Other IHEs collectively invested fewer institutional funds during those years

• Top 150’s increasing investment of institutional funds in research hasn’t slowed

• There is a real difference in institutional resources for research

Figure 4: Institutionally-Funded Research Expenditures from 1973-2022
($ in Billions, only even years are labeled)
STRENGTHS AND STRATEGIES FOR SUCCESS - BARRIERS TO PARTICIPATION

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What is needed to build research capacity at MSIs?

What is already working and working well at MSIs?

What is getting in the way of enhancing the current research capacity?
TARGETED RESEARCH
• Niche research
• Mission-oriented

PARTNERSHIPS
• Coordination
• Cooperation
• Collaborations
• Resource sharing

STUDENT DEVELOPMENT
• Research opportunities
• Mentoring

FACULTY DEVELOPMENT
• Grant-writing skills
• Writing skills
• Mentoring
• Strategic hires

DISTINCT RESEARCH AGENDA

PARTNERSHIPS

STRENGTHS AND STRATEGIES FOR SUCCESS

STUDENTS DEVELOPMENT

FACULTY DEVELOPMENT
FUNDING AND REVIEW PROCESS
- Exclusionary funding patterns
- Costs of participation

INEQUITABLE PARTNERSHIPS
- Incorrect assumptions
- Communications & timeline
- Power & funding dynamics

IMPLICIT AND EXPLICIT BIAS
- Implicit bias
- Minoritized Research
- Reputational Bias
- Cumulative effects

RESEARCH SUPPORT INFRASTRUCTURE LIMITATIONS
- Evolving research agenda
- Faculty time
- Evaluation

BARRIERS TO PARTICIPATION

RESEARCH SUPPORT INFRASTRUCTURE LIMITATIONS

IMPLICIT AND EXPLICIT BIAS
RECOMMENDATIONS AND ADDITIONAL OPPORTUNITIES FOR CHANGE

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Partnerships with Minority Serving Institutions should be intentional and equitable. To break the pattern of inequitable partnerships, work with collaborators to co-create formal and equitable partnership plans between organizations.

**RECOMMENDATION 1**

**Strategy 1.1: Co-Created, equitable partnership plans**

A process should be established that requires partnerships to be formalized, such as through an MOU or code of partnership conduct that include clear implementation plans. Elements in a checklist for equitable partnerships should include but are not limited to: reasonable timeline to establish communication (e.g., at least 3 months before a proposal is due); clear scope of work and budget information; plan for co-creation of knowledge; shared governance including data and intellectual property; time for intentional relationship development; salary and resource support (shared infrastructure); and evaluation and shared outcomes. This work may be facilitated by a long-term liaison or ‘research partnership advocate’ who supports equitable partnerships between institutions.
Funding agencies should evaluate and modify the proposal review process and incentivize partner institutions to construct equitable partnerships.

The risk-averse nature of federal funding is incongruent with what has historically led to substantial advances in science. Innovation often comes from a willingness to fail, but a culture of risk-aversion disproportionately excludes MSIs. Strategies that funding agencies could undertake in response to Recommendation 2 include the following four strategies.

**RECOMMENDATION 2**

**Strategy 2.1: Diversify review panels**

Reviewers are currently drawn from places with pre-established relationships, meaning new faculty, institutions, and communities continue to be excluded. Diversifying review panels by bringing grant reviewers from communities the funding seeks to serve is an opportunity to disrupt this exclusionary pattern. Although some funding agencies offer remuneration, it does not fully cover the time spent preparing and writing reviews. Compensation for unpaid or underpaid review work is critical. To accomplish this, agencies could consider providing funding to buy out faculty time from MSIs (e.g. as a 0.25 FTE IPA or Expert) to serve on panels and conduct ad hoc reviews.

**Strategy 2.2: Enhance reviewer training**

Reframing what constitutes good research and a good research institution is necessary to reduce bias that inhibits MSIs’ ability to acquire resources for research. Professional development modules, workshops, or mentors that equip reviewers with tools to help surface and mitigate bias are high-impact opportunities. Equitable review is a skill that serves the development of good science. These activities would begin to systematically address bias in a measurable way that can be inclusive of all those who participate in the research enterprise. MSI representatives should be involved with the design and dissemination of these trainings.
RECOMMENDATION 2 (continued)

Strategy 2.3: Evaluate the review process
Ongoing evaluation of the review process needs to be standard practice and include identifying and codifying promising practices that make the process more equitable. In addition, accountability measures need to be implemented to ensure those practices are followed real-time in panels.

Strategy 2.4: Establish partnership requirements in proposals and reports
When partnerships are a key part of a funding opportunity, agencies could create a separate section for partnerships that include documentation and proof of meaningful engagement such as a formal and equitable partnership plan between organizations.
RECOMMENDATION 3

Research capacity-building organizations, such as NORDP, ARIS, NCURA, SRAi, and other organizations should partner with Minority Serving Institutions and funding agencies to support research growth and provide professional and research development services.

Strategy 3.1: Provide introductory overviews and advanced training appropriate for different target audiences

Capacity-building organizations should provide a suite of offerings targeting different audiences, including leadership, faculty, staff, and governing boards. These offerings should employ user-centric design principles, which may require multiple organizations to partner on a single comprehensive training for each audience. Organizations should consider offering a mix of training modalities so that some trainings can be accessed for free or very low costs (e.g. pre-recorded webinars) while other modalities (e.g. in-person with travel required) might be offered at a modest cost that is subvented by funding agencies for MSIs.

Strategy 3.2: Partner with funding agencies to support MSI applicants seeking funding

Capacity-building organizations should seek to partner with funding agencies to provide research development support to MSI applicants during live competitions. Although funding agencies provide information sessions, host office hours, and post frequently asked questions, most cannot provide individual coaching to applicants. However, funding agencies could fund capacity-building organizations to provide individual coaching and 1-1 proposal development support. Funding agencies can use existing tools such as preliminary applications to ensure that the number of applicants seeking support is manageable.
PANEL DISCUSSION

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