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MINORITY SERVING INSTITUTIONS

America's Underutilized Resource for Strengthening the STEM Workforce

America's Minority-Serving Institutions (MSIs) are an important and underutilized source of talent to fulfill the needs of the nation's current and future STEM workforce, says *Minority-Serving Institutions: America's Underutilized Resource for Strengthening the STEM Workforce*, a report from the National Academies of Sciences, Engineering, and Medicine.

Given the nation's urgent need to expand its domestic STEM-capable workforce and the poised position of MSIs as a national resource for STEM talent, the report recommends a range of actions to support the advancement of MSI students in postsecondary STEM education and to increase the capacity of MSIs to educate an increasingly diverse student body. It identifies promising evidence-based strategies to support students' success, such as strong mentoring, undergraduate research experiences, and academic and social supports tailored to students' needs. And it urges policymakers, foundations, tribal leaders, and other stakeholders to increase MSI-specific funding opportunities and to form partnerships that enable promising strategies to be implemented.

The report recommends two specific actions Congress should take to support these efforts.

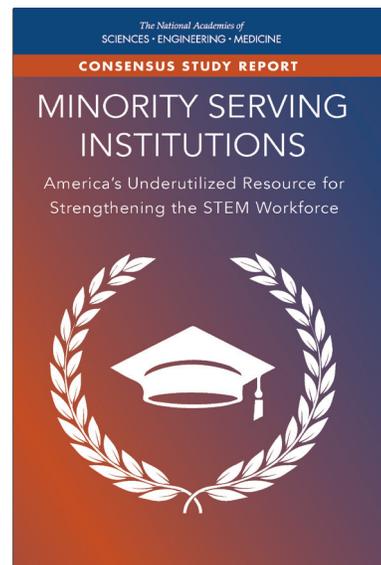
* Enhance transparency and accountability for federal investment

It is in the nation's best interest not only to establish new and expand current STEM-focused investments for MSIs, but also to increase the information available about these funds and their impacts. Substantial growth in MSI-specific public-private partnerships could help to bolster domestic achievements in STEM, but more information on the current federally funded initiatives at MSIs and their return on investment for the institutions, students, and STEM workforce is needed in order to inform future partnership initiatives and help to determine which are most needed, underfunded, or unexplored.

Recommendation: To more effectively measure MSIs' returns on investments, and to inform current and future public-private partnership initiatives, Congress should undertake several strategic actions to enhance the clarity, transparency, and accountability for all federal investments in STEM education and research at MSIs, including the production of an annual MSI STEM Research and Procurement report.

For improvements in the short term, Congress should require all relevant federal agencies to:

- Identify an MSI liaison, which would become the responsible organization or representative to coordinate activities, track investments, and report qualitative and quantitative progress toward increasing participation in STEM research and development programs.
- Produce an annual procurement forecast of opportunities including but not limited to grants, contracts, or subcontract opportunities, cooperative agreements, and other transactional agreements that will enable increased participation of MSIs in basic, applied, and advanced STEM research and development programs.



- Report on the level of participation of MSIs as prime recipients/contractors or subrecipients/subcontractors, including the type of procurement mechanisms (i.e., contracts, grants, cooperative agreements, and other transactional agreements) and the current investment totals that support STEM research and development programming.
- Categorize MSI investments and distinguish between type of investments (i.e., internships versus training grants versus basic/applied/advanced research actions).
- Track proposal submissions by MSIs (as lead investigators, principal investigators (PIs), or co-PIs) in federal contracts, grants, cooperative agreements, other transactional agreements, and Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) programs.
- Participate in SBIR/STTR programs to report MSI level of participation, including metrics on level of pursuits.

For sustained, systemic improvements, Congress should require federal agencies to produce an annual MSI STEM Research and Procurement Report that provides an account of specific investments and measurable outcomes on the institutions, faculty, students, and priorities of the national agencies. This report could serve as a critical resource for policymakers, government agencies, and MSIs to assess and benchmark the impact of national investments in underserved high-potential communities. The findings from this report may also encourage other stakeholders to partner with MSIs in broader STEM research and development initiatives.

* Incent greater investments in MSIs and strategies to support their students' success

Despite receiving a fraction of the federal and state funding appropriated for higher education and experiencing deep cuts in public education spending, MSIs have shown success in providing return on investment for students, the STEM workforce, regional and national economies, and the institutions' local communities. As the number of MSIs continues to grow, more targeted funding, attention, and support, are needed to support these contributions.

Recommendation: As it considers regular adjustments to federal higher education policies and programs—including, but not limited to, its reauthorization of the Higher Education Act—Congress should use the legislative process to incent greater investments in MSIs and the strategies outlined in the report.

The report suggests that leaders of congressional committees with oversight on higher education consider the following legislative actions:

- Significantly increase annual appropriations to support need-based aid and capacity-building funds for MSIs (e.g., Pell grant and Title III and V funding). This funding should include institutional endowment-building activities.
- Invest in new and expanded funding mechanisms that strengthen STEM infrastructure on MSI campuses.
- Create and fund programs that encourage innovative teaching, learning, and laboratory experiences in STEM on MSI campuses. The report further encourages the requirement that any such programs include a strong and rigorous evaluation component, and the resources required to support high-quality evaluation, in order to measure the impact of new initiatives on student learning and on career outcomes for STEM graduates.

COMMITTEE ON CLOSING THE EQUITY GAP: SECURING OUR STEM EDUCATION AND WORKFORCE READINESS INFRASTRUCTURE IN THE NATION'S MINORITY-SERVING INSTITUTIONS

Lorelle Espinosa (Co-Chair), American Council on Education; **Kent McGuire** (Co-Chair), William and Flora Hewlett Foundation; **Jim Bertin**, Chief Dull Knife College; **Anthony Carpi**, John Jay College, CUNY; **Aprille Ericsson**, National Aeronautics and Space Administration Goddard Space Flight Center; **Lamont Hames**, LMH Strategies, Inc.; **Wesley Harris**, Massachusetts Institute of Technology; **Eve Higginbotham**, University of Pennsylvania; **Spero Manson**, University of Colorado, Denver; **James Minor**, California State University; **Leo Morales**, University of Washington; **Anne-Marie Nunez**, The Ohio State University; **Clifton Poodry**, Howard Hughes Medical Institute; **William Spriggs**, Howard University; **Victor Tam**, Santa Rosa Junior College; **Cristina Villalobos**, University of Texas Rio Grande Valley; **Dorothy Yancy**, Johnson C. Smith and Shaw University; **Lance Shipman Young**, Morehouse College; **Thomas Rudin**, Director, Board on Higher Education and Workforce; **Leigh Miles Jackson**, Study Director, Board on Higher Education and Workforce.

For More Information . . . This Consensus Study Report Highlights was prepared by the Committee on Closing the Equity Gap based on the report *Minority Serving Institutions: America's Underutilized Resource for Strengthening the STEM Workforce* (2018). The study was sponsored by the ECMC Foundation, the Helmsley Charitable Trusts, the Alfred P. Sloan Foundation, the W.K. Kellogg Foundation, and the Wallace Foundation. Any opinions, findings, conclusions, or recommendations expressed in this publication do not necessarily reflect the views of any organization or agency that provided support for the project. Copies of the report are available from the National Academies Press, (800) 624-6242; <http://www.nap.edu>.

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