July 27, 2021

Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Submitted electronically to ScientificIntegrityRFI@ostp.eop.gov

Re: Request for Information to Improve Federal Scientific Integrity Policies (86 FR 34064)

The American Association for the Advancement of Science (AAAS), Association of American Medical Colleges (AAMC), Association of American Universities (AAU), Association of Public and Land-grant Universities (APLU), and Council on Governmental Relations (COGR), collectively the "Associations," appreciate the opportunity to provide feedback to the White House Office of Science and Technology Policy (OSTP) to help improve the effectiveness of Federal scientific integrity policies in enhancing public trust in science.

The Associations strongly support the efforts of the White House in addressing issues of federal scientific integrity and public trust in science. We further appreciate the swift issuance of the Presidential Memorandum on Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking and establishment of the Scientific Integrity Task Force. These actions seek to formalize and standardize scientific integrity through an all-of-government approach. Protecting the integrity of science and ensuring the use of evidence in policymaking should be a national priority across administrations.

These efforts come at a critical time for the United States. Public trust in federal science has been shaken by anti-science rhetoric, lack of transparency, and questions about the integrity of science conducted and supported by the federal government. At the same time, building and maintaining trust in this science has never been more important as we confront continuing threats, including a global pandemic and climate change. The importance of addressing these challenges is further fueled by vaccine hesitancy, and the threat of natural disasters, and growing mistrust in whether recommended responses are supported by credible scientific evidence.

We are pleased to address the following areas to inform the work of OSTP in confronting and addressing these issues.

1. The effectiveness of Federal scientific integrity policies in promoting trust in Federal science

The existence of scientific integrity policies alone may not measurably increase public trust in science but can establish the foundation and set in place the guardrails for protecting scientific inquiry from improper interference or misuse. It is the demonstrable impact of such policies that will restore trust in science and research, not the words the policies contain.

Within the research community, such policies will be deemed to be effective when research funding, scientific conduct, data collection, and dissemination of research results are explicitly tied to established mechanisms for determining scientific merit, such as peer review of grants and publications. In one key recent counterexample, proposed rulemaking[1] from the Environmental Protection Agency sought to limit the science the agency could consider in critical rulemaking activities to those studies for which all underlying data were publicly available for analysis, which the scientific community strongly opposed. While purporting to increase transparency in science, many saw this rule as an attempt to tie the hands of the agency, ensuring that key research studies on the impacts of air or water pollution on human health would be excluded when the agency made policy decisions about limiting particulate matter in the air or protecting waterways from toxic waste.

In a joint letter to the EPA in July 2018 in response to the proposed rule, AAMC, AAU, APLU, and COGR wrote:

> The proposed rule does not advance the type of sound, evidence-based policymaking that is essential for every agency, and particularly important for the EPA, whose activities and regulations have a profound impact on air, land, and water quality, and thus the health of all Americans. This proposal thwarts the promise of evidence-based policymaking, squarely contradicting the requirement that the EPA use the 'best available science' to make its regulatory decisions. Basing decision-making on only those studies with publicly available data would drastically curtail the use of key information and studies in the policymaking process and ignore the entire body of scientific evidence built up over years of inquiry.

While the finalized rule is no longer in effect, vacated by a U.S. District Court ruling February 1, 2021, and not proposed anew by the agency, that assault on science in the name of transparency has had far-reaching impacts on the research community and demonstrated how vulnerable science may be made through political interference. That is exactly why the proposed policies are needed.

Strengthening policies on scientific integrity is a good start, but ensuring that these policies are adhered to, and evaluating outcomes from their implementation, should be a key part of the process to improve scientific integrity. The evaluation metrics should be included in the policies themselves

[1] EPA-HQ-OA-2018-0259-0025, Strengthening Transparency in Regulatory Science

so that OSTP, the agencies, and the broader public will know when scientific integrity policies are achieving their intended outcomes.

2. Effective policies and practices Federal agencies could adopt to improve the communication of scientific and technological information

The COVID-19 pandemic has highlighted challenges in fact-based communication to the public on emerging scientific issues and ensuring that scientific research and analysis and the evidence-base that underlies policies and decisions, is reflected accurately in any subsequent dissemination of this information. Engaging scientists as part of the communication process and having them publicly available to discuss their work, particularly new or complex findings, can go a long way toward building trust. In addition, many scientific and higher-education institutions conduct science communication courses and workshops that the federal government should utilize in training government employees in effective communication of complex topics.

It is also important to communicate to the public the processes built into the process to ensure oversight, review, and ethical standards which guard against political interference in the way science is funded or conducted. Understanding how information is most readily consumed and understood is essential for effective communication to the public. A notice in the Federal Register has no chance of effectively opposing scientific misinformation spread through social media. Communicating scientific information through multiple channels including social media accounts, engagement of community and state groups, proactive engagement with journalists, and updating easily found and navigated websites can broaden the message. The vaccine information sites www.vaccines.gov and www.vacunas.gov are good examples of sites that are working to get clear information to the public in multiple languages and are being communicated through social media and physicians' offices.

We also note that the link between federal funding of basic research and the resulting knowledge, products or technologies that improve human health, strengthen energy security, expand our understanding of climate change, and protect national security interests are too rarely understood or discussed. Federal agencies, with the support of OSTP, should work to ensure that when the outcomes of federal funding and research are discussed, the role of the government in that research is made clear and reiterated. At a more fundamental level, policies that promote public understanding of the scientific process, including the fact that science is not static and therefore conclusions may change based on analysis of new data and scientific information, are essential to increasing public trust in scientific efforts. Such policies should target not only scientific education at the K-12 level but engage the broader public as well.

Additionally, existing open access policies affecting federal funding agencies, such as the NIH and NSF, may warrant further review to ensure that they meet their intended objectives of providing equitable and fulsome access to publish and disseminate research output while promoting the reproducibility and integrity of scientific research and protecting national security. At the same time, consideration should also be given to balancing the administrative burdens and costs of compliance carried by researchers and institutions.

3. Effective policies and practices Federal agencies could adopt to address scientific issues and the scientific workforce

The scientific research enterprise is expanding to include new fields of research and inquiry and growing participation of communities and ordinary citizens who may not have traditionally been engaged in science. Any existing scientific integrity policies should be applied equitably and consistently to these situations. The federal government has a key role in growing and broadening the diversity of the scientific workforce, and programs to support scientists should be built with a lens of equity and inclusion.

The concept of scientific integrity is broad and, in some cases, has been solely equated with research integrity or research misconduct. Research misconduct is appropriately defined in federal regulations as fabrication, falsification, or plagiarism in federally funded research. We urge OSTP to clarify in its guidance to agencies that while research misconduct is a threat to the integrity of the scientific record, protecting the integrity of science extends far beyond this precise but focused definition. There are many other issues that could affect the integrity of research, from the environment in which researchers work to willful interference in the scientific process, to violations of rules related to conflicts of interest or the protection of human subjects that should be addressed through mechanisms that could broadly be captured with the term "scientific integrity" but should not be newly defined as a facet of "research misconduct."

4. Effective practices Federal agencies could adopt to improve training of scientific staff about scientific integrity and the transparency into their scientific integrity practices

Ongoing and effective training of federal employees, contractors, and grantees is an essential component of implementing standards and guidelines for scientific integrity. We note that academic institutions have developed robust research integrity programs, including training and responsible conduct of research, that could be better leveraged and incorporated into federal policies and training. In this respect, the promotion of consistency in agency policies and processes that address scientific integrity would make the provision of such training easier. Finally, when there are issues regarding scientific integrity or policy violations, the federal government should be as transparent as possible about the process, findings, and any subsequent action taken.

5. Other important aspects of scientific integrity and effective approaches to improving trust in Federal science

The overall goal of scientific integrity efforts directed at the Federal agencies should be to create a research environment that promotes and protects a rigorous scientific research enterprise and the incorporation of this evidence-base into the policymaking process. Applying policies consistently and streamlining implementation across federal departments and agencies is a key part of achieving this goal, as is making sure that policies are clear in their scope and desired effect. This effort should

also identify and build on the substantial efforts that some agencies have already undertaken to communicate the value, integrity, and impact of federal science.

It takes an enormous amount of effort to build and sustain public trust in science, and federal policies and actions are an essential component of this endeavor. Trust in science impacts not only the federal government itself, but the entire scientific enterprise and every federal grantee.

We stress that building trust requires the engagement of the communities whose trust you hope to gain. For a discussion of why trust needs to be built with, rather than at, communities, please see the newly released Principles for Trustworthiness from the AAMC Center for Health Justice. This commitment to stakeholder engagement was also articulated in APLU's Public Impact Research: Engaged Universities Making the Difference, which outlines five action steps for the public university community and stakeholders to advance research that has a societal impact.

We appreciate the opportunity to put together comments in response to this RFI and to participate in the associated listening sessions. Broad engagement, as well as partnering with the appropriate community organizations so that information about these opportunities is disseminated to a diversity of audiences, is essential for a complete understanding of these issues.

Our associations, both directly and through our broad constituent base that spans the scientific research community, are committed to working with OSTP on these priorities and improving federal scientific integrity policies to facilitate public trust in science. We look forward to further engaging on the issues in discussed in this letter.

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The American Association for the Advancement of Science (AAAS) is the world's largest multidisciplinary scientific society and the publisher of the Science family of journals. Its mission is to advance science, engineering, and innovation throughout the world for the benefit of all people or – put more simply – to advance science and serve society. The Association of American Medical Colleges (AAMC) is dedicated to transforming health through medical education, health care, medical research, and community collaborations. Its members comprise all 155 accredited U.S. and 17 accredited Canadian medical schools; more than 400 major teaching hospitals and health systems; and more than 70 academic societies. The Association of American Universities

(AAU) is an association of 64 U.S. and two Canadian preeminent research universities organized to develop and implement effective national and institutional policies supporting research and scholarship, graduate and undergraduate education, and public service in research universities. The Association of Public and Land-grant Universities (APLU) is a research, policy, and advocacy organization with a membership of over 200 public research universities, land-grant institutions, state university systems, and affiliated organizations in the U.S., Canada, and Mexico, that is dedicated to strengthening and advancing the work of public universities. The Council on Governmental Relations (COGR) is an association of 190 research universities and affiliated academic medical centers and research institutes. COGR concerns itself with the impact of federal regulations, policies, and practices on the performance of research conducted at its member institutions.