

July 16, 2021

Chairwoman Diana DeGette
2111 Rayburn House Office Building
Washington, D.C. 20151

Ranking Member Fred Upton
2183 Rayburn House Office Building
Washington, D.C. 20515

RE: Reps. DeGette and Upton request for information on creating the Advanced Research Projects Agency for Health

The American Society for Biochemistry and Molecular Biology is an international nonprofit scientific and educational organization that represents more than 11,000 students, researchers, educators and industry professionals. The ASBMB strongly advocates for strengthening the science, technology, engineering and mathematics (STEM) workforce and ensuring diversity, equity and inclusion in STEM.

The ASBMB applauds the Biden administration and Congressional leaders on taking a bold step by proposing the founding of an Advanced Research Projects Agency for Health (ARPA-H) to address the most significant health challenges of the 21st century. In addition to the proposed creation of ARPA-H, we are pleased to see the inclusion of the Research Investment to Spark the Economy (RISE) Act into the Cures 2.0 Act. We strongly urge policymakers to include a provision in the RISE Act that sets aside \$2.99 billion for [research relief funding for junior scientists](#) whose careers are in jeopardy because of the COVID-19 pandemic.

While the creation of ARPA-H can lead to extraordinary scientific breakthroughs, the agency must be codified in a way that ensures its autonomy, independence and accountability. We offer a series of recommendations on the research strategy, structure, and funding of ARPA-H to ensure the agency's success. First, the structure of the agency should maintain its autonomy and independence from other agencies. Second, the research priorities of ARPA-H must be narrow and targeted. Thirdly, the funding for ARPA-H must be clearly defined from funding for the National Institutes of Health. Lastly, ARPA-H must create an inclusive research ecosystem that attracts a diverse talent pool.

Structure of ARPA-H

The structure of ARPA-H will determine its success in tackling high-risk, high-reward research projects. [Similar to DARPA](#), ARPA-H must have a lean budget with program managers with term limits of 3 to 5 years. ARPA-H program managers should work closely with researchers.

According to the discussion on the mission of ARPA-H, [ARPA-H will be focused on](#) “driving biomedical breakthroughs—ranging from molecular to societal—that would provide transformative solutions for all patients.” This mission aligns with the [goals of translational research at large](#), which

aims toward “multidirectional and multidisciplinary integration of basic research, patient-oriented research, and population-based research with the long-term aim of improving the health of the public.”

However, without key basic scientific research, [translational research would be impossible](#). The NIH's budget funds basic research at higher rates than applied or translational research. Basic research accounts for about [55% of NIH funding](#). This foundational support for basic research must not be affected by the creation of ARPA-H.

To prevent any interruption to NIH's funding of basic scientific research, ARPA-H must have a significant amount of autonomy and independence from the NIH. This does not mean that ARPA-H cannot not work closely with the NIH; the two organizations will collaborate closely and pull from each other's expertise and research efforts. But there must be a clear distinction between ARPA-H's research priorities and the NIH's efforts funding basic biomedical research. Outlining a clear structure and collaborative relationship that separates ARPA-H from the NIH will prevent any siphoning of resources, funding or focus from basic scientific research to applied or translational research. We urge policymakers to prevent NIH-funded investigators from being funded for similar research projects under ARPA-H in addition to preventing any siphoning of resources.

A second key component to the structure of ARPA-H is its ability to collaborate with science agencies beyond the NIH, such as the Department of Energy, the National Science Foundation, and others. One of the key characteristics that has led to DARPA's [success is the agency's](#) “connection to the larger innovation ecosystem.” As [several reports have outlined](#), federal agencies must develop robust and broad-based connections to collaborate with one another and to engage with stakeholders from outside the government. ARPA-H is no different; this agency must collaborate and communicate regularly with other federal science agencies and efforts must be made to reduce administrative barriers to interagency collaboration, including barriers to the transfer of funds when necessitated. This will aid innovative research efforts, allow agencies to share their successes and failures, and ensure ARPA-H itself is successful.

Research strategy of ARPA-H

The research strategy of ARPA-H must be narrow, targeted and unique. To accomplish this, ARPA-H must have a clear and defined research strategic plan that is prepared every other year and submitted to Congress. This is similar to the Defense Advanced Research Projects Agency (DARPA) process, and the [Congressional Research Service emphasizes](#) this is one reason behind the success of DARPA's research efforts. This plan should describe:

1. The agency's long-term strategic goals
2. Research programs developed in support of those goals
3. Policies governing the agency's management, organization, and personnel
4. Connection between ARPA-H's activities and other federal science agency research efforts

This strategic plan should fit into the larger research priorities of all federal research funding agencies to prevent duplicative research efforts. Similar to the [NIH's strategic plan process](#) and [DARPA's process](#) leaders of ARPA-H should request information from stakeholders within the scientific community when creating their strategic plan.

Planning out research priorities will prevent ARPA-H from duplicating other research efforts and a strategic research plan will also illustrate how ARPA-H's research projects will advance other research priorities. Creating a strategic plan in coordination with other federal funding science agencies and with input from the scientific community will also enable ARPA-H to collaboratively communicate with other federal agencies.

ARPA-H's research projects should be narrow in focus, but with the long-term goal of impacting the larger innovative pipeline. [As other experts have recommended](#), we urge ARPA-H to start funding a select few research projects.

Funding ARPA-H

As mentioned above, it is very important that ARPA-H and NIH remain separate in terms of funding and maintain distinct research priorities. Proposed legislation allocates a set amount of money ARPA-H for the next three years. We urge policymakers to mandate that ARPA-H funding remains separate from NIH. This will ensure the agency's autonomy and ensure that the NIH maintains adequate funding for the core scientific research supported by the NIH historically.

It is imperative that ARPA-H's budget remain lean and nimble, similar to DARPA, whose funding in [FY2020 is \\$3.39 billion](#). [The National Academy of Sciences](#) recommends that federal research agencies allocate a minimum 8% of their budget to high-risk, high-reward research. In FY2020, the [NIH's budget was \\$41.7 billion](#); an 8% share of that budget is \$3.34 billion. This is a good start for ARPA-H and the budget can be changed accordingly in the future.

We strongly urge Congressional members to follow this evidence-based recommendation on how much funding ARPA-H should get and fund high-risk, high-reward research projects. Keeping the funding separated or earmarking this amount in the appropriations process within the NIH budget will ensure strategic selection of projects and management of risk.

Ensuring a diverse and inclusive environment at ARPA-H

As other federal science agencies have a responsibility to ensure an inclusive, equitable environment, ARPA-H should strive to do the same. Considering that both [women and minorities are still underrepresented](#) in STEM despite numerous efforts to address this imbalance, ARPA-H must establish itself as a diverse and inclusive environment at the outset. We recommend three action items that will make a significant difference in ensuring that women and minorities are adequately represented, funded and supported by ARPA-H.



American Society for
Biochemistry and Molecular Biology
11200 Rockville Pike, Suite 302
Rockville, Maryland
20852-3110

First, ARPA-H must have a robust anti-harassment policy, complaint procedures and appropriate repercussions for perpetrators of gender and sexual harassment. Second, ARPA-H must ensure that women and men and minorities are paid equally for equivalent work. And third, ARPA-H must fund researchers equally across gender and race. ARPA-H will thrive under these conditions and make a significant impact on scientific research and the larger innovative pipeline.