



**Association of
American Medical Colleges**
655 K Street, NW, Suite 100, Washington, DC 20001-2399
T 202 828 0400
aamc.org

April 14, 2020

The Honorable Eddie Bernice Johnson
Chairwoman
House Science, Space, and Technology
Committee
United States House of Representatives
Washington, DC 20515

The Honorable Frank Lucas
Ranking Member
House Science, Space, and Technology
Committee
United States House of Representatives
Washington, DC 20515

Dear Chairwoman Johnson and Ranking Member Lucas:

On behalf of the Association of American Medical Colleges (AAMC), I thank you for your interest in engaging the research community to seek input on future Coronavirus Disease 2019 (COVID-19) supplemental funding bills to address coronavirus-related impacts to the research community.

The AAMC is a not-for-profit association dedicated to transforming health care through innovative medical education, cutting-edge patient care, and groundbreaking medical research. Its members are all 155 accredited U.S. medical schools; nearly 400 major teaching hospitals and health systems, including 51 Department of Veterans Affairs medical centers; and more than 80 academic societies. Through these institutions and organizations, the AAMC serves the leaders of America's medical schools and teaching hospitals and their more than 173,000 full-time faculty members, 89,000 medical students, 129,000 resident physicians, and more than 60,000 graduate students and postdoctoral researchers in the biomedical sciences.

In addition to their work on the front lines of patient care, including with respect to COVID-19, medical schools and teaching hospitals are also leading centers of medical research, with scientists at these institutions conducting over 50% of extramural research funded by the National Institutes of Health (NIH). This research commitment has enabled AAMC-member institutions to use their capacity to develop much-needed tests for COVID-19, to lead research on potential vaccines and/or therapeutic candidates, and to continue to provide the world's most advanced and expert patient care informed by the latest innovations in fundamental and clinical research.

In addition to support from NIH, many medical schools and teaching hospitals also engage with a number of other federal research agencies and private organizations. We believe researchers across disciplines and funding agencies are experiencing many similar effects from COVID-19-related disruptions and expect that the experiences our members describe will be informative in

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both the Science Committee's continued discussions and as you work with other committees to consider potential opportunities to support the nation's research enterprise.

The AAMC joined with three other higher education associations in an [April 7 letter to Congressional leadership](#) to outline shared impacts of COVID-19 across our institutions' research communities, which we will highlight here. Below, we have also outlined suggestions for future supplemental and infrastructure funding and policy changes in the categories you requested to support the research enterprise in this time of need and as research programs return to normal functionality.

Near-Term Response to COVID Impacts on the Larger Research Enterprise

Provide emergency supplemental appropriations to federal research agencies to support the research workforce and to help institutions suspend and resume research projects

In response to the COVID-19 emergency, institutions have suspended research activities that require access to laboratories and research facilities beyond critical and/or pandemic-related research, leading the vast majority of labs and clinical research nationwide to shut down. Graduate students, postdoctoral researchers, faculty, and research technicians are attempting to make research progress by analyzing existing data, writing publications, and planning future experiments; however, progress on conducting new experiments is delayed for many. Those that rely on their grant funding for income could face financial stress if grant funding is not extended. In addition, vital resources and research-related physical infrastructure, such as animal colonies and core facilities, need to be tended to even when research programs are suspended. The personal protective equipment (PPE) typically used for research activities is, in many cases, being shared with clinical personnel to address acute shortages and will need to be replaced.

While NIH and other federal agencies have provided helpful guidance and administrative flexibilities related to grants management, institutions and the research community will incur substantial expenses to support the research workforce as operations wind down temporarily, and again when ramping projects and labs back up once the crisis subsides. As you know, research programs cannot start or stop with the flip of a switch. Emergency support to mitigate the disruptions resulting from COVID-19 will help the nation's research enterprise recover as quickly as possible the momentum lost during the pandemic. For example, this funding could be provided as cost extensions for research projects once lab activities resume in order for investigators, graduate students, postdocs, and research technicians to complete the work for which the grant was originally intended.

The need for this support is particularly acute, given the pressures the COVID-19 pandemic is placing on the nation's clinical enterprise, as well as on potential philanthropic and private foundation support. Because academic medical centers contribute, on average, an estimated additional \$0.53 for every dollar of sponsored research support they receive, many institutions rely on subsidies from clinical revenues to support the additional costs associated with the

research mission. As a result of the pandemic, however, major teaching hospitals and health systems are reporting losses ranging between \$2 million and \$8 million a day, while faculty physician practice plans at medical schools are reporting losses of between 25% and 50%. It is unlikely that providers will recover these losses, which will undermine the ability of teaching hospitals to continue supporting the costly research and education missions of their academic partners in the same way, and importantly will not allow providers to take on additional research-related costs as a result of this national emergency. Similarly, given the economic toll of the crisis, it is not clear whether philanthropic contributions and support from private foundations will continue in the same way they did pre-COVID-19.

To protect and preserve the country's research capacity and aid in recovering research momentum as efficiently as possible once the crisis abates, the AAMC supports the higher education community's recommendation to provide supplemental appropriations of 30% of major research agencies' extramural research budgets, including: NIH, NSF, Department of Energy, Department of Defense Science & Technology programs, NASA, USDA, NOAA, NIST, and others. Based on FY 2019 information, we estimate that this request will total approximately \$26 billion across all federal agencies and will provide between 3 and 4 months of support, which agencies could use to provide funded cost extensions.

Extend administrative flexibilities for salary support

While the guidance that NIH and other agencies have issued allows those whose salary is funded on grants to receive salary and benefit support temporarily, the NIH guidance extends only through June 19, 2020. Additionally, even with the much-appreciated current administrative flexibility, this short-term solution is not sustainable for all campuses. In addition to new emergency supplemental funding from Congress for funded cost extensions, we encourage research agencies to expand current guidance to allow continued salary support beyond the current deadlines if normal operations have not resumed.

Support core facilities for the time in which they are closed or functioning at reduced capacity

Core research facilities play a vital role in supporting cross-disciplinary federally funded research activities across campuses and are typically funded through direct charges to research grants from researchers requesting core facilities services. Currently, many core facilities are not fully operational, leaving the core facility personnel, equipment, and space unfunded. Certain essential research including COVID-19 research may be utilizing these partially open facilities.

For example, animal research plays a key role in identifying medical research discoveries. Animal models require significant maintenance efforts, including direct costs for housing, food, and animal husbandry. For many labs with animal models, the ramping down of research activities included reducing the size of animal model colonies. The ramping up costs to bring animal colonies to pre-COVID-19 levels will be a tremendous financial burden on researchers. Other examples exist across other research areas. The funding recommendation described above also reflects a recognition of the need to support core facilities through emergency supplemental appropriations for federal research agencies.

Support career transitions for graduate students and postdoctoral fellows

Like other grantees, cost extensions with supplemental funding would allow trainees supported on research grants to receive salary support and finish what they were originally intending to accomplish on a grant. Given that they are early in their research careers, trainees are especially vulnerable to the challenges that COVID-19-related disruptions are posing for the research community. In addition, extending the duration of funding specifically for training awards, such as NIH's National Research Service Award fellowships and institutional training grants, would allow additional time for completion of research projects and the chance to transition to the next career phase in a more stable economic environment.

Maintain the US health and research workforce by extending visas and DACA

A significant proportion of the U.S. research workforce, including the majority of biomedical postdoctoral researchers, is composed of international scholars, but the ability to obtain visas and travel is severely restricted during the pandemic. Many postdoctoral scholars who had secured positions in the U.S. are delayed in entering the country. This restriction of the scientific workforce will cause both short- and long-term stress on the U.S. research workforce pipeline and could significantly impact our country's ability to attract the best and brightest scholars. To reduce the burden on international scholars in the workforce, we believe the State Department and U.S. Customs and Immigration Services should be given all the resources and funding support necessary to address the backlog of pending visa renewals and applications for new nonimmigrant visas as quickly as is safe to do so. In addition, we encourage Congress to pass the American Dream and Promise Act of 2019 (H.R. 6) or the Dream Act of 2019 (S.874), which would provide a pathway to citizenship for certain undocumented individuals, including many health professionals and medical researchers.

Provide temporary flexibility in regulatory and audit requirements

The U.S. research workforce takes seriously its role to comply with regulatory reporting requirements and prepare for regular auditing activities. The COVID-19 pandemic presses unique challenges upon the research enterprise in prohibiting continuation of a vast majority of regular research activities. Therefore, we recommend that the Office of Management and Budget (OMB) and the research agencies be directed to provide additional regulatory and audit flexibility during the pandemic period and for a year afterwards. A recent memo from OMB provided agencies with the ability to grant significant flexibility in some key administrative requirements and we appreciate that most if not all funding agencies seem to be moving quickly to take advantage of all available flexibilities under that memo. However, that available flexibility must be substantially broadened and extended to meet the needs of the current unprecedented situation. Government audits that review time periods including the national emergency should allow for additional flexibility, especially in relation to time and effort reporting. Additional flexibilities should also be provided for amendments to research grants and contracts that are proposed in response to COVID-19-related disruptions.

Opportunities for Additional R&D and Related Activities Specific to COVID-19 Response and Recovery

Supplements for core facilities supporting COVID-19 research activities

The AAMC supports additional investments in COVID-19-specific research across federal research agencies. In addition to funding for the research itself, many of these projects rely on core facilities on campuses nationwide. While many core facilities are temporarily closed to comply with social distancing measures and due to decreased demand because research labs are closed, other select core facilities remain open on a limited basis to support COVID-19-related research. In particular, sequencing facilities, flow cytometry core facilities, and biosafety level 3 labs are key to helping researchers better understand the basic biology of the virus that causes COVID-19, investigate the virus's interactions with human immune cells, and develop potential diagnostics, vaccines, and therapeutics. While they are critical to COVID-19 research, funding to maintain these facilities is lower because most other projects are suspended. To support the core facilities that remain partially open, the salaries and benefits of their staff, and maintenance of the instrumentation, we recommend that Congress provide supplemental funding specifically to support the continued operations of core research facilities during this time of below-capacity use to support essential activities.

Immediately Implementable Research Infrastructure

Supporting renovation of laboratories to foster state-of-the-art research

AAMC-member institutions are in nearly every state across the U.S. and conduct a disproportionate share of both basic and medical research to understand the foundational underpinnings of medical science and clinical and translational research that improve the patient care activities provided on their campuses. They often work closely with their partners in the physical, computational, and other sciences to push the boundaries of discovery and improve the human condition. This work requires physical facilities that are well-equipped to advance these goals. To continue producing cutting-edge and adaptive medical research discoveries, the AAMC recommends that Congress invest in physical infrastructure to support the U.S. research enterprise and maintain its global competitiveness, recognizing that developing physical infrastructure where such research can take place requires complicated construction that takes many months or years to develop and build. For example, the types of facilities in which scientists can conduct virology research on COVID-19 need significant lead time to design and construct.

One other potential area for consideration is investment in physical spaces designed thoughtfully to foster interdisciplinary collaborations on academic campuses, especially in promoting more integrated science (as teams organize to use shared facilities). For example, the National Institute of General Medical Sciences has undertaken an initiative to support Cryo-EM (electron microscopy) regional core facilities, a highly sought-after technology. Another technique of importance is single cell RNA sequencing. Current NIH programs emphasize the purchase of single instruments, but programs can readily be organized to support multiple instruments in

integrated facilities (“core floors”). Optimally, many of these facilities could be regionally or nationally shared.

Increased investments in data science, IT infrastructure, and data sharing capabilities

The research enterprise is increasingly generating data that hold tremendous potential to revolutionize science, medicine, and medical care. It also requires vast amounts of storage capabilities, increasing computational expertise to analyze and catalog data, and stronger infrastructure to facilitate sharing of datasets. The research community’s response to COVID-19 has been to default to immediate and effective open sharing of virus genomes, rapid clinical trial results, and other relevant COVID-19 research. To sustain and harness that energy and spirit over the long-term and apply it to the vast array of threats our nation faces, we must ensure we are investing in the appropriate infrastructure to promote data sharing.

For NIH grantees, the costs of maintaining and sharing data is consuming larger proportions of individual research budgets. Based on our conversations with stakeholders, a variable percentage of a research budget will need to be set aside to support infrastructure for data management and sharing. The AAMC recommends that research agencies explicitly permit data support as an allowable cost that would be eligible for supplemental funding on a grant-by-grant basis or institutional level to assist researchers in covering the increasing costs of data management.

Additionally, federal agencies are investing in intramural infrastructure to facilitate data curation and sharing. Because of past Congressional support for standing up data sharing infrastructure, the ability of researchers to share novel COVID-19-related findings has been successful and has allowed researchers to respond quickly in tandem. To the extent that legacy systems pose challenges in these efforts on a larger scale, support for agencies to transition to more modern IT resources could help strengthen these efforts. As an example, this week the NIH is shutting down the entire eRA Commons, the federal grantee management and reporting system, for its transition to a cloud-based service.

While not directly related to data collection and dissemination in the lab environment, researchers have attempted to pursue their research efforts via telework during the pandemic, which has revealed several inefficiencies that have slowed researchers’ abilities to disseminate and share data. These infrastructure-related barriers are also slowing down sharing of COVID-19-related findings. Several areas that would benefit from increased investments and greater access to enhance data sharing and facilitate national and international collaborations include: expanding the capacity and reach of broadband Internet access; increasing high-speed computation capabilities; broadening access to advanced wireless communications and increasing cyber-security resilience related to high volume use.

Long-term Economic Stimulus/Recovery

Supporting a larger, more diverse STEMM workforce

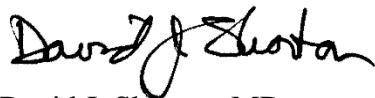
The AAMC believes that fostering a larger and more diverse Science, Technology, Engineering, Mathematics, and Medicine (STEMM) workforce will be crucial to not only rebounding from the COVID-19 pandemic, but also to improving the country's global competitiveness while improving the health of all Americans in the future. To facilitate a more resilient and robust STEMM workforce, the AAMC recommends that federal agencies adopt policies to strengthen the STEMM workforce pipeline. Agencies should consider several opportunities to revitalize STEMM education including: supporting career exploration in diverse fields and the development of professional skills; increase availability of effective mentorship including training programs for mentors; ensuring best practices through institutional evaluation and dissemination plans for training programs; supporting institutional data collection on trainee outcomes.

Support development of computational skills and engineering for cross-disciplinary application

Artificial intelligence holds immense promise for the future of medical research and patient care. Maximizing its potential will require a different skill set from the future medical research workforce compared to the current workforce. For example, medical researchers increasingly rely on computational science not only to analyze large data sets but also to design studies. Yet these high-demand skills are not traditionally prevalent among medical researchers, and it is increasingly difficult to attract qualified computational scientists into the medical research space. The AAMC encourages federal research agencies to increase support for the development of skills such as computer science and engineering to promote cross-disciplinary collaborations as medical research and the practice of medicine transform in the future.

Again, the AAMC appreciates your efforts to engage stakeholders in seeking to support the research enterprise in response to COVID-19. We recognize that the timeline is evolving for the development of the next comprehensive supplemental package and look forward to continuing to work with you as more details arise. Should you have any additional questions, please do not hesitate to contact me or Tannaz Rasouli at trasouli@aamc.org.

Sincerely,



David J. Skorton, MD
President and CEO
Association of American Medical Colleges