Office of Science and Technology Policy (OSTP)
Docket ID number OSTP-TECH-2025-0100
Re: Notice of Request for Information; Accelerating the American Scientific Enterprise

To Whom It May Concern,

The American Association of Colleges of Pharmacy (AACP) appreciates the opportunity to provide a response to the White House Office of Science and Technology Policy (OSTP) Request for Information (RFI) on "Accelerating the American Scientific Enterprise." AACP, founded in 1900, is the national organization representing pharmacy education in the United States. Our members are the 142 colleges and schools of pharmacy in the United States and over 4500 faculty and staff members, students and administrators at these schools. They educate and prepare the nation's pharmacist and pharmaceutical science research and development workforce.

Researchers in pharmacy schools study every aspect of drug discovery, development, and utilization. Each year, researchers at pharmacy schools lead or contribute to projects with more than $700 million in National Institutes of Health (NIH) funding. Pharmacy researchers garner additional competitive research funding from other federal agencies ($128 million in federal fiscal year 2024) and non-federal sources, including state and local governments, foundation and private industry ($168 million in federal fiscal year 2024.) Many of our members are located on flagship state university campuses or in areas with biomedical research industries; these schools are important components of these regional innovation centers.

AACP's responses to a subset of the specific questions raised by OSTP in the RFI are given below.

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(i) What policy changes to Federal funding mechanisms, procurement processes, or partnership authorities would enable stronger public-private collaboration and allow America to tap into its vast private sector to better drive use-inspired basic and early-stage applied research?

In general, streamlining procurement procedures and reducing duplicative reporting requirements would reduce barriers to non-academic entities seeking to participate in

federally funded projects and enable stronger public-private collaboration. More flexible procurement procedures, grantmaking processes and partnership formation could be enabled through creation of and continued funding for accelerator hubs at research universities, which could leverage partnership with federal research sites, such as the NIH and NIST campuses, VA hospitals, or NASA labs, to engage private industry. Hubs should include scholarship support, career counseling, and support for participation in research projects to engage the local workforce. The Reagan-Udall Foundation is a successful example of a Congressionally created Independent 501c(3) that helps advance the mission of the FDA and regulatory science by enabling engagement with outside partners.

Small business set-aside grant mechanisms, *e.g.*, SBIR and STTR, are beneficial but could be modified to enable more meaningful and productive collaboration between government and academic and industrial partners. Current mechanisms represent a one-way investment from the government into small companies, often university spinouts or start-ups. A process that allowed matching or leveraging federal dollars with funding, in-kind support (*e.g.*, instrumentation, consumables, research services) or Phase II awards from larger and more established companies could provide the basis for true industrial-academic-government partnerships. Federal funders could provide base funding and indirect cost recovery, which industry partners are generally reluctant to pay but are necessary to support research infrastructure at academic labs and small companies which lack other funding streams. Such grants could stabilize long-term collaborations between large and small companies and university partners, enabling bidirectional knowledge transfer and project initiation, promoting both translation of new discoveries into practice and basic study of use-inspired research questions.

(ii) How can the Federal government better support the translation of scientific discoveries from academia, national laboratories, and other research institutions into practical applications? Specifically, what changes to technology transfer policies, translational programs, or commercial incentives would accelerate the path from laboratory to market?

Building on our response to (i), strengthening the SBIR and STTR program by increasing the amount, number and type of awards, enabling greater flexibility for partnership terms, and providing support for technology prototyping, testing and scale-up at universities and spin-out companies could accelerate the path from laboratory to market.

Sustained support for NIH center awards such as the Clinical and Translational Science Awards (CTSA) is key to the timely translation of new clinical technologies and interventions to patient populations. Continued support for implementation and

demonstration projects would ensure successful translation of effective interventions to communities across the U.S.

(iii) What policies would encourage the formation and scaling of regional innovation ecosystems that connect local businesses, universities, educational institutions, and the local workforce—particularly in areas where the Federal government has existing research assets like national laboratories or federally-funded research centers?

National laboratories and federal research center grants already drive innovation and undergird regional industries. Supplemental funding dedicated to projects with local collaborators and workforce training components in emerging industries could leverage existing research infrastructure to foster new industries. Supplemental funding can come from the original or new funding agencies, including those more associated with commercial development like NIST and the Economic Development Agency (EDA); programs that bring together research and economic development agencies could be particularly powerful. The federal government should continue and expand current Tech Hub and manufacturing innovation programs, particularly to support development and manufacturing in key industries like pharmaceuticals. This should include support for data-driven drug development and advanced pharmaceutical manufacturing that leverages U.S. strengths in pharmaceutical science research, pharmaceutical engineering and data science to foster domestic industry.

Federal support could also enable states to leverage their existing resources for greater impact. For example, focused funding for state level research programs that utilize state registries and healthcare utilization data to train artificial intelligence (AI) on local populations would generate analyses and proposed research projects specific to the states. This would promote collaboration between local non-profits and profits in the research and health sectors and drive more effective research translation that reflects unique, local circumstances and addresses regional challenges. Currently, funding for such locally focused projects is difficult to get, as they lack national relevance and are less competitive for large grants from funders like NIH and large foundations. Funding projects like this would align research projects within a state to its most pressing problems, ensuring that the needs of its communities are met while promoting local economic development. Set-asides of federal funding could support these projects, for example by modifying existing funding opportunities for NIH IDEA awards to focus on or encourage state-level or even local-level research funding. One important note here is that reviewer training for federal grants would be needed to fairly assess and rate local research projects.

(v) What empirically grounded findings from metascience research and progress studies could inform Federal grantmaking processes to maximize scientific

productivity and increase total return on investment? Please provide specific examples of evidence-based reforms that could improve funding allocation, peer review, or grant evaluation.

Current federal regulations, grant application processes, and reporting requirements are a significant burden to researchers and institutions. They can provide an insurmountable barrier to researchers at smaller institutions, including teaching-focused colleges, small businesses and non-profits, that lack the institutional capacity to manage federal grant requirements. Responsibility for navigating complicated regulatory frameworks like those for human subjects research devolves down to individual researchers and acts as a significant disincentive for even low-risk but important research aimed at understanding implementation of health interventions. The federal government should consider the recommendations in the National Academies of Science, Engineering and Medicine's 2025 publication "Simplifying Research Regulations and Policies: Optimizing American Science." The report offers multiple opportunities to reduce regulatory burden without compromising research safety or security.

(vi) What reforms will enable the American scientific enterprise to pursue more high-risk, high-reward research that could transform our scientific understanding and unlock new technologies, while sustaining the incremental science essential for cumulative production of knowledge?

Review panels, especially study sections at NIH, typically focus on outcomes like publications that encourage incremental research while overlooking important indicators of relevance and translation, like uptake of technology or interventions in clinical settings. At the same time, transformative research ideas may have difficulty getting published, making it more difficult for researchers to get funded for future research. Funders should experiment with new review criteria and formats that assess appropriate metrics for a proposal's goals to encourage meaningful progression of established research areas or foster investment in transformational new research areas, as appropriate. Review and strategic planning exercises should include community members, commercial and social entrepreneurs, representatives from companies, state and local agencies, and other partners who depend on and implement research results. This would ensure adequate attention both to near-term progress and long-term innovation. Strategic planning focused on emerging topics should include consideration and identification of the support mechanisms best suited to support the research environments, personnel and input specific to the topic. These reforms may require reimagining reviewer recruitment and training.

Each funding agency should support a mix of grant mechanisms. cooperative agreements and contract vehicles to support studies from the basic to implementation stages, with reviewers that have insight into each research stage represented on review panels. When recruiting reviewers for NIH, it is important to construct panels that include representation from disciplines outside medicine, basic biomedical sciences, and public health. Insights from other health professionals such as pharmacists, nurses, and social workers improve translational success. Representation from universities and colleges of all types, including institutions that have received workforce development and research infrastructure support grants, will bring in important perspectives on how research innovations are translated into practice.

Interdisciplinary research centers drive innovation at academic centers, often by acting as sites of engagement with external partners; as mentioned above, sustained support for these centers is crucial for enabling use-inspired research. At the same time, the contributions of curiosity-driven individuals, working from inspiration from multiple sources, are key to pushing science forward. Center grants should include mechanisms for funding individuals inspired by center projects and findings to pursue new research ideas. Greater funding should also be allocated to expand existing high-risk, high-reward mechanisms like the NIH Director's Awards and the Maximizing Investigators' Research Award (MIRA, R35 Clinical Trial Optional. Of course, maintenance of funding for investigator-initiated research project grants (e.g., R01, R21, R03) at NIH is the backbone for sustained high-risk, high-reward research.

A strong, distributed network of universities and colleges across the U.S. is necessary to support high-risk, high-reward research, by providing a stable environment for researchers, reviewers, educators and community partners. Appropriate support for research infrastructure is crucial to maintaining this ecosystem, including indirect cost recovery that enables institutions at all levels of research intensity to host research and support research training. Streamlining research regulations and processes to lower costs and reduce the barrier to entry for less research-intensive institutions and providing sufficient indirect cost recovery for research are both necessary to maintaining an environment that fosters high-risk, high-reward research. AACP endorses the FAIR (Financial Accountability in Research) Model for indirect research costs and encourages OSTP to work with institutions and the Office of Management and Budget (OMB) to implement a model of indirect cost recovery that encourages rather than stifles high risk, high-reward research.

(viii) How can the Federal government leverage and prepare for advances in AI systems that may transform scientific research—including automated hypothesis generation, experimental design, literature synthesis, and autonomous

experimentation? What infrastructure investments, organizational models, and workforce development strategies are needed to realize these capabilities while maintaining scientific rigor and research integrity?

Workforce training in the use of AI for research is crucial, as is continued research on AI models themselves. The federal government should support the development of high-quality training in AI at both the program and individual levels, including experiential education opportunities and an emphasis on responsible use of AI. Federal funders should also support continued research both on AI models, *e.g.*, how they are grounded in existing literature and databases, and their deployment, *e.g.*, if researchers use appropriate AI models for their research questions and test replication of results. Support for AI use, including computing and personnel resources, should be included in research, research training, and education grants.

(x) How can Federal programs better identify and develop scientific talent across the country, particularly leveraging digital tools and distributed research models to engage researchers outside traditional academic centers?

(xi) How can the Federal government foster closer collaboration among scientists, engineers, and skilled technical workers, and better integrate training pathways, recognizing that breakthrough research often requires deep collaboration between theoretical and applied expertise?

Support for existing research training and career development mechanisms, *e.g.*, NIH F31/F32, T32, K99/R00, K01, K08 mechanisms and the NSF Graduate Research Fellowship Program, should be maintained or expanded. New mechanisms focused on non-traditional research environments should be pursued, including research training and career development awards set-aside for individuals preparing for careers in research and development outside academic research centers. Co-funding research training and workforce development programs with the private sector and providing support for distance collaborations could foster partnership between academic research centers doing basic research, industries applying research results and community and four-year colleges training industry workers. Such programs could also enhance recruitment of scientific talent from outside traditional academic centers.

The Federal government could also modify or expand existing grant mechanisms like the R15, which is currently reserved for institutions that receive NIH annual funding below a threshold level, to support undergraduate and health professional research training at more research-intensive schools, focusing on specific emerging and cutting edge research areas like AI, which these institutions are better positioned to support. Federal research

funders could also require collaboration between research-intensive and research-emerging or teaching institutions in research training grants or provide set-aside funding for research training grants to support such collaborations. This would integrate research training and workforce-focused training and career development.