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the Life Sciences  
from Molecule to  
Organism*

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# The American Physiological Society

9650 Rockville Pike, Bethesda, Maryland 20814-3991 (USA)

November 28, 2011

Sally Rockey, Ph.D.  
Deputy Director for Extramural Research  
National Institutes of Health  
Bethesda, MD

Dear Dr. Rockey,

The American Physiological Society (APS) appreciates the opportunity to comment on managing science in fiscally challenging times. The APS is a professional society dedicated to fostering research and education as well as the dissemination of scientific knowledge concerning how the organs and systems of the body function. The Society was founded in 1887 and now has over 10,000 member physiologists who conduct research at colleges, universities, medical schools, and other public and private research institutions across the U.S. Many of our members depend on funding from the National Institutes of Health (NIH) to sustain their research programs, so these issues are highly relevant to the Society. We have encouraged all of our members to submit their own input and ideas, and we offer the following recommendations on behalf of our membership.

## **Recommendation #1: Consider long-term consequences of funding policy changes**

Of primary importance when considering any changes to the current system of research funding is taking a long-term view of the outcomes. It will be extremely important to evaluate any funding policy changes under consideration to see how they affect the current biomedical workforce, as well as the next generation of scientists. The APS sees it as essential to maintain a workforce that has the skills and knowledge required to solve our nation's current and future biomedical and health problems.

## **Recommendation #2: Maintain success rates**

To assure survival of the biomedical research enterprise, we recommend that steps be taken to maintain success rates for research project grants at a level no less than 30% in the current economy. That goal should be the primary driver of any other financial adjustments that need to be made. Steps should also be taken to maintain the total number of research project grants that are offered.

The last ten years have seen a steady drop in grant success rates from the 30-35% range to the 20-25% range. It is important for investigators to have a reasonable chance of obtaining funding. Without that, a large body of excellent research will not be able to be done, and even more importantly, new investigators will be discouraged from entering the biomedical research arena and will seek other careers. This would have a disastrous long term effect on biomedical research in the United States, and move the country away from its traditional position of leadership in this field.

We realize that success rates and paylines are determined both by the available funds for awards and by the number of applications. In order to maintain success rates at or above 30%, we recognize and support the concept that other financial adjustments will have to be made including some of the scenarios that were explored in the data slides “Ways of Managing NIH Resources.”

### **Recommendation #3: Utilize a diversity of approaches to manage resources**

Each of the scenarios outlined in the data slides carries a number of negative consequences for the scientific community. Individually the proposed changes (i.e. the size of grants, number of grants or total funding allowed per investigator, amount of salary covered by grants, etc) will only marginally improve the situation. We encourage NIH to consider making multiple adjustments and then evaluate the outcomes to determine which pose the least threat to the survival of both the current and future biomedical research enterprise. We continue to feel that maintaining reasonable success rates is paramount even if the size of grants and total funding allowed per investigator are smaller.

Funding policy should continue to emphasize meritorious science. Any limitations placed on the number of grants or total funding allowed per investigator should not be absolute rules, but rather incorporate flexibility provisions to allow funding the best science. We understand that this is the case at the National Institute of General Medical Sciences, where the Council takes a careful look at applications from investigators when their total research support reaches \$750,000. Another important consideration is how to account for situations involving multiple principal investigators on a grant, collaborations, and program project grants if NIH establishes limitations on the number of grants or total funding per investigator.

The APS encourages NIH to look beyond the current portion of the budget that is spent on research project grants (RPGs). Historically the percentage of NIH funds devoted to RPGs, and more specifically R01s, has been a few points higher than it is now. We recommend looking for ways to gradually rebalance the NIH portfolio to increase resources for investigator-initiated research project grants.

The APS also notes that many research-intensive institutions are not equipped to deal with a sudden loss or decrease in research funding and salary support for their investigators. Gradual implementation and subsequent evaluation will be important to determine how the research enterprise is being impacted.

### **Recommendation #4: Continue to prioritize support for early stage investigators**

Over the past few years, the NIH has taken steps to increase success rates for investigators beginning their independent careers. The APS is fully supportive of those efforts and recommends continuing to prioritize funding for early stage investigators.

The recent request for information from the NIH Working Group on the future of the biomedical workforce explored important questions concerning the appropriate size of the workforce. While adjustments to the current system of training may be necessary, we urge you to give consideration to ensuring balance between disciplines. Some fields of research may have too many students entering training programs for the available number of post-graduate career opportunities, while others have too few students entering the pipeline.

It is also important to consider that major changes to the way students are recruited and trained could have unintended long-term consequences. Attempts at reducing the pipeline of investigators by just a few percent in any area may cause a drastic decline in the workforce that would be difficult to recover from.

**Recommendation #5: Minimize administrative and regulatory burden wherever possible**

Federally-funded researchers are subject to a growing set of regulations that cover everything from personal financial holdings and effort reporting to ensuring the humane care and use of animals in research. These regulations serve an important purpose in protecting research integrity. However, complying with regulatory and administrative requirements takes significant time and resources on the part of investigators, institutions and funding agency staff. Looking for ways to minimize administrative and regulatory burden wherever possible will allow some of those resources to be applied to research.

In closing, we would like to reiterate the importance of approaching any changes to funding policy with a long-term view. As the NIH gathers input from the scientific community and considers the pros and cons of policy changes, we hope that more information will be shared with stakeholders.

Sincerely,

A handwritten signature in black ink that reads "Joey P. Granger". The signature is written in a cursive, flowing style.

Joey P. Granger, Ph.D.  
President