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January 11, 2006

Mark Weiss  
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**RE: National Science and Technology Council (NSTC) Education and Workforce Development Comments**

The Association of American Medical Colleges (AAMC) is pleased to submit these comments in response to the *Federal Register* notice of November 16, 2005 on the proposed principles for federal support of graduate and postdoctoral education and training in science and engineering. The AAMC is a non-profit organization representing all 125 accredited U.S. medical schools, nearly 400 major teaching hospitals and health systems, and 94 academic and scientific societies. The AAMC supports a number of professional development groups for institutional leaders. These include the Group on Graduate Research, Education and Training (GREAT) that provides a national forum for the exchange of information and ideas related to biomedical graduate and postdoctoral education and training. GREAT members include faculty and academic administrative leaders of Ph.D., M.D.-Ph.D., and postdoctoral programs in academic medical institutions. We estimate that more than half of the nation's biomedical graduate students and postdoctoral scholars are trained at AAMC institutions.

The AAMC fully supports the National Science and Technology Council's effort to develop consistent principles to guide federal support of graduate and postdoctoral training across Federal agencies. The proposed principles, if uniformly implemented, would establish a trans-agency framework to help ensure consistently high-quality training experiences for all graduate students and postdoctoral scholars. However, we believe that more specificity on implementation is necessary.

*Federal Support of Graduate and Postdoctoral Education and Training Is a Critical Investment in the Future.* The AAMC strongly endorses the need for federal investment in graduate and postdoctoral training to sustain a national resource and foster the participation of a diverse community of graduate students and postdoctoral scholars in science and engineering. Assessing the effectiveness of federal support for education and training in the sciences and engineering is critically dependent on the availability of accurate data on graduate students and postdoctoral

scholars.<sup>1</sup> Current data sources are often several years out of date and significantly undercount researchers with degrees from outside of the U.S. or who hold M.D. but not Ph.D. degrees (e.g., the Survey of Doctorate Recipients). Other sources rely upon data collection by individual institutions that may use different definitions, or do not include the many researchers outside of academic environments (e.g., the Survey of Graduate Students and Postdoctorates in Science and Engineering). Therefore, AAMC encourages a strong statement in support of reliable and consistent data collection and reporting on all federally-supported research personnel and trainees. This will allow accurate quantitation of the magnitude of investment.

*The Federal Investment Portfolio Must Broadly Support Science and Engineering Disciplines.* The AAMC recognizes the need for training in a broad spectrum of scientific and engineering disciplines. This breadth should also encompass the training of clinical researchers, physician-scientists, and researchers in emerging fields. Health research in particular depends on scientists from many professional backgrounds (in addition to physician scientists), including epidemiology, biostatistics, healthcare services and outcomes, veterinary medicine, dentistry, pharmacy, and nursing. Again, full and accurate data about the fields of the trainees will be necessary to assess portfolio diversity.

*Graduate Students and Postdoctoral Scholars Must Receive Quality Education and Training.* The AAMC strongly supports high-quality education and training, and the AAMC's GREAT Group serves as a forum for the exchange of best practices within the biomedical research education and training community. Supportive mentoring, effective career guidance, and cultivation of relevant skills must be available to all graduate students and postdoctoral scholars. Trainees may pursue a broad range of career options, including those outside of scientific research, and should be encouraged to pursue their diverse career goals. Clear definitions of quality must be established; and research mentors, academic departments, and institutions should be held accountable for ensuring high-quality education and training for all research trainees. Data collection on consensually developed indices of institutional performance will be needed to assess whether quality is being achieved.

The federal government can serve a leadership role by continuing to support training activities generously and by ensuring that measures of training quality are included in assessing training programs. Given that 73% of graduate students and 80% of postdoctoral scholars supported by NIH are funded on RPGs, AAMC urges the agency to develop methodologies for assessing the quality of training provided by these mechanisms. NIH should begin promptly to collect such training information by a process that should, for at least several years, be kept entirely separate from and in no way influence the merit review process.

*Federal Contributions Toward Graduate and Postdoctoral Education and Training are Provided in Partnership With Academic and Other Non-Federal Institutions.* The AAMC recognizes that graduate and postdoctoral education and training are conducted through a partnership between

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<sup>1</sup> Several recent National Research Council reports have strongly encouraged Federal agencies to enhance data collecting and reporting strategies to provide a more accurate and timely picture of the training environment (e.g., *Advancing the Nation's Health Needs, Bridges to Independence*).

the federal government and academic and other non-federal institutions. However, AAMC members are concerned that these partnerships not invite increasing shifting of training costs driven solely by federal fiscal expediency.<sup>2</sup> For example, the National Institutes of Health is currently considering changes to its policies for funding tuition, fees, and health insurance on Ruth L. Kirschstein National Research Service Awards (NRSAs), arguing that these costs cannot be controlled by the government and are increasing faster than the NRSA budget. The AAMC responds<sup>3</sup> that individual institutions must retain the option of determining whether to address increasing financial shortfalls in tuition and fees with institutional funds or by reduction in training positions.

*Graduate Students and Postdoctoral Scholars Should Be Adequately Supported To Encourage Their Pursuit of Science and Engineering Careers.* The AAMC has endorsed<sup>4</sup> the recommendations of an internal NIH working group to increase stipend support and other compensation of graduate students and postdoctoral scholars significantly, consistent with their training and experience. Moreover, all graduate students and postdoctoral scholars, regardless of their funding source, should be guaranteed access to affordable health insurance and other benefits. Levels of support should be frequently monitored to be sure they are adequate.

*Federal Agencies Should Collaborate in Areas of Common Interest.* The AAMC agrees that trans-agency collaboration is important, but cautions that the vagaries of federal funding may preclude the provision of identical opportunities across all disciplines. However, we strongly support better information sharing among federal agencies and other stakeholders in the research, education, and training communities.

In a footnote to the proposed principles, a distinction is made among graduate students and postdoctoral scholars appointed as research assistants or associates (funded by federal research grants or contracts), trainees (funded by traineeships awarded to host institutions by federal agencies), and fellows (individually funded by the federal agency). Although the criteria for each funding mechanism are distinct, the trainees supported by these awards should receive similar education and training experiences and equivalent levels of compensation and benefits.

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<sup>2</sup> The issue of cost sharing has been recognized in the principles of the National Science and Technology Council Committee on Science (*Renewing the Federal Government-University Research Partnership for the 21<sup>st</sup> Century*, 1999).

<sup>3</sup> The AAMC responded to the National Institutes of Health's request for comments on alternative proposals for financing of the Ruth L. Kirschstein National Research Service Awards program for training doctoral and post-doctoral students (<http://www.aamc.org/advocacy/library/research/corres/2005/110405.pdf>). The AAMC also commented at the November 30, 2005, town hall meeting arguing that academic institutions themselves should be permitted the choice of whether to either accept less funding per trainee or reduce the total number of trainee positions.

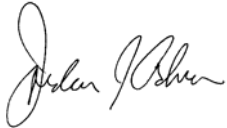
<sup>4</sup> In 2001, AAMC responded to the NIH's Response to the National Research Council Report, *Addressing the Nation's Changing Needs for Biomedical and Behavioral Scientists*. AAMC supported the recommendation to increase NRSA stipends, as well as commensurate stipend increases for those funded on research grants. In 1999, AAMC's GREAT Group endorsed the report of the Association of American Universities Committee on Postdoctoral Education. Recommendations of this report included that the university establish core policies applicable to postdoctoral appointments, such as minimum stipends and benefits and maximum duration of training.

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The proposed principles should apply equally to all federally-supported graduate students and postdoctoral scholars, regardless of funding source.<sup>5</sup>

The AAMC appreciates the opportunity to comment on the proposed principles and enthusiastically endorses this effort by OSTP and the Committee on Science. Should you wish to discuss these ideas further, please contact Jodi B. Lubetsky, Ph.D., Executive Secretary of the GREAT Group, at [jlubetsky@aamc.org](mailto:jlubetsky@aamc.org) or 202-828-0485.

Sincerely,

A handwritten signature in black ink, appearing to read "Jordan J. Cohen". The signature is written in a cursive style with a large initial "J".

Jordan J. Cohen, M.D.  
President

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<sup>5</sup> The 2005 National Research Council report *Bridges to Independence: Fostering the Independence of New Investigators in Biomedical Research* makes recommendations to improve biomedical training for all postdoctoral scholars, regardless of funding source.