

# Funding Nuclear Medicine Research

In late September, the National Academy of Sciences (NAS) released the results of its 13-month, \$700,000 study on the state of the science in nuclear medicine titled “Advancing Nuclear Medicine Through Innovation.” The study was jointly sponsored and funded by the Department of Energy (DOE) and the National Institutes of Health (NIH). The report is important not only for its findings, but also for the reason why it was conducted.

The report is valuable reading for all members of the nuclear medicine and molecular imaging community. Congress first started funding nuclear medicine in 1954, and it was funded continuously until the cuts of 2006. Aggressively sought by your society, the NAS study was prompted by a \$23 million cut from the DOE Office of Sciences’ fiscal year 2006 budget. This eliminated almost all funding for research in the basic sciences of nuclear medicine/molecular imaging. The goal of this study was to identify future needs in nuclear medicine research, materials, equipment, and critical personnel—including physicians, scientists, technologists, and other highly trained medical professionals—to aid in the diagnosis and treatment of human disease. The study conveys a sobering truth: Federal support for basic nuclear medicine/molecular imaging research must be restored or the life-saving diagnostic and treatment procedures of the future will be lost. Our current successes and tools are built on the research of 10, 20, and even 30 years ago. These include the gamma camera, the PET scanner, SPECT, the technetium generator, and the introduction of radioisotope therapies.

A primary finding of the NAS study is confirmation of the vital role of nuclear medicine in delivering on the promise of personalized medicine, which is contingent on medicine’s ability to better understand normal and pathological processes, identify and characterize disease, and predict an individual patient’s response to treatment. As the NAS report states, the expanded use of nuclear medicine techniques has the potential to facilitate the implementation of personalized medicine and, in so doing, could accelerate, simplify, and reduce the costs of delivering improved health care for all Americans.

The report also calls for a significant enhancement of the federal commitment to the nuclear medicine community through reinstating support for basic nuclear medicine research in the DOE Office of Science/Office of Biological and Environmental Research Medical Applications and Measurement Science (MAMS) program. In addition, the report recommends that regulatory requirements for toxicology and current good manufacturing practices facilities be clarified and simplified, notes that domestic medical radionuclide production should be improved, suggests that DOE and NIH consider convening expert

panels to identify critical national needs for training nuclear medicine scientists, and encourages interdisciplinary collaboration, an area in which nuclear medicine has long excelled.

The timing of the study’s release is important. Congress has been preparing to finalize the fiscal year 2008 appropriations for DOE, which funds nuclear medicine/molecular imaging research through an Office of Science research program. DOE is the only federal agency funding this type of basic research, which is critical to the development of new treatments and procedures in the field, to the development of new paradigms of patient care, and to the planning and implementation of new treatment strategies. Without ongoing funding for research, many of these improvements in health care delivery and patient outcomes will never materialize.

Sadly, as the NAS study confirms, the failure to fund the DOE nuclear medicine research program will have much broader consequences than just limiting new initiatives in disease detection and treatment. The effect will also be seen in the loss of support for the training of students, postdoctoral fellows, and young physicians to fill the expanding role of nuclear medicine in patient care. There will also be a large gap in the development of instrumentation and technology that has been so successful in the past in improving patient care today. Geographically, the impact of failure to fund this program will be widespread, as research in molecular imaging/nuclear medicine is presently conducted in national laboratories and numerous universities across the country.

Senate energy and water appropriators have included \$34 million for the MAMS program for fiscal year 2008, with \$20 million explicitly dedicated to nuclear medicine research. Unfortunately, the House version did not address nuclear medicine research funding. As *JNM* went to press, SNM was working toward getting the House to agree with the Senate language and numbers in conference. SNM has called on its members to contact members of Congress through action alerts and has been using the results of the NAS study to further justify federal funding of this program. With this report in hand, we are capitalizing on the study’s findings to urge support of funding for nuclear medicine research. We also need all members of the molecular imaging and therapy community to be actively involved in promoting the benefits of nuclear medicine research and practice to their legislators. ✧



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