Academy of Radiology Research: An Organized Quest with a Goal in Sight

The effort to establish a National Institute of Biomedical Imaging and Engineering at the National Institutes of Health (NIH) moved several steps closer to success over the winter months, reports Edward C. Nagy, Executive Director of the Academy of Radiology Research (ARR). "Key members of Congress have joined the effort," he says, "And we're seeing a growing response among members of the medical community who realize that imaging research is at a turning point—that this is the time for imaging to have a central home at NIH."

The proposed institute would focus on the development of new imaging techniques and technologies with broad clinical and research applications. The institute would also coordinate imaging research activities throughout the federal government and train imaging investigators. Most of the institutes that form NIH have been

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ARR Efforts Important to Nuclear Medicine and SNM Members

Dr. Alazraki serves on the ARR Board of Directors and is the SNM representative to the ARR.

My involvement in efforts to establish a greater presence for imaging at NIH began when I cochaired, with Dr. Douglas Maynard, the Grantsmanship Workshop, which ran for 5 years (1986–1991) under the auspices of the American College of Radiology, the Association of University Radiologists, and the Society for Chairmen of Academic Radiology Departments. It became quite apparent to me that funding for imaging research was not commensurate with the needs. To continue the important work of educating young faculty members in academic radiology departments on successfully competing for research funding and ways to improve their work in the clinical academic environment, I participated in the Radiology Society of North America's research committee.

In 1995, I became nuclear medicine's representative to the newly formed ARR and was appointed to the ARR board of directors. The formation of the Academy held great promise for a concerted effort to establish an imaging center at NIH, and I was proud to represent the SNM, which became a founding member. In 1999, I was elected to the ARR Executive Committee, on which I currently serve. The SNM's participation in the ARR has been fostered for the last 2 years by the SNM Education and Research Foundation, which, consistent with the work of its benefactor, Dr. Ben Cassen, has donated the money to pay annual dues.

Nuclear medicine is a major recipient of NIH funding in support of imaging research. Nevertheless, the establishment of an independent biomedical imaging and bioengineering institute will undoubtedly bring more dollars for research at all levels than are available now. The existing NIH institutes are organ and disease oriented. Many research projects submitted from imaging investigators do not fit comfortably into the stated missions and funding preferences of the existing NIH institutes. A simple example would be a grant request for the development of an improved vascular imaging agent that is not related to 1 specific disease or class of diseases and not related to cancer. Because of the foci of the existing institutes, this proposal, however important or valid, might be less competitive than another that focuses only on 1 organ or disease.

An institute dedicated to imaging and bioengineering fields will not only bring more funding to imaging research but will facilitate funding for a broader range of imaging grants. Our problem of competing within institutes not dedicated to imaging will become history.

—Naomi Alazraki, MD

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organized to concentrate on 1 organ system or disease. The move to establish an imaging center with equal status and an area of expertise that could potentially touch every other institute has met with considerable opposition from some NIH senior staffers.

The ARR, headquartered in Washington, DC, is the successor to the Conjoint Committee on Diagnostic Radiology and was organized to coordinate the effort to establish an imaging center at NIH. The first meeting of the ARR's board of directors was held in March 1995. The ARR functions as an alliance of 4 broad-based radiology societies (American College of Radiology, American Roentgen Ray Society, Radiological Society of North America, and the combined Association of University Radiologists, Association of Program Directors in Radiology, and Society of Chairmen of Academic Radiology Departments) and 17 subspecialty imaging associations, including the Society of Nuclear Medicine (SNM).

The stated mission of the ARR is to identify sources of support for radiology research and to use that research to improve the knowledge base, educational programs, and patient-care activities of radiology. That mission reaches beyond the establishment of an imaging institute at NIH, although this is a current top priority. Other long-term goals and activities include advising the federal government on imaging research priorities, enhancing training opportunities for radiology investigators, integrating federal and university research programs, encouraging investigation of health outcomes of radiology services, and emphasizing the importance of imaging research.

Grassroots Strategy Pays Off

From the beginning, the ARR has relied on its broad network of member organizations and their individual members to lobby for congressional action on the establishment of a separate imaging institute at NIH. Through cooperative mailings, exhibits at society meetings, and a Web site (www.acadrad.org), members of the imaging professions have been urged to send letters or e-mails to Congress in support of the proposed institute. More than 10,000 constituent letters and e-mails have been sent to congressional representatives and senators. Almost all of the 435 House and 100 Senate members have been contacted directly with information from the ARR and through constituent contacts.

In May 1999, Representatives Richard Burr (R-NC) and Anna Eshoo (D-CA) introduced H.R. 1795, the National Institute of Biomedical Imaging and Engineering Establishment Act. Both Burr and Eshoo are members of the House Commerce Committee's Health and Environment Subcommittee, which has jurisdiction over NIH. By mid-January 2000, 114 members of the House of Representatives had agreed to cosponsor H.R. 1795, despite NIH's widely noted opposition to nearly every proposal for a new institute. The ARR scored a notable coup in enlisting the support of Senate Majority Leader Trent Lott (R-MS), who will introduce the Senate version of this legislation. Lott has primary responsibility for the Senate legislative schedule, and it is likely that legislation will be initiated this year.

Legislative support for the new institute was also reflected in the Conference Report on the Consolidated Appropriations Act for Fiscal Year 2000, passed before the Congress adjourned in November 1999. The report noted:

> Continued advances in biomedical imaging and engineering, including the development of new techniques and technologies for both clinical applications and medical research and the transfer of new technologies from research projects to the public health sector, are important. The disciplines of biomedical imaging and engineering have broad applications to a range of disease processes and organ systems, and research in these fields does not fit into the current disease and organ system organizational structure of the NIH. The present organization of the NIH does not accommodate basic scientific research in these fields and encourages unproductive diffusion of imaging and engineering research. Several efforts have been made in the past to fit imaging into the NIH structure, but these have proved to be inadequate.
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> For these reasons, NIH is urged to establish an Office of Bioimaging/Bioengineering and to review the feasibility of establishing an Institute of Biomedical Imaging and Engineering. This Office should coordinate imaging and bioengineering research activities, both across the NIH and with other Federal agencies. The NIH shall report to the Appropriations Committees of the House and Senate on the progress achieved by this Office no later than June 30, 2000.

With this legislation, Congress officially recognized that the present organizational structure of NIH does not accommodate the science of imaging. This legislation lays the foundation for additional congressional action to create a structure to support basic research in the imaging sciences. Academy staff and consultants are

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currently working with the congressional sponsors of H.R. 1795 and S. 1110 to move this proposal forward before Congress adjourns in the fall for the 2000 elections.

Emphasis on Imaging Increases at NIH

The amount of NIH funding for imaging research and applications increased markedly over the past 5 years. Whether this is the result of the innovative technologies and expanding applications for imaging techniques or the pressure being exerted on Capitol Hill—or more likely, both—is difficult to say decisively. But it is certain that increases in spending on imaging projects are outpacing growth in many other NIH areas. Grant funding at the Biomedical Imaging Program at the National Cancer Institute (NCI), for example, has grown from approximately $48 million in fiscal year 1996 to more than $81.5 million in 1999, with more increases due this year. Cancer imaging has been identified as one of the top NCI research priorities from 1997–2000.

One NIH effort to focus additional attention on imaging provided conclusions that seem to point clearly to the need for a new institute. At the annual NIH Bioengineering Consortium (BECON) symposium in June 1999, the topic was "Biomedical Imaging: Visualizing the Future of Biology and Medicine." The final report coming out of this symposium and satellite events recommended an ambitious agenda of multidisciplinary research programs focusing on molecular imaging and image-guided therapy; the development of new technologies, molecular probes, and contrast agents; training programs in molecular imaging; clinical trials that integrate informatics; and efforts to develop cooperation among federal agencies and industry to speed the transfer of scientific advances to clinical practice. Such an active program would clearly need a central home under the NIH structure, and many observers feel that a separate imaging institute could most effectively carry out these diverse goals.

Newsline will continue to follow developments with the ARR and the scheduled June 2000 response of NIH to Congress.

For additional information on the ARR and its work, contact Edward Nagy, Executive Director, by phone at 202-347-5872, by fax at 202-347-5876, or by e-mail at info@acadrad.org.

As a founding member, the SNM supports the ARR in its efforts to establish a national institute for Biomedical Imaging and Engineering at the NIH. The ARR urges SNM members and others in the medical community to send a copy of the following letter to your representatives in Congress:

Dear [Senator or Congressperson]:

I am writing to request that you cosponsor H.R. 1795 [S. 1110], to establish a National Institute of Biomedical Imaging and Engineering at the NIH. Medical imaging has produced some of the most dramatic breakthroughs in the diagnosis and treatment of disease in the past quarter century. Imaging innovations such as computed tomography (CT) and magnetic resonance imaging (MRI) have allowed physicians to detect, diagnose, and treat disease with much less reliance on more expensive, invasive, and painful procedures. Medical imaging also holds the promise of additional breakthroughs in areas such as the early detection of breast, prostate, colon, and lung cancer, as well as the identification of individuals at risk for Alzheimer's disease.

Unfortunately, no major new imaging technologies have been introduced in nearly 20 years, in large part because the combination of resources needed to promote scientific discovery have not been brought together at NIH. The NIH is structured to promote research related to specific diseases or body organs, an approach that has produced spectacular results. But this organization is less well suited to a discipline such as imaging that is applicable to virtually all diseases and organs. At present the decision making is dispersed and uncoordinated, resulting in duplication, inefficiency, and lost opportunities.

Creation of an imaging and engineering institute would support the basic research that is critical to developing new technologies for the next century. Reorganizing and consolidating imaging research activities at NIH would promote better science and more efficient spending of scarce health care dollars.

Please join the bill's sponsors, Representative Richard Burr (R-NC) and Anna Eshoo (D-CA), in this effort to make our medical research program more responsive to the budgetary and scientific challenges we face. I appreciate your consideration of this proposal and look forward to hearing from you.

[Your signature and institutional affiliation]

This letter can be forwarded automatically by checking into the ARR Web site at www.acadrad.org.