# National Caucus of Basic Biomedical Science Chairs

**Meeting in Washington, D.C., June 27-29 2007**

## Executive Summary

**We were briefed by colleagues from the AAMC (D. Moore), FASEB (J. Retzlaff, Dr. H, Garrison) AAAS (K. Koizumi), Joint Steering Committee for Public Policy (L. Marquis), and Research!America (M. Woolley, B. Leinweber) in order to present a united front, with non-conflicting requests, when we visit with members of Congress. Major points of advice:**

1. **To let our representatives in Congress understand that, in spite of the tight Federal budget, the NIH needs to sustain the momentum of new discoveries in health research. This requires an increase in the appropriation for the NIH, since the purchasing power of the NIH has declined over the past few years because of inflation, thereby negating previous generous increases.**

2. **To demonstrate to our young people that there is a national commitment to improve health through research, and to encourage the best of them to enter careers in fighting and preventing disease.**

3. **To inform them of major scientific accomplishments in the fight against disease, especially those resulting from the recent doubling of the NIH budget.**

4. **To stress the dependence on innovation in science and technology in the future of the country's prosperity, including their own local districts, and to explain that the cost of health research is amply repaid by improved health.**

5. **and last but certainly not least, to thank our political leaders for their previous NIH support.**

**We discussed these goals with key members of the House and Senate or their staffs including many of their leaders, especially newly elected officials, on NIH appropriations committees, and members with special interest in the NIH. Mr. T. Lierman, Chief of Staff for House Majority Leader S. Hoyer and well versed in understanding the need for biomedical research, was our dinner guest. We reiterated the need for the Congress to attain adequate budget increases for the NIH, in spite of present federal financial pressures, to maintain our momentum of scientific discovery.**

**We heard from various guests about important activities and changes taking place. Dr. A. Scarpa (Center for Scientific Review, NIH) described the many innovative changes being introduced or considered for the more rapid, effective and appropriate evaluation of research grant applications. Public Affairs leaders of the American Society for Microbiology (J. Shoemaker), the Association of American Universities (P. White), and the American Chemical Society (C. Trupp Gill) described their programs in support of increased federal funding of basic science.**

**Dr. D. Kirch, President of the AAMC, presented current challenges for our medical centers and the strong dependence on clinical activities which creates tension between clinical practice, teaching and research. He emphasized the organization's strong enthusiasm for biomedical research. Dr. J. Berg, Director of the NIGMS, described that Institute's fiscal situation, with some optimism of increased funding for R01 applications this year. He mentioned that the Institute's study sections consider other current support of applicants in their recommendations. T. Mazzaschi, Biomedical Research AAMC, provided thoughts on long range planning in research and teaching by medical faculty, including greater sharing of resources within and between medical centers and the NIH. S. Dentzer of Public Television fame, described the important role of communicating with the general population regarding improved health through research, the great public enthusiasm for research on disease but the difficulties of making this information understandable to a public not sophisticated in the challenges faced by scientists.**

**There was a consistent recommendation that individual scientists should keep their political representatives aware of health research achievements, largely supported by the NIH, and the resulting economic benefits <u>in their own political districts</u>.**

## Minutes

The National Caucus of Basic Biomedical Science Chairs, comprised of presidents and other officers of associations of chairs of the basic science departments of U.S. Medical Schools, now completing its 17th year, held its annual meeting in the Department.of Pharmacology & Physiology, The George Washington University School of Medicine and Health Sciences, Washington, D.C. Twenty representatives attended. Dr. **James Scott**, dean of GWU SMHS welcomed our guests on behalf of our University, and explained his pleasure that leadership in efforts supporting biomedical research could be provided by our Medical Center.

Before meeting with our political leaders, the Caucus was briefed by experts on the political process regarding health research issues, the present status of funding for the NIH, and the apparently dim prospects for desired increases in funding for FY2008. This briefing was especially important because a third of our members at this meeting were new to the Caucus, due to annual turnovers of constituent association officers. We were fortunate that six of the 8 constituent associations were represented by their presidents. The Caucus efforts were coordinated with those of other Washington experts speaking up for the scientific community, to consider our major aims, and to maximize our effectiveness. Meeting with us were the public affairs specialists of the AAMC's *Ad Hoc* Group for Medical Research Funding **(David Moore);** FASEB (Dr. **Howard Garrison** and **Jon Retzlaff**); and Research!America (**Bill Leinweber)**. We were informed that although there was a shift in the make-up of the House and Senate, the available "discretionary federal budget" for FY2008 remained very tight, so that major increases for the NIH at this time could not be expected. The NIH appropriation has risen only slightly since FY2003, and when adjusted for inflation, the real dollar purchasing power of the NIH for FY2007 was 9% below that of FY2003. Fortunately, the final FY2007 budget had received a $570 million increase from that proposed by the previous Congress. The FY2008 budget is still being developed, and at the moment it appears that (after a $300 million transfer to the Global AIDS Fund), the Senate and House requests for the NIH will represent increases of 2.8% and 1.9%, respectively. Because biomedical inflationary increases are calculated as 3.7% annually, a number of scientific organizations have proposed a 6.7% increase in the NIH budget for FY2008 to restore its purchasing power.

In our discussion prior to going to meet our Congressional representatives, it was emphasized that the concept of incremental % increases is not as meaningful to politicians as are the actual dollar increases, and these can become relatively large compared to total governmental expenditures. We should focus on the immense importance of basic research in providing translational achievements in the treatment of disease. We should advocate that our representatives should work with us to realize those aims, but that concepts like success rates do not motivate politicians. However, stating that 80 to 90% of proposed excellent suggestions for innovative research are blocked, is far more meaningful. On the other hand, focusing on national competitiveness was appreciated, and especially the increased availability of jobs in their districts because of expenditures in research could be a strong incentive for their support. Science should be viewed as an investment in the nation's future which would assist the partnership between the federal government and local communities.

It was emphasized that during our visits with Congress we should focus on the importance of basic biomedical science research as the engine that drives medical progress, which deserves to be reinforced, and that attracting and training of new investigators serves an important and necessary role for future continued success. We must thank our political leaders during our planned visit on Capitol Hill for their past and present efforts in support of health research, in spite of the tight federal budget, and that we should describe scientific breakthroughs that occurred, yielding enormous benefits to our population because of past expenditures in health research and biotechnology, and the previous doubling of the NIH budget. We must also emphasize the need to retain our country's leadership in the world in the fight against disease. Our experts encouraged us to escalate our advocacy efforts at the local level also, since our representatives pay enormous attention to contacts in their home districts with constituents. It is essential to invite them to our local medical centers where we should demonstrate to them the contributions to progress in health research made in their own districts.

**Kei Koizumi**, Director of the AAAS Research & Development Budget and Policy Program, explained the basis of the present problems with inadequate funding of biomedical research. Current major emphasis on federal spending has focused on the war in Iraq, weapons development, homeland security, and a catch-up of non-biological scientific and technological support to retain our international competitiveness in basic research. This has involved mainly the National Science Foundation, the Department of Energy and the National Institute of Standards and Technology, which had previously been subjected to declining budgets. Congress has looked favorably on research on information technology, nano-technology, and space craft for a mission to Mars. The Congressional appropriations process is still in flux, and hopefully the biomedical community can make a convincing approach to receive a realistic budget.

**Mary Woolley,** President of Research!America, described essential survey data on the strong desire of our citizens for increases in health research and a willingness to pay for such efforts. Economic growth depends on interactions of all disciplines of science and technology, an investment we need to make and sustain, since it represents creation of new jobs, and actually leads to cost savings when considering the huge expenditures caused by disease. Because the country is largely unaware of where scientific

research is conducted, and who is doing it, scientists should speak up in their home districts on the contributions provided by their own local institutions, should challenge candidates running for political office on their stand on biomedical research, and should offer editorials to local newspapers to explain the need for furthering health research. Advocacy of health research should include disease-related organizations who can demonstrate the benefits for patients with illness because of better understanding of disease through research, but such efforts should not detract from the overall role of health in all areas. In conjunction with the widely circulated Parade magazine, Research!America has initiated a project, called "Your Congress Your Health", to identify for each reader the positions of their political representatives regarding health research. All citizens, including also research scientists, are encouraged to question their political leaders (www.yourcongressyourhealth.org) on their beliefs about the country's policy to improve health and fight disease.

**Lynn Marquis** is the National Coordinator for the Joint Steering Committee for Public Policy, a liaison advocacy group mainly in the areas of genetics, cell biology and neuroscience. The Committee conducts briefings with members of Congress and their Capitol Hill staffs on various disease issues in an effort to educate Congress about scientific achievements and also alerting scientists about upcoming issues relating to their interests. She emphasized the importance of thanking our political leaders for their past support, and the need for scientists to explain in simple terms their complex experimental work. She felt we should not get trapped by decrying the Iraq war, but rather to focus on the local job benefits that can accrue in the geographic area represented by the political leader because of health funding. She expressed concern about junior scientists leaving the field because of the decreasing pace of health research funding, and the increasing attraction for foreign scientists trained in the US to return to their native countries because of the availability of excellent professional opportunities and desirable careers.

The Caucus split into small teams to meet with many of the leaders of the Senate and House of Representatives or their staffs as well as others involved in health research and appropriations for the NIH. Included were staff members of Senator **Harkin (**Chairman, NIH Appropriations Subcommittee), Senators **Kohl, Landrieu, Durbin** (NIH Appropriations Subcommittee), Senators **Obama** and **Brown** (Health, Education, Labor & Pensions Committee) and Senator **Gregg** (Budget Committee). On the House side we met with Congressmen **Walsh** and **Ryan** (NIH Appropriations Subcommittee) and the staffs of Majority Leader **Hoyer, Chairman Obey** (House Appropriations Committee) and of Representatives **McCollum, Jackson,** and **Honda (**NIH Appropriations Subcommittee).

During our discussions we expressed our extreme concern about the future of the NIH budget, which has been rising at less than the science-related inflationary increase ever since the doubling. We explained the need to continue our momentum of funding the best of the many new imaginative ideas arising from recent biomedical breakthroughs, and that an inadequate NIH budget will also discourage the best of our young people from entering careers in science, thereby limiting future achievements. We reminded our business-oriented leaders that the country's economic future depends on scientific and technical innovation. The decline for FY2008 proposed in the Administration budget for the NIH, would, in fact, negate the valuable contributions made by the previous NIH budget doubling. The Caucus provided our political leaders with our brief brochure describing medical advances and scientific achievements resulting from earlier generous increases, as prepared by FASEB. The political leaders or their staff were sympathetic to our goals, generally agreed that the NIH budget needed a boost, but also were cautious in advocating that we limit our request for increases because of the likelihood that a too generous request could lead to *a* presidential veto which the Congress probably could not override, resulting in the adoption of a Continuing Resolution at the level of FY2007, thereby eliminating even the minimal increases being proposed in the current bills. There was also a concern that special demands by advocates for specific disease funding could be detrimental to the overall increase requested for NIH funding

Our dinner guest, **Terry Lierman**, has just become Chief of Staff for Congressman Hoyer, Majority Leader of the House of Representatives He has a wide background in Democratic politics, most recently as Maryland Democratic Party Chairman. He also has had considerable experience in the health field, having served as an administrative officer at the NIH, and providing extensive community service related to fetal alcohol syndrome, pancreatic cancer and the Children's Hospital Mr. Lierman enthusiastically supports biomedical research and NIH funding, and said that his interest in such research began during a stint at NIH as a conscientious objector during the Vietnam War. He indicated that the major problem facing us as we advocate for more NIH funding is that there are too many competing priorities, and that we are very often out-gunned and out-spent by lobbying activities focused on getting more federal funds for other purposes. He suggested that we combine efforts across universities to present a unified and more visible presence on the Hill. However, it was pointed out that universities are currently more focused on "earmarks" that would directly benefit them with a new building or new centers on campus than they are on the message that NIH funding should be increased across the board.

In our relaxed and uninhibited discussion, he discouraged biomedical scientists from selecting a fixed percentage budgetary increase for the NIH, which has limited appeal to politicians. We should calculate as to what we need for specific goals to be achieved, and also to focus on the hopes for progress in disease prevention that result from basic research. Our passion for health breakthroughs could be demonstrated by bringing out ill patients as examples of badly needed research, and especially to perform our requests at the local level, rather than "inside the Beltway". Contacts with political leaders should be brief but pointed to assure them that health research is an investment in the country's future. Preparing news clips and editorials in our local newspapers is extremely effective in reminding the public of the importance of health research, even though additional funding might require increasing taxes. On a local level, he felt it was helpful to circulate any boost to the district economy when a research grant has been awarded, and also to publicize the loss of jobs when a successful ongoing research project has been terminated due to lack of funds. He discouraged the use of mass e-mail communications with our leaders, which can be easily deleted, and preferred faxing.

**Pat White**, Director of Public Affairs of the Association of American Universities (AAU), described the role of his organization in America's scientific research force. Some 60 research universities make up the AAU who receive 60% of federal dollars and

produce half of our Ph.D. output. He advised concentrating on the role of science and technology in the U.S. prosperity, and mentioned several academic centers and biotechnology firms which have become principal contributors to their local economies. He urged that the biomedical community provide some long range vision as to the contributions that sector can make for the benefit of our population in the next several decades, that will convince present day legislators of the value and hope of biomedical research.

**Janet Shoemaker**, Director of Public Affairs of the American Society for Microbiology, described some special concerns pertaining to her discipline, including biosecurity, drug-resistant tuberculosis and antimicrobial resistance. An increase in the "Global Fund" for AIDS/TB/Malaria will be a part of the NIH appropriations proposals. Budget emphasis on the physical sciences, recommended by the National Academy of Sciences report, Rising Above the Gathering Storm, and incorporated into the President's American Competitive Initiative, excludes biological science and even the biological components of the National Science Foundation. Questions are being raised whether there is a serious departure of American scientists for other countries, since China, Korea and India are increasing their investment in science. The increasing proportion of dollars into the Road Map's Common Fund, with a relatively constant NIH budget, reduces the support of other NIH extramural programs, as are the legislative concerns about public health emergencies such as bioterrorism, the influenza pandemic and drug-resistant TB.

**Caroline Trupp Gill** representing the Legislative & Government Affairs Group of the American Chemical Society, described the high percentage of ACS members in health research. Recent national reports have focused on the importance of basic science in our country's future, which have not included strengthening health research. Major fluctuations in funding from year to year are detrimental to the sustained efforts in scientific research, a concept not recognized by our political leaders. The high dependence on our economy on the achievements of chemistry has encouraged ACS to develop a legislative action network and local governmental affairs offices to provide input to members of Congress at the district level, and to remind them of the major employment benefits resulting from discoveries in basic science.

Dr. **Toni Scarpa** is the Director of the Center for Scientific Review (CSR) at NIH, which is responsible for receiving annually about 80,000 proposal applications and reviewing through its study sections 52,000 applications, with the remainder of applications reviewed by the various NIH Institutes. Dr. Scarpa stressed the national importance of NIH peer review, which leads to better and more efficient funding of biomedical science. He contrasted the 100% peer-reviewed NIH with European countries where only 4-10% of all biomedical research is subject to rigorous peer-review. He described two drivers for change at CSR: a rapid expansion of applications (from 48,000 to 80,000 between 2001 and 2005) and the increased reviewer load this creates. Dr. Scarpa made the important point that the number of applications has finally begun to level off in 2006, which should positively impact success rates. In addition, more money should be available for funding new proposals and competitive renewals because more "recycled" funds will be available as more previously funded multi-year awards are ending this year. In an effort to improve peer review, Dr. Scarpa indicated that the recent funding guidelines benefiting new investigators have helped to make the success rate for new investigators comparable to that of more senior investigators submitting a new proposal, but that competitive renewals continue to be funded at a much higher rate than new proposals. Several efforts are underway at CSR to improve study section alignment and performance, shorten the review cycle, improve the funding of significant, innovative and high-impact research, and to limit the cost of the reviewing process. The goal for the review cycle shortening effort is to allow applicants to have 3 reviews of an original application and its amended applications within 1 year. The CSR will be using new text fingerprinting software to automatically assign proposals to appropriate study sections. Dr. Scarpa indicated that about 50% of applications currently request a specific study section, and that 95% of requests for assignment to Internal Review Groups (IRGs) are honored. The CSR is seeking comments on shortening the R01 proposal length from the current 25 pages to either 15 or 10 pages. Benefits include reducing the load on reviewers. Dr. Scarpa also expressed his opinion that the R21 grant was not a desirable substitute for the R01 grant. Finally, he emphasized the value of peer-reviewed research, and said that over a billion people are alive today thanks to NIH-funded research. For instance, research-based advances in the care and treatment of cardiovascular disease have reduced the projected number of heart disease deaths in the U.S. by over 800,000 a year at a cost per U. S. resident, of as little as $3.70 a year!

Dr**. Vince Chiappinelli** reported to the group on a recent meeting at NIH at which he represented the Caucus. The subject was dual use research of concern, which is defined as "biological research with a legitimate scientific purpose that may be misused to pose a threat to public health and/or national security". A draft proposal prepared by the HHS-chartered National Science Advisory Board for Biosecurity was reviewed. The draft attempts to establish procedures for identifying such research projects before work begins on them. The draft recommends that the Principal Investigator be the primary person to identify dual use research of concern and that risk assessment and management be handled generally within each Institution, similar to IACUC or IRB. Only a very small fraction of all biomedical research projects (1-2%) would be expected to fall into this category.

Dr**. Darrell Kirch**, the President of the American Association of Medical Colleges (AAMC) spoke of the current and future major challenges facing academic medical centers. These include a shortage of doctors, especially primary care physicians, just as the baby-boomers enter the ranks of the retired, concerns about conflicts of interest between physicians and pharmaceutical companies, and a lack of diversity (especially under-represented minorities) in academic medicine, particularly at the leadership level. Dr. Kirch is concerned about the financial dependence of academic centers on clinical revenue and the resultant driving emphasis on clinical and hospital activities, leading to tension between clinical practice, teaching and research. Regarding funding for biomedical research, Dr. Kirch made a strong case that higher education and research are so important for the public good that they deserve to be funded through the government. To improve our impact on Congress, better strategic alliances should be forged between AAMC, FASEB, Research!America, the various professional societies and the specific disease-oriented NGOs. However, it is obvious that many at the federal level have a different set of priorities. Of great concern is the fact that the rising costs of funding entitlement programs ensure that there is not enough money left in the federal budget for the "discretionary" funding of biomedical research. We all must grapple with the question of what is a realistic and sustainable federal budget for the NIH.

Dr. **Jeremy Berg,** Director of the National Institute for General Medical Sciences (NIGMS) at NIH, began by explaining that his Institute is different from other NIH Institutes in that it does not focus on a specific research area, but rather has the mission of overseeing general or basic science research and training that either benefits two or more national research institutes or is outside the general areas of other NIH Institutes. NIGMS funds a number of predoctoral and postdoctoral training grants, but the bulk of its budget goes towards funding R01 awards. Major support goes to areas such as molecular biology, biophysics, genetics and clinical pharmacology Dr. Berg pointed out that NIGMS made the decision to eliminate all R21 awards from its portfolio because the R01 was seen as the more appropriate mechanism for the overwhelming majority of proposals. He also said that NIGMS uses more discretion when making funding decisions than most NIH Institutes, taking into account for example how much support a PI has from other active awards. This means that NIGMS does not have as steep a pay line curve as most Institutes. The success rate of R01s dropped at NIGMS from 38% in 2002 to 26% in 2006, but is projected to increase to 29% for FY2007. Regarding the total number of R01s funded at NIGMS, Dr. Berg said this dropped to about 830 per year in 2006 from a high of about 1030 per year in 2003, but that for FY2007 there should be about 950 R01s funded. He also pointed out that across NIH, the total number of R01s funded per billion dollars of NIH appropriation has steadily declined from about 860 in 1996 to about 420 in 2005, due primarily to the large increase in total dollars awarded per grant.

**Anthony Mazzaschi**, Senior Associate Vice President for Biomedical and Health Science Research at the AAMC, suggested we consider the long range implications of a period of minimal growth in NIH funding. It may be necessary to reassess health science training needs in light of such a scenario. If flat funding continues, it should encourage greater sharing of facilities and resources within and among medical centers. Each medical school has special strengths, and simplistic rankings have become obsolete and not a useful management tool. Regarding biomedical research, greater synergy and data sharing was advocated between the intramural and extramural activities of the NIH.

He also discussed new initiatives reconsidering the competencies of medical students and new applicants, especially in regards to the basic sciences. He noted that many questioned the effect of the MCAT and Board examinations in driving undergraduate curriculum decisions. This perception is encouraging a reevaluation of basic science education, including how much should be taught, the nature of the content, and where on the educational continuum it should be taught in order to best meet the needs of physicians of the 21st century.

**Susan Dentzer** is an on-air Health Correspondent for The NewsHour with Jim Lehrer on the Public Broadcasting Service (PBS). She leads a health unit funded by the Robert Wood Johnson Foundation that provides in-depth coverage (up to 12 min of air-time) on heath care and health policy issues. We had requested her input in our struggle for increased health research support since her widely viewed program provides excellent communication with the public . She felt that health research is popular with the public, which wants results but is not familiar with scientific details, the tedious approach to scientific discovery or the way that research is financially supported. Ms. Dentzer made several important points about delivering health-related messages through television. First, it is often difficult to find compelling visual elements when reporting a biomedical research story. Scientists need to engage with journalists in finding the best possible “visuals,” as these are what will truly bring material alive for viewers. Second, scientists need to do a better job at conveying their science message in simple language because most people’s last experience with science was in high school or college. She suggested explaining it as if talking with an intelligent 12 year old for television stories, and to improve the likelihood of being quoted in print articles in the general written news media as well. The word “intelligent” in that last sentence is important, since viewers shouldn’t be talked down to, but they should be addressed in a way that compensates for the fact that they are frequently not familiar with scientific terminology and may find it confusing or off-putting. Another point Ms. Dentzer made is that television viewers cannot go back and re-read something they don’t understand, the way they would with a book or written article. Further, many viewers are distracted by other activities while they are watching television. This underscores the need to make scientific material as accessible as possible. Scientists also need to explain that NIH supports medical research at centers throughout the entire USA, including their local institutions. Ms. Dentzer said that the public remains unaware that NIH funding has not kept up with inflation in recent years, and that this is a powerful message to convey whenever possible. Further, she recommended piggy-backing on hot topics such as stem cell research or Nobel Prize awards because these are heavily covered in television and local newspapers. Nobel Prize winners, whose achievements in health breakthroughs usually have resulted from past NIH support, stimulate enthusiastic discussions, but other illustrious but less sophisticated personalities can often communicate at least as effectively. She encouraged scientists to establish good linkages with local media reporters, as this would allow them to participate more when a particular topic comes up and specific expertise is required. Finally, she recommended taking advantage of the many opportunities opening up to communicate via the Internet – for example, through “blogs” or short video clips posted on various web sites.

Although we probably did not solve the inadequate budget proposals for the NIH for FY2008, our visits on the Hill and enthusiasm may have had some positive effect on future funding, we like to think. Had we not made the effort, such progress would be even less certain!

Respectfully Submitted

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