President’s Message

With Looming Budget Cuts, Vision Research Advocacy and Education Is Vital

In early March, I was pleased to host NAEVR/AEVR Executive Director James Jorkasky here in Los Angeles. Jim was on his way to the American Glaucoma Society’s annual meeting to receive the 2011 President’s Award. I am sure that you join me in congratulating Jim on this recognition, which is noted in this report. You can also read about AEVR’s World Glaucoma Week Congressional briefing, where Jim also had his eyes imaged in real-time with Spectral Domain Optical Coherence Tomography (OCT). I want to thank Joel Schuman, M.D. (University of Pittsburgh Medical Center) for his excellent presentation on the important glaucoma and imaging research funded by the National Eye Institute (NEI).

AEVR’s Capitol Hill education under the Decade of Vision 2010-2020 Initiative also extended into the defense-related vision research arena with a briefing on Traumatic Brain Injury (TBI)-related visual dysfunction. Both Randy Kardon, M.D., Ph.D. (University of Iowa) and Stacey Choi, Ph.D. (New England College of Optometry) spoke about the diagnosis of TBI, with an emphasis on the translation of their research into battlefield-ready diagnostic instruments. AEVR’s education supported NAEVR’s request for Peer Reviewed Medical Research-Vision (PRMR-Vision) funding at $10 million in Fiscal Year (FY) 2012.

NAEVR now spends equal time advocating for defense-related vision research funding as it does for National Institutes of Health (NIH) and NEI funding. Not only did vision researchers receive $24 million in Department of Defense (DOD) awards in FY2010 from PRMR-Vision and the Defense Medical Research and Development Program (DMRDP), but these awards may be the only new source of vision research dollars. As you will read on the back page, NAEVR member Blinded Veterans Association (BVA) has been instrumental in securing support by the Veterans Service Organizations (VSOs) in their FY2102 Independent Budget request to Congress for increased vision research funding at DOD and the Department of Veterans Affairs (VA).

The FY2010 DOD funding, coupled with increased “regular” NEI appropriations and the remaining balance of the $175 million in American Recovery and Reinvestment Act (ARRA) funding for NEI, resulted in nearly $90 million more for vision research in FY2010 over baseline FY2009 funding. That is 150-times our community’s investment in the Alliances!

Fast forward to first-quarter 2011, however, and the research funding outlook becomes significantly less positive. Despite a $1 billion NIH increase proposed in the President’s FY2011 budget, Congress was unable to pass any funding bills, so it has kept the government running through a series of Continuing Resolutions (CR) that fund most programs at the FY2010 level. In early February, the new House Republican leadership proposed a CR to finalize FY2011 that would cut NIH funding to the FY2008 level. That measure failed, and I was pleased that, in late January, ARVO’s Annual Meeting Program Committee educated Congressional offices about the impact of such cuts and delayed appropriations.

Although the President has proposed an FY2012 NIH inflationary funding increase of $745 million over the FY2010 level, his proposal has already been met with severe criticism by most Republicans and some Democrats in Congress, which ultimately controls the budget process. With the looming budget cuts, vision research advocacy and education is more important than ever. But NAEVR’s advocacy is not just confined to funding issues. NAEVR has been vigilant in its opposition to potential changes in NIH’s structure that could cluster the NEI budget into a “Brain” Institute, from which NEI was essentially spun off 42 years ago. And NAEVR has also expressed concern that, if NIH creates a centralized translational research entity, it not constrain NEI’s creativity. In the past, NEI has smartly and effectively expanded upon its limited research dollars through innovative partnerships that has made it a leader in translational research, as acknowledged by NIH Director Francis Collins, M.D., Ph.D.

I appreciate your commitments to NAEVR and AEVR for 2011, and I urge your responsiveness when NAEVR alerts you to contact Congress in support of vision research funding.

Stephen J. Ryan, M.D.
President, NAEVR/AEVR Boards
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Dr. Ryan and NAEVR/AEVR Executive Director
James Jorkasky

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**Contributor Report**

**National Alliance For Eye And Vision Research**

**Alliance For Eye And Vision Research**
Congress Passes Sixth CR to Fund Government in FY2011

Absent final FY2011 appropriations, on March 17 the Senate followed the House in approving a sixth short-term Continuing Resolution (CR) to fund most government programs at the FY2010 level. This latest CR, which expires on April 8, includes $6 billion in funding cuts, following $4 billion in cuts in the previous CR, achieved through the elimination of earmarks and acceleration of some program cuts proposed in the President’s FY2012 budget request. None of these cuts affect NIH/NEI funding.

However, in February, the House Republican leadership introduced H.R 1 (see funding chart), proposed to reduce NIH and NEI funding by 5.3 percent to the FY2008 level. For NEI, this would have meant more than a $30 million cut and 43 fewer research grants—any one of which, as NAEVR has stressed on Capitol Hill, could hold the key to saving and restoring vision. H.R. 1 was rejected by the Senate, as was a Senate version of the bill that flat-funded NIH, on procedural votes where both measures failed to garner the 60 votes necessary to avoid a filibuster.

NAEVR has joined with the medical research advocacy community in opposing any reduction in NIH funding since it would slow research progress and squander invaluable scientific opportunities.

Obama Budget Proposes FY2012 NIH Increase of $745 Million

On February 14, President Obama released his FY 2012 budget proposal which includes a $745 million, or 2.4% increase (compared to FY2010), in NIH funding, from $31 billion to $31.7 billion. The NEI would receive an increase of $12.4 million, or 1.8 percent increase (as compared to FY2010), to a level of $719.06 million from $706.7 million. The NEI has posted its Congressional Justification on its Web site.

NIH Moving Quickly on a Centralized Translational Research Center

NIH has accepted the recommendation from its Scientific Management Review Board (SMRB) that it create a centralized translational research center. NIH has posted on its dedicated feedback.nih.gov Web site its plans for the creation of the National Center for Advancing Translational Sciences (NCATS) and has actively sought input through that site and numerous conference calls with stakeholders. Twice during SMRB deliberations, NAEVR cautioned that any centralized authority should not stifle the creativity of mid- to small-sized Institutes and Canters (I/Cs) in pursuing innovative translational research approaches, as the NEI has done with partnerships within NIH, the Department of Health and Human Services (DHHS), with other government agencies, and with private funding organizations. In mid-February, ARVO submitted comments that specifically addressed NIH’s plan to abolish the National Center for Research Resources (NCRR)—the portfolio of which includes the Clinical and Translational Science Awards (CTSA)—and move its other funding programs into other I/Cs. ARVO urged NIH to carefully analyze the potential implications of this action to prevent conflicts of interest during grant review that can result from moving programs from a Center with a diverse mission to I/Cs with more defined missions.

Per the NIH Reform Act of 2006, the NIH must still present its official NCATS proposal to key Congressional committees for review [House Energy and Commerce (E&C), Senate Health, Education, Labor, and Pensions (HELP), House and Senate Labor, Health and Human Services, and Education (LHHS) Appropriations Subcommittees], to include an analysis of the programmatic and budgetary implications.
On January 28, members of ARVO’s Annual Meeting Program Committee were among the first on Capitol Hill in the 112th Congress to advocate for the finalization of FY2011 NIH appropriations. Since Congress had not yet finalized any FY2011 spending bills, the ARVO advocates requested NIH funding at the $31.8 billion level, as proposed in the Senate omnibus bill from last session, which would ensure that NIH funding keeps pace with biomedical inflation. NIH funding at that level would result in NEI funding of $723.22 million, a $17 million increase.

In 30 meetings during this NAEVR-hosted Advocacy Day, the 11 domestic and 6 international ARVO advocates thanked staffers for FY2009 and FY2010 NIH/NEI funding increases, as well as stimulus funding through ARRA, noting the impact on their departments in terms of breakthrough vision science and employment of highly-trained technical personnel. To emphasize the return on investment, the advocates stressed the potential of their research to improve quality of life and save expenditures to the healthcare system.

Pablo Argueso, Ph.D. (Schepens Eye Research Institute/Harvard University) stated to staff that “the flow of NIH funding not only helps the institutional researcher, but also drives the local economy with non-institutional contracts,” adding that “cutting edge research directly drives industries with cures, which helps to save money on future healthcare costs.” In his visits, John Ash, Ph.D. (University of Oklahoma) emphasized the value of NIH research by challenging staff to “find a government agency that spends money more efficiently than the NIH.” The advocates also described the impact of delayed appropriations, in terms of the continuity of research and retention of trained staff. “If a department does not have bridge or philanthropic funding to retain staff while awaiting full funding of awards, they will need to let staff go, and that usually means that a highly trained person is lost to an institution in another state—or even another country,” said Joel Schuman, M.D. (University of Pittsburgh Medical Center).

As in the past, the international ARVO advocates provided global perspectives on the far-reaching impact of the U.S. biomedical enterprise, in terms of research collaborations and training opportunities.

Earlier that week on January 26, President Obama emphasized the importance of innovation to economic recovery, including biomedical research, in his State of the Union address.
Glaucoma damage is irreversible, so it is critical to detect glaucoma and its progression as early as possible. — Dr. Schuman

how structural changes detected by advanced imaging techniques, such as Spectral Domain Optical Coherence Tomography (OCT), may correlate with vision changes.

Featured speaker Joel S. Schuman, M.D., a clinician-scientist continuously funded by NEI since 1995 who serves as Chairman of the Department of Ophthalmology at the University of Pittsburgh School of Medicine and Director of the Eye Center at University of Pittsburgh Medical Center (UPMC), initially described how the eye is mostly composed of fluid and that increased intraocular pressure (IOP) may rob individuals of both peripheral and central vision. Since it often has no symptoms until vision loss occurs, NEI–funded researchers are studying the disease’s progression, specifically analyzed with respect to structural changes associated with glaucoma and other blinding eye diseases, such as age-related macular degeneration (AMD) and diabetic retinopathy.

To demonstrate that OCT is a non-invasive, high-speed technology, Carl Zeiss Meditec’s Kevin Langton conducted real-time imaging of both of AEVR Executive Director James Jorkasky’s eyes, the images of which were analyzed by Dr. Schuman.

“OCT has been the most rapidly adopted technology in eye care,” said Dr. Schuman, who noted that he was a member of the team that invented OCT, is also a Professor of Bioengineering at UPMC and founded its Glaucoma Imaging Group, where researchers examine the structure-function relationship in glaucoma and other diseases of the eye through the use of various cutting-edge imaging technologies.
Capitol Hill Education

DOD-Funded Researchers Address Diagnosis of Visual Disorders from TBI

On February 22, AEVR's DOV hosted a briefing entitled Vision Research Meeting: Battlefield Needs: Diagnosing Vision Problems Resulting from Traumatic Brain Injury (TBI). Featured speakers Randy Kardon, M.D., Ph.D. (New England College of Optometry) and Stacey Choi, Ph.D. (University of Iowa) Programmatic Committee that managed the awards, stressed that the VRP has attracted the best and brightest of researchers to tackle problems. “The PRMR-Vision line, and the VRP awards it funds, is money well spent,” he stated, adding that “and we need to remember that every day, someone on the battlefield is experiencing a visual problem associated with TBI from blast injuries. These include loss of field of vision in one or both eyes, light sensitivity (photophobia), and uncoordinated eye movements (e.g., double vision), with one or more of these conditions occurring short- or long-term in upwards of 70% of soldiers with TBI.”

Dr. Kardon, who is funded by the VA, DOD, NEI, and private funding organizations, emphasized that, without PRMR-Vision funding, he likely would not be conducting research in that arena. However, he has applied aspects of his larger research portfolio to the problem—better diagnosing TBI-related vision problems—through his research into using the brain's natural reflexes to visual stimuli. These include the pupil's light reflex (contractions of the pupil based on amount of light sensed by the eye), natural eye tracking of visual targets, and the activation of eyelid muscles in response to light. One goal is to develop a portable, handheld device—perhaps even through a smartphone application—to quickly and inexpensively analyze the pupil's reaction to light. “Since about 70 percent of the brain's nerve connections are engaged in visual processing, a soldier could technically have 20/20 vision yet have visual disorders since the processing is perturbed. Studying the body's natural reflexes provides one way of determining the extent of the problem.”

Dr. Choi noted that the award is her first major grant and first DOD award for NECO. Her research involves in vivo retinal imaging to detect microscopic changes in the retina—the photosensitive tissue at the back of the eye—to diagnose TBI and facilitate earlier intervention to improve visual outcomes. Dr. Choi is using Adaptive Optics (AO) technology that was initially developed for military use and was then applied to the space program. AO corrects for distortions in optical imaging systems and essentially “supercharges” it, so in combination with current retinal imaging systems such as Optical Coherence Tomography (OCT) and Scanning Laser Ophthalmoscope (SLO), it can detect changes down to the cellular level. Due to its sensitivity, AO retinal imaging may be especially valuable as a diagnostic tool in cases of mild TBI or in situations where a blast was too weak to cause damage detectable by standard screening standards, yet visual symptoms exist. As with Dr. Kardon’s research, Dr. Choi’s ultimate aim is to develop a compact battlefield-ready instrument that can diagnose TBI in-theatre. “Once validated, this system could also find applications diagnosing civilian TBI from various injuries, as well as several retinal and optic nerve diseases,” stated Dr. Choi.

See back page for details about PRMR-Vision funding

NAEVR Requests FY2012 PRMR-Vision Funding at $10 M, Cites Statistics

Traumatic eye injury from penetrating wounds and TBI-related visual disorders ranks second only to hearing loss as the most common injury among “active” military:

—Traumatic eye injuries account for upwards of 16 percent of all injuries in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF).
—Eye—injured soldiers have only a 20 percent return-to-duty rate as compared to an 80 percent rate for other battle trauma injuries.
—The VA estimates that 43,000 OEF/OIF veterans have been diagnosed with eye disorders, including TBI–related visual disorders.
—The VA also estimates that upwards of 70 percent of all TBI patients experience short- or long-term visual disorders, including double vision, sensitivity to light, inability to read print, and other cognitive impairments.

Left to right: Joint DOD/VA Vision Center of Excellence (VCE) Director Colonel Donald Gagliano, M.D., with Stacey Choi, Ph.D. (New England College of Optometry) and Randy Kardon, M.D., Ph.D. (University of Iowa)
Rich Cardillo, the Military Sports Program Coordinator at the US Association of Blind Athletes, discussed his program and how it is bringing hope to sight-impaired veterans. He can be contacted through military@usaba.org

As in past years, the Veterans Service Organizations’ (VSO) FY2012 Independent Budget has called for increased funding for medical research at the VA, including that into TBI-related visual dysfunction and vision implants, as well as increased funding for blind rehabilitation. It also recommends sufficient funding for the PRMR–Vision research program to address combat–related eye injuries.

“Thanks to NAEVR member Blinded Veterans Association (BVA), we have maintained constant contact with the VSOs and Military Service Organizations (MSOs), including a February 18 meeting hosted by the VCE, AAO, and AOA, as well as at a March 2 meeting held in the U.S. Capitol hosted by House Minority Leader Nancy Pelosi and 15 Ranking/senior Democrats on key House committees,” said NAEVR’s James Jorkasky.

NAEVR Meets with VSOs to Ensure Support for FY2012 PRMR-Vision Funding

February 18 VSO Meeting

Colonel Donald Gagliano hosts VSO attendees

VCE’s Dr. Mary Lawrence, BVA’s Tom Miller and Dr. Tom Zampieri, Colonel Gagliano and AAO’s Rebecca Hyder

March 2 Capitol Hill Meeting

Center: House Minority Leader Nancy Pelosi (D-CA) hosted the annual meeting with VSOs and MSOs to address active military and veterans issues, including unemployment, mental health, and oversight of the VA budget. Cong. Tim Walz (D-MN, picture left), a House Veterans Affairs Committee member and highest ranking enlisted soldier ever to serve in Congress, sponsored a “Dear Colleague” letter in support of PRMR-Vision funding in FY2011 appropriations

Attendees included 15 Democratic House Members with Ranking and senior status on committees of jurisdiction, including Armed Forces, Budget, Homeland Security/Intelligence and Veterans Affairs.

DOD Announces $13 Million in FY2010 DMRDP Awards to Vision Researchers

The DOD’s Congressionally Directed Medical Research Program (CDMRP) has announced awards to researchers who submitted grants in the FY 2010 Defense Medical Research and Development Program (DMRDP), and nine vision researchers received a total of $13 million in awards to date, including three Basic Science Awards and six Applied Research and Advanced Technology Awards. Among the eye and vision projects selected for funding were projects dealing with corneal healing after exposure to explosive devices, development of assistive devices for veterans with TBI, and restoring vision after optic nerve injury.

Congress funded the DMRDP at a level of $372M in FY2010, and has announced 117 awards to date. This program is separate from DOD’s PRMR-Vision program, which funded 12 researchers for a total of $11 million in the FY2009/2010 cycle, which addresses eight gaps in vision research, as identified by DOD.

Contact NAEVR’s David Epstein to be added to an email “DOD Interest List” to be notified of all DOD-related research announcements.

Visit the Defense-related Vision Research section of NAEVR’s Web site for more details