

**BLINDED VETERANS ASSOCIATION
TESTIMONY**

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**HOUSE COMMITTEE ON VETERANS AFFAIRS
SUBCOMMITTEE ON HEALTH**



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INTRODUCTION

Chairman Michaud, Ranking Member Miller, and Members of the House Veterans Affairs Subcommittee on Health, on behalf of the Blinded Veterans Association (BVA), thank you for this opportunity to submit our testimony on VA Research Programs. BVA is the only congressionally chartered Veterans Service Organization exclusively dedicated to serving the needs of our Nation's blinded veterans and their families. BVA has now worked for more than 62 years with VA Blind Rehabilitation Service in order to improve VA's ability to provide high quality outpatient and inpatient rehabilitation training for blinded veterans.

BVA appreciated the approval granted earlier this year by former Secretary Nicholson and Under Secretary of Health Dr. Kussman for a three-year, \$40 million expansion of the full continuum of blind and low vision outpatient rehabilitation services. With the now growing numbers of wounded entering the VA health care and benefits system from both Operation Iraq Freedom (OIF) and Operation Enduring Freedom (OEF), along with the large numbers of aging veterans with degenerative eye diseases, this expansion of clinical services is vital.

As of September 25, 2007, a total of 27,767 servicemen and women had been wounded in Iraq. The number of men and women requiring air medical evacuation from Iraq between March 19, 2003 and September 17, 2007 was 8,298, of which 1,162, or 13 percent, had sustained combat eye trauma. The 13 percent figure represents the highest percentage of eye wounded for any of the American wars of the past 100 years.

The staggering nature of these numbers reflects the probability that young veterans will, in the very near future, depend on VA blind and low-vision services in order to live independently in their own homes and, hopefully, enter the workforce once they have fully recovered from their injuries. According to the Defense Veterans Brain Injury Center (DVBIC), some 3,900 of the Traumatic Brain Injured personnel have sustained injuries sufficiently severe that they are experiencing neurosensory complications. Epidemiological Traumatic Brain Injury (TBI) studies have found that 80 percent of the these 3,900 complain of visual symptoms related to their TBI while 62 percent have associated neurological visual disorders of diplopia, convergence disorder, photophobia, ocular-motor dysfunction, and an inability to interpret print. Some TBIs result in visual field loss with enough loss to meet the standard for legal blindness. Like other generations of disabled veterans who have desired to live independently, the current generation of OIF and OEF veterans deserves the same opportunity.

PREVALENCE AND INCIDENCE OF BLINDNESS

Low vision or blindness affects one in 28 Americans over the age of 40, which amounts to approximately 3.3 million Americans. This 2004 figure, when broken down, consists of 2.3 million Americans with low vision and about one million being legally blind. Every year, 200,000 Americans develop age-related macular degeneration, which is the most common cause of blindness in people over age 65. Diabetic retinopathy is the most frequent cause of new blindness in individuals between 40 and 65. People who move from visual impairment to blindness have a 50 percent greater chance of becoming injured or depressed and a 2.5 to 3 times greater chance of needing skilled nursing or a long-term care facility.

Approximately 648,000 Americans age 80 and older are blind. While only 4.3 percent of the 65 and older population live in nursing homes, 16 percent of those who are visually impaired

and 40 percent of those who are legally blind reside in nursing homes with an estimated cost of close to \$11 billion in direct nonmedical costs for seniors with visual disorders. By 2020, the number of Americans age 40 and over with low vision or blindness is projected to reach 10.5 million, almost three times what it was in 2004.

VA estimates that there are currently 169,000 legally blinded veterans throughout the country, of which 47,450 are enrolled in Veterans Health Administration (VHA) services. The number is projected to reach 55,000 within ten years. In addition, blindness within the total veteran population of 24 million is expected to increase over the next two decades, just as it is increasing within the general American population from glaucoma, macular degeneration, diabetic retinopathy, and cataracts.

It should be clear to Members of this Committee that a new generation of OIF and OEF blinded and impaired low vision veterans will require specialized research programs to meet their needs. The older veterans who are now beginning to lose their sight have equally important needs. Rehabilitation research programs for both groups and their families must be individualized.

ECONOMIC AND SOCIAL IMPACT

- Of the \$68 billion annual cost of vision impairment and eye disease as estimated by the National Eye Institute, the annual financial burden to the American economy of blindness and low vision in adults age 40 and over--driven in large part to advanced macular degeneration, cataracts, diabetic retinopathy, and glaucoma--is estimated at \$51.4 billion. This includes \$16.2 billion in direct medical costs, \$11.2 billion to other direct costs, and \$8 billion in lost wages and productivity, as well as \$16 billion in excess monetary impact due to vision loss. The following points illustrate the potential importance of vision rehabilitation research in reversing the negative consequences of loss of sight in our veteran population. It is seven times more expensive to provide nursing home care for a blind individual than for one that is trained and able to function independently at home. Falls associated with vision loss is the sixth leading cause of nursing home admissions.
- “The Employment Experience of Persons with Limitations in Physical Functioning,” a University of California study published in 1999, found that even after adjusting for age and gender differences, persons reporting functional limitations are less than half as likely to be in the labor force as those with no functional limitations. Part-time employment and job loss are also more common among persons with functional limitations. Three quarters of those experiencing a job loss reported that the loss created a major problem in their lives. Only half of those with no limitations reported that the problem created by the loss was a major one.
- Literature reviews on employment among persons with disabilities indicate that such persons experience lower labor force participation rates, higher unemployment rates, and higher rates of part-time employment than persons without disabilities (Yelin, 1997; Bennefield & McNeil, 1989). These findings are consistent across numerous national surveys, including the Current Population Survey (CPS), Survey of Income and Program Participation (SIPP), the National Health Interview Survey (NHIS), a survey of Trupin

and Armstrong in 1998, and a survey of Trupin, Sebesta, Yelin, and LaPlante in 1997. Disabilities in these studies are defined as factors that limit work capacity and functional activity (McNeil, 1993).

- The National Health Interview Survey (NHIS), conducted by the National Center for Health Statistics (NCHS) and reported in a March 2003 article, revealed that working age individuals with visual impairments had lower employment rates and lower mean household incomes than those without visual impairments. The employment rate was 54 percent for the severely visually impaired age 18-54 in statistics compiled in 1994-95.
- The National Organization on Disability Research found that, despite improvements in transportation during the past decade, inadequate or inaccessible transportation was reported by 30 percent of the disabled. The lack of transportation made employment, social participation, and commercial activities less likely, causing increased depression and medical costs.
- In the aforementioned study, lower mean household incomes and lower employment rates were found among those with disabilities related to mobility (43.3 percent rate of employment), agility (46.0 percent rate of employment), speaking (41.7 percent employment), mental function or ability to learn (47.5 percent employment), hearing loss disability (62.7 percent employment).
- A study by Hendricks, Schiro-Geist, and Broadbent (1997) at the University of Illinois showed a link between disability and employment outcomes for those who had, from 1948 to 1993, completed both a university education and rehabilitation services. Using a regression analysis for those disabled with a degree, the study revealed a salary gap of 8.3 percent between disabled and nondisabled workers. While this and similar other studies have found that the disabled with higher education and rehabilitation earn more than the disabled without this level of education and training, the income levels and earning capacity are still lower in all comparisons with working age non-disabled individuals.
- The National Council on Disability (NCD) today October 1, 2007, on the first day of National Disability Employment Awareness month, released a report that presents the best practices in the public and private sectors and the promising public policies and initiatives that increase employment opportunities for people with disabilities. However, the employment rate of working age people with disabilities remains still only half that of people without disabilities (38 percent compared with 78 percent in 2005).

NEUROLOGICAL IMPACT OF TBI DYSFUNCTION

Perception plays a significant role in our ability to live life. It aids in providing information about the properties in our environment and allows us to act in relation to those properties. In other words, our perceptions provide us with the means to experience our environment and live within it. We perceive what is in our environment by a filtered process that occurs through our complex neurological visual system. Although all senses play a significant role, the visual system is one of the most important, providing more than 70 percent of our

sensory awareness. With various degrees of visual loss, we are no longer able to clearly adjust and see our environment, resulting in increased risk of injuries, loss of functional ability, and unemployment. Impairments range from an inability to successfully navigate one's visual field to loss of visual acuity, loss of color vision, photophobia, and difficulty in recognizing faces.

Among the numerous ways one can acquire visual deficits, and a leading one at that, is injury to the brain. Damaging various parts of the brain can lead to specific visual deficits. Although some cases have reported spontaneous recovery, complete recovery is unlikely and early intervention is critical. Currently complex TBI-visual research is being examined in an attempt to improve the likelihood of recovery. The training of certain areas of the brain has been found to improve vision deficits in some disorders. Nevertheless, researchers have stressed that the extent of recovery can be limited and will usually require long term follow-up often with specialized adaptive devices and prescriptive equipment.

The brain is the most intricate organ in the human body. Visual pathways within this vital organ are also very complex. Due to the interconnections between the brain and visual system, damage to the brain can bring about various cerebral visual disorders. The visual cortex has its own specialized organization, causing the likelihood of specific visual disorders if damaged. The occipitotemporal area is connected with the "what" pathway. Thus, injury to this ventral pathway leading to the temporal area of the brain is expected to affect the processing of shape and color. This can make perceiving and identifying objects difficult. The occipitoparietal area (posterior portion of head), on the other hand, relates to the "where," or "action" pathway. Injury to this dorsal pathway leading to the parietal lobe will increase the likelihood of difficulties in position (depth perception) and/or spatial relationships. In cases of injury, one will find it hard to determine an object's location and may also discover impaired visual navigation. It is also highly unlikely that a person with TBI will have only one visual deficit. He/she will usually experience a combination of deficits due to the complexity of the organization between the visual pathway and the brain. The most common cerebral visual disorder after brain injury involves visual field loss. The loss of peripheral vision can be mild to severe enough to result in legal blindness. It requires specific visual field testing to be correctly diagnosed and different prescribed devices to adapt to this loss. While the DVBIC reports about 10% as severe open head injuries, most TBI cases are closed head injuries that can result in a variety of visual deficits from overt to subtle.

In addition to considering these complex neurological effects on the patient, BVA would ask Members of this Subcommittee to consider the huge emotional effects of TBI on the service member or veteran when deciding what level of support should be given to research in this area. These emotional effects may be equaled or even surpassed by those inflicted on the patient's family. Brain injuries are known for causing extreme distress on family members who must take on the role of caregiver in addition to facing the many other challenges associated with this type of injury to a son, daughter, father, mother, brother, sister, or even an extended family member.

VA MEDICAL AND PROSTHETICS RESEARCH

BVA has supported investments in veteran-centered research projects within VHA. Such projects in the past have led to an explosion of knowledge that has advanced the understanding of many different diseases and unlocked strategies for prevention, treatment, and cures. Additional funding is needed to take advantage of the burgeoning opportunities to improve the quality of life for our blinded and low vision veterans and for the Nation as a whole. VA must

concurrently address the needs of its longstanding patient base as well as the evolving challenges being presented by our newest war-wounded veterans. With increased directed vision research funds, it is expected that VA will begin pursuing the following in Fiscal Year 2008: new adaptive prosthetics, aging vision diseases, and specialized vision research. This funding increase should also allow for an increase in funding for Rehabilitation Research & Development (RR&D), now so desperately needed with the ever-increasing numbers of combat eye injuries. BVA points to the success of new retinal research of great importance, the continuation of RR&D initiatives in Boston, where investigators are working on the development of artificial retinal implants for those with vision loss due to retinal trauma.

RECOMMENDATIONS

Examples of four separate categories identified by the National Alliance for Eye and Vision Research (NAEVR) as vital vision research are listed below. NAEVR believes that such research is sufficiently significant that it be supported by Members of Congress and utilized by both DoD and VHA.

Eye Trauma, Healing, Infection/Inflammation Control, and Rehabilitation

This research relates to acute and chronic implications of corneal and retinal eye trauma, healing, infection/inflammation control, and associated vision rehabilitation.

- Treatment of eye trauma caused by a physical, chemical, or biological agent insult; associated healing; and infection/inflammation control (including infections associated with skin around the eye, the corneal surface, or within the ocular globe, and the impact of environmental conditions that promote infection).
- Ocular surface reconstruction and treatment of corneal damage by corneal transplantation or through corneal stem cell transplantation.
- Retinal and optic nerve regeneration (through identification of the genes involved and associated gene therapy, or through other biomedical processes).

Visual Function/Visual Acuity

This research relates to the metabolic and physiological processes that relate to visual clarity, contrast sensitivity, and spatial orientation.

- Impact of metabolic modulation or stress on visual acuity and contrast sensitivity (i.e. effect of lowered blood glucose levels on central vision).
- Visual image processing (better understanding of the biological/electrochemical interface in the vision process to improve acuity and advance “artificial vision” and other assistive technology).
- Sensory dysfunction associated with TBI, such as extreme light sensitivity (photophobia).
- Spatial orientation processing (relation of motor control and perception, especially relating to depth perception of objects in a visual field) to enhance peripheral vision.
- Next-generation refractive error correction and vision augmentation research (i.e. LASIK, visual implants/prostheses, and associated corneal healing issues).

Vision Health Disparities

This research relates to characterization of visual disparities based upon gender, race, or age, and determination of the underlying physiological basis to develop treatments and therapies.

- Epidemiological studies of military populations to determine extent/physiological basis of vision health disparities (i.e. greater incidence of glaucoma, cataracts, and diabetic retinopathy in the African American/Native American/Hispanic populations).
- Research into low vision caused by traumatic eye injury or chronic eye diseases such as age-related macular degeneration or glaucoma.
- Age-related macular degeneration research (leading cause of blindness in the United States and the leading cause of blindness in Americans age 60 and over).

Emerging Adaptive Technology Research

- Optimal vision rehabilitation management after acute injury, facilitating the advancement of evidence-based best practices for blind and low vision rehabilitation. This could become possible by the joint funding of RR&D and HSR&D projects that target the development of rigorous, solid best practices guidelines with a strong emphasis on vision loss resulting from neuro-trauma. It would also address visual impairment concerns of minority veterans, rural veterans, and other key target groups.
- Establishment of a Blind Rehabilitation Service-focused technology evaluation and assessment center in conjunction with experienced blind agencies charged with identifying the highest quality of vision rehabilitation through independent, scientific testing on both devices and training. Emphasis would be on quick, timely turn around of results so veterans can access these newly proven adaptive technologies.

CONCLUSIONS

Serious combat eye trauma occurring in Operation Iraq Freedom and Operation Enduring Freedom has become the third most common injury in both of these conflicts. Only PTSD and TBI are now more common. We urge all members of this Subcommittee to support H.R. 3558, the Military Eye Trauma Treatment Act of 2007. The act creates a Center of Excellence and Eye Trauma Registry. Already having included the provisions for the establishment of PTSD and TBI Centers of Excellence in the Wounded Warrior Act, Congress could now, with this critical legislation, substantially improve the multidisciplinary coordination, treatment, rehabilitation, and research of eye trauma as it relates to TBI. Visually impaired service members and veterans within both the DoD and VA systems are depending on passage of this bill. We respectfully request that it be passed soon.

BVA supports specialized, directed research programs in the area of vision that will benefit the aging population of blinded and visually impaired veterans. The Association also strongly supports language in the House Armed Services appropriations that includes recommendations for more research for traumatic vision injuries. Together with NAEVR's advocacy, BVA strongly requests that "Eye and Vision Research" maintain its eligibility for funding within the Congressionally-Directed Medical Research Program (CDMRP) in FY 2008

Department of Defense (DoD) appropriations. BVA also believes that such funding must be significantly increased from the limited \$4.8 million appropriated in FY 2007.

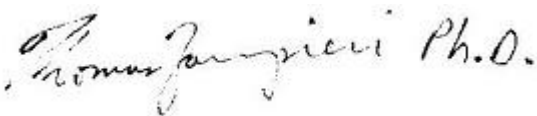
Chairman Michaud and Ranking Member Miller, BVA expresses thanks to both of you again for this opportunity to present our testimony. The current need to increase VA research is tremendous when considering the overwhelming numbers of veterans suffering from traumatic visual injuries, traumatic brain injury dysfunction, and age-related causes of blindness. The future strength of our Nation depends on the willingness of young men and women to serve in our military. This willingness depends, in turn and at least in part, on the willingness of our government to meet its full obligation to them as veterans.

DISCLOSURE OF FEDERAL GRANTS OR CONTRACTS

Blinded Veterans Association

The Blinded Veterans Association (BVA) does not currently receive any money from a federal contract or grant. During the past two years, BVA has not entered into any federal contracts or grants for any federal services or governmental programs.

BVA is a 501c(3) congressionally chartered, nonprofit membership organization.



THOMAS ZAMPIERI BIOGRAPHY

Thomas Zampieri is a graduate of the Hahnemann University Physician Assistant Program (June 1978). He obtained a Bachelor of Science degree from State University of New York and graduated with a Masters Degree in Political Science from the University of St. Thomas in Houston, Texas, in May 2003. Mr. Zampieri completed his Political Science Ph.D. dissertation and was awarded his degree by Lacrosse University December 16, 2005. He is employed as the National Director of Government Relations for the Blinded Veterans Association, a congressionally chartered Veterans Service Organization founded in 1945.

Mr. Zampieri served on active duty as a Medic in the U.S. Army from 1972 to 1975. Upon competing Physician Assistant training, he served from September 1978 to August 2000 as an Army National Guard Physician Assistant, retiring as a Major. During this time, he was involved in several military medical training programs and schools, successfully completing the Army Flight Surgeon Aeromedical Course at Fort Rucker in 1989 and the U.S. Army Medical Department's Advanced Officer Course at Fort Sam Houston, Texas, in 1992.