NAEVR
National Alliance For
Eye And Vision Research
Serving as Friends of the National Eye Institute

1801 Rockville Pike, Suite 400
Rockville Maryland 20852
James Jorkasky, Executive Director
240-221-2905; jamesj@eyeresearch.org

WRITTEN TESTIMONY IN SUPPORT OF INCREASED FISCAL YEAR (FY) 2018 FUNDING FOR THE NATIONAL INSTITUTES OF HEALTH (NIH) AND THE NATIONAL EYE INSTITUTE (NEI)
LABOR, HEALTH AND HUMAN SERVICES, EDUCATION AND RELATED AGENCIES SUBCOMMITTEE OF THE HOUSE COMMITTEE ON APPROPRIATIONS
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EXECUTIVE SUMMARY

NAEVR urges Congress to support a $2 billion NIH funding increase in each FY2017 and FY2018 to rebuild NIH's discretionary funding base—especially as it has lost 22 percent of purchasing power since FY2003, in terms of constant dollars—and to ensure a pattern of sustained and predictable funding it began with the $2 billion NIH increase in FY2016. The FY2017 and 2018 increases should be to the NIH base—in addition to the supplemental funding for specific projects in the *21st Century Cures* Act—reflecting real growth above biomedical inflation, estimated at 2.8 percent in FY2018.

NAEVR also urges Congress to fund the NEI at $741 million in FY2017—a $33 million increase over FY2016, as proposed by the Senate Appropriations Committee, to fund research to save sight and restore vision. For FY2018, NAEVR urges Congress to fund the NEI at $800 million to continue to restore our nation's commitment to vision research, since the Institute lost nearly 25 percent of purchasing power since FY2003. The FY2016 increase in NEI funding to an operational budget of $708 million reflected only a 0.8 percent increase over its pre-sequester FY2012 funding level, meaning that it had taken four fiscal years to begin to grow its budget after the disastrous $36 million sequester cut in FY2013. We must maintain the momentum of vision research.

NEI'S BUDGET IS NOT KEEPING PACE WITH THE BURDEN OF EYE DISEASE

NEI's FY2016 enacted budget of $715.9 million—reduced to a $708 million operating budget due to pass-throughs—reflected the first time in four fiscal years that its operating budget exceeded that of the pre-sequester FY2012 funding level of $702 million. In the four years it has taken the NEI budget to grow a modest 0.8 percent, it has experienced the compounded loss of purchasing power due to biomedical inflation rates ranging from 2 to 2.8 percent. During that timeframe, NEI's operating budget was also reduced as a result of a transfer back to the NIH Office of AIDS Research (OAR) for funding of the successfully completed NEI-sponsored Studies of the Ocular Complications of AIDS (SOCA). Although OAR's funding was not committed indefinitely, its return to NIH Central in the amounts of $5.6 million (FY2013), $6.9 million (FY2014), $7.4 million (FY2015) and $7.9 million (FY2016) have essentially cut NEI's budget further, resulting in new baselines upon which funding increases have been calculated.

During FY2016, a number of major studies issued that provide insight into the future burden of eye disease and blindness, including:

- In a May 2016 *JAMA Ophthalmology* article, NEI-funded researchers reported that the number of people with legal blindness will increase by 21 percent each decade to 2 million by 2050, while best-corrected visual impairment will grow by 25 percent each decade, doubling to 6.95 million people—with the greatest burden of visual impairment and blindness affecting those 80 years or older.
- In an August 2016 *JAMA Ophthalmology* article, the Alliance for Eye and Vision Research (AEVR, NAEVR's educational foundation) reported that a

majority of Americans across all racial and ethnic lines describe losing vision as having the greatest impact on their day-to-day life.

In September 2016 the National Academies of Sciences, Engineering, and Medicine (NASEM, formerly the Institute of Medicine, IOM) issued a report entitled *Making Eye Health a Population Health Imperative: Vision for Tomorrow.* Recognizing that vision and eye health have not received the investment they warrant with respect to public health, NASEM presented nine recommendations regarding a national strategy for vision loss prevention that make a direct call for government action—especially by the Department of Health and Human Services that would directly engage the NEI—including a "Call to Action" and "Coordinated Public Awareness Campaign" to reduce the burden of vision impairment across the lifespan and promote policies and practices that encourage eye and vision health, as well as the creation of an "Interagency Workgroup" to develop a common research agenda that targets the leading causes, consequences, and unmet needs of vision impairment.

NEI RESEARCH IS VITAL IN MEETING VISION LOSS PREVENTION GOALS

NEI-funded vision research is critical to the NASEM report's goal of transforming vision impairments from common to rare and to eliminating correctable and avoidable vision impairments by year 2030. Without adequate funding, however, the NEI may not be able to fund breakthrough research—two examples of which include:

- NEI's *Audacious Goals Initiative* of regenerating neurons and neural connections in the eye and visual system, thereby restoring vision and returning individuals to productive, independent, and quality lives. Planned for the next 10-15 years, success would transform life for millions of

Americans with eye diseases and have major implications for the future of the practice of medicine with respect to vision and neurological disorders.

- NEI's planned prize competition, the 3-D Retina Organoid Challenge. The challenge for the vision community is to build a robust, physiologically relevant 3-D retina organoid system that can be used to develop treatments for diseases that affect the retina—the light-sensitive back of the eye.

Our nation's past NIH/NEI investment has resulted in tools to diagnose and monitor disease, as well as drug therapies to treat them. One such example is Optical Coherence Tomography (OCT), which is a non-invasive, high-speed, high-resolution imaging technology that displays a three-dimensional cross-sectional view of the layers of the retina. OCT is used to diagnose and monitor progression of diseases such as Age-related Macular Degeneration (AMD, the leading cause of vision loss) and Diabetic Retinopathy, the leading cause of vision loss in the working-age population. OCT has enabled better personalization of eye care to facilitate more efficient use of prescription drug therapies, saving Medicare billions of dollars over the last decade. As the technology continues to be applied to new medical conditions, such as Alzheimer's disease and Parkinson's disease, it supports a growing private industry of nearly $1 billion and a workforce of more than 16,000.

INVESTING NOW IN THE NEI CAN SAVE ON FUTURE EXPENDITURES

A June 2014 Prevent Blindness (PB) report entitled *The Future of Vision: Forecasting the Prevalence and Costs of Vision Problems* estimated the current annual cost (inclusive of direct and indirect costs) of vision disorders at $145 billion and projected that it will grow to $373.2 billion in 2050—or $717 billion when adjusted for

inflation—41 percent of which will be borne by the federal government as the Baby-Boom generation ages into the Medicare program. In a 2013 study entitled *Cost of Vision Problems: The Economic Burden of Vision Loss and Eye Disorders in the US*, PB reported that direct medical costs associated with vision disorders are the fifth highest —only less than heart disease, cancers, emotional disorders, and pulmonary conditions.

Current NEI funding of $708 million is still less than 0.5 percent of the $145 billion annual cost of vision disorders. The U.S. is spending only $2.30 per-person, per-year for vision research, while PB's 2013 report estimates that the cost of treating low vision and blindness is at least $6,690 per-person, per-year.

Our nation's investment in vision health is an investment in its overall health. NEI's breakthrough research is a cost-effective investment, since it is leading to treatments and therapies that can ultimately delay, save, and prevent health expenditures, especially those associated with the Medicare and Medicaid programs. It can also increase productivity, help individuals to maintain their independence, and generally improve the quality of life—especially since vision loss is associated with increased depression and accelerated mortality.

In summary, NAEVR requests a $2 billion NIH increase in each FY2017 and FY2018, with NEI funding of $742 million and $800 million, respectively.

NAEVR, which serves as the "Friends of the NEI," is a 501(c)4 non-profit advocacy coalition comprised of 55 professional (ophthalmology and optometry), patient and consumer, and industry organizations involved in eye and vision research. Visit NAEVR's Web site at www.eyeresearch.org.