



NAEVR

National Alliance For
Eye And Vision Research

Serving as Friends of the National Eye Institute

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**TESTIMONY SUPPORTING INCREASED FISCAL YEAR 2018 FUNDING FOR THE
NATIONAL INSTITUTES OF HEALTH (NIH) AND NATIONAL EYE INSTITUTE (NEI)**

**LABOR, HEALTH AND HUMAN SERVICES, EDUCATION AND RELATED
AGENCIES SUBCOMMITTEE OF SENATE COMMITTEE ON APPROPRIATIONS**

June 2, 2017

EXECUTIVE SUMMARY

NAEVR thanks the Senate LHHS Appropriations Subcommittee for its leadership in supporting \$2 billion NIH funding increases in each FY2016 and FY2017. NAEVR urges Congress to reject the Trump Administration's FY2018 budget proposal and support a \$2 billion NIH funding increase to \$36.1 billion to continue the pattern of predictable and sustained funding increases to rebuild NIH's base—which had lost 22 percent of purchasing power since FY2003, in terms of constant dollars, prior to the FY2016/2017 increases. The FY2018 increase should bolster NIH base funding, especially for the Institutes and Centers—in addition to the supplemental funding for specific projects in the *21st Century Cures Act*—reflecting real growth above biomedical inflation, estimated at 2.7 percent in FY2018.

NAEVR also urges Congress to fund the NEI at \$800 million in FY2018 to continue to restore our nation's commitment to vision research, since the Institute has lost nearly 25 percent of purchasing power since FY2003. Although the overall NIH increase in each FY2016 and 2017 was six percent, NEI's increase was only 4.6 percent and 2.3 percent, respectively, in FY2016 and 2017. Even more dramatic, NEI's FY2017 enacted funding level of \$733 million is just four percent greater than its pre-sequester FY2012 funding level, meaning that it had taken five fiscal years for its budget to experience any meaningful growth. We must maintain the momentum of vision research since vision health is vital to overall health and quality of life.

The United States is a world leader in vision research and in training the next generation of vision scientists. The very health of the global vision research community is at stake. The convergence of factors that reduced past NEI funding has affected both early-stage and seasoned investigators, threatening the continuity of research and the retention of trained staff while making institutions more reliant on philanthropic funding.

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

NEI's FY2017 enacted budget of \$733 million is just 0.5 percent of the \$145 billion annual cost (inclusive of direct and indirect costs) of vision impairment and eye disease, which was projected in a 2014 Prevent Blindness study to grow to

\$317 billion—or \$717 billion in inflation-adjusted dollars—by year 2050.
<http://forecasting.preventblindness.org/>

As in fiscal years 2013-2016, NEI's FY2017 funding may be reduced even further 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 to NEI, 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 affecting those 80 years or older.
<http://jamanetwork.com/journals/jamaophthalmology/article-abstract/2523780?resultClick=1>
- 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. Other studies have reported that patients with diabetes who are experiencing vision loss or going blind would be willing to trade years of remaining life to regain perfect vision, since they are concerned about their quality of life.
<http://jamanetwork.com/journals/jamaophthalmology/article-abstract/2540516?resultClick=1>
- 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.
<http://www.nationalacademies.org/hmd/Reports/2016/making-eye-health-a-population-health-imperative-vision-for-tomorrow.aspx>

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. <https://nei.nih.gov/audacious/>
- NEI's prize competition, the 3-D Retina Organoid Challenge. Since blinding diseases are often caused by degeneration of the retina—the light-sensitive back of the eye—the challenge for the vision community is to build in lab dishes 3-dimensional retinas that closely resemble the architecture and function of the human eye. The “mini-retinas” will provide a human platform more relevant than animal models for researchers to better understand retinal biology and discover treatments for these diseases. <https://nei.nih.gov/content/3-d-roc-challenge-details>

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

Of the \$717 billion annual cost of vision impairment by year 2050, 41 percent will be borne by the federal government as the Baby-Boom generation ages into the Medicare program. A 2013 Prevent Blindness study reported that direct medical costs associated with vision disorders are the fifth highest —only less than heart disease, cancers, emotional disorders, and pulmonary conditions. The U.S. is spending only \$2.30 per-person, per-year for vision research, while the cost of treating low vision and blindness is at least \$6,690 per-person, per-year.

<http://costofvision.preventblindness.org/>

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. 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.

CONGRESS SHOULD ROBUSTLY FUND THE NEI AS IT NEARS ITS 50TH ANNIVERSARY DURING THE “DECADE OF VISION 2010-2020”

In 2018, NEI will celebrate its 50th anniversary as the NIH's lead institute that manages and funds the nation's research commitment to save and restore vision. In 2009, Congress recognized NEI's 40th anniversary by passing S. Res. 209 and H. Res. 366, which also designated 2010-2020 as “The Decade of Vision.” This decade especially reflects the growing public health problems of vision loss:

- The first wave of the “Silver Tsunami” — the 78 million aging Baby Boomers— will turn 65 in 2010, and each day for 18 years afterwards, about 10,000 Americans will turn 65 and be at greatest risk for eye disease. The 2014 Prevent Blindness study reports that the age 90-plus population will see the highest rates of growth in prevalence/cost of eye disease, including Cataract, AMD, Glaucoma, and Diabetic Eye Disease.
- African Americans and Hispanics, who increasingly account for a larger share of the population, experience both a disproportionately greater risk and prevalence of eye disease. The 2014 Prevent Blindness study noted that the \$717 billion annual cost by 2050 will also be driven by the incidence of Glaucoma and Diabetic Eye Disease in these populations.
- Vision loss is a co-morbid condition of many chronic diseases, such as diabetes, which is at epidemic levels due to the increased prevalence of obesity.

Congress has demonstrated strong support for vision research with the creation of the NEI and recognition of its past accomplishments and current/future challenges. NEI must be robustly funded to continue U.S. leadership in vision research and training.

In summary, NAEVR requests a \$2 billion NIH increase in FY2018 to a funding level of \$36.1 billion, with NEI funding of \$800 million.

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, private funding foundation, and industry organizations involved in eye and vision research. Visit NAEVR's Web site at www.eyeresearch.org