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Serving as Friends of the National Eye Institute

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NAEVR URGES CONGRESS TO ENACT A SHORT-TERM CR AND SUPPORT A $2 BILLION NIH INCREASE IN FINAL FY2017 APPROPRIATIONS

National Institutes of Health (NIH) Funding:

- The vision community urges Congress to enact a short-term Continuing Resolution (CR) through the end of 2016 and to return following the election to complete Fiscal Year (FY) 2017 appropriations. A longer-term CR jeopardizes the momentum of biomedical research, potentially resulting in investigators needing bridge or philanthropic funding.

- The vision community thanks Congress for the strong bipartisan support for Fiscal Year (FY) 2016 NIH funding of $32.1 billion, a $2 billion increase. It requests that Congress support the $2 billion NIH funding increase to $34.1 billion, as proposed by the Senate Appropriations Committee, which reflects real growth above biomedical inflation.

- Sustained and predictable funding increases are necessary to re-build NIH's budget, which lost 24 percent of purchasing power since FY2003, so the nation can build upon the past investment in basic and clinical research that has accelerated the development of life-changing cures, pioneering treatments, and innovative prevention strategies.

- Investment in the NIH trains the next generation of scientists, drives the economy by creating jobs and economic growth, and maintains U.S. leadership in global innovation.

National Eye Institute (NEI) Funding:

- A $2 billion FY2017 NIH increase would result in NEI funding of $741 million, or a $33 million increase over FY2016, to fund research to save sight and restore vision.

- In FY2016, Congress restored NEI's operating budget to $708 million—slightly above its FY2012 funding level after a $36 million sequester cut in FY2013. After four fiscal years, NEI's budget has begun to grow minimally (0.8 percent) while its purchasing power has continued to decline due to inflation—a 25 percent loss since FY2003.

- NEI's $708 million operating budget is less than 0.5 percent of the $145 billion annual cost of vision disorders, which is projected to grow to $717 billion in inflation-adjusted dollars by year 2050, driven by an aging population and disproportionate incidence of glaucoma and diabetic eye disease in the Hispanic and African American populations.

- Vision disorders have the fifth highest direct medical costs−only less than heart disease, cancers, emotional disorders, and pulmonary conditions. The U.S. is spending only $2.20 per-person, per-year for vision research, while the cost of treating low vision and blindness is $6,680 per-person, per-year.

- The U.S. is the world leader in vision research. Without adequate funding, the NEI may not be able to pursue its primary "audacious goal" of regenerating neurons and neural connections in the eye and visual system, thereby restoring vision and returning individuals to productive, independent, and quality lives.

NEI FUNDING HAS RESULTED IN THE SUCCESSFUL COMMERCIALIZATION OF PRODUCTS TO SAVE SIGHT AND RESTORE VISION

NEI funding of investigator-initiated research grants and Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants has resulted in several commercialized products:

Optical Coherence Tomography (OCT)
OCT is a non-invasive, high-speed, high-resolution imaging technology that displays a three dimensional, cross-sectional view of the layers of the retina. Additional research has added Adaptive Optics (AO) to OCT to "supercharge" the detail in imaging retinal diseases such as Age-Related Macular Degeneration (AMD)−the leading cause of vision loss−Diabetic Eye Disease, and Retinitis Pigmentosa (RP), a retinal degenerative disease. OCT can assist in diagnosing and monitoring disease progression, as well as monitoring the effect of a therapy.

Drug Therapies for AMD and Diabetic Eye Disease
Development of the first generation of Food and Drug Administration (FDA)-approved anti-angiogenic ophthalmic drugs to inhibit abnormal blood vessel growth in "wet" AMD, stabilizing vision loss and, in some cases, improving lost vision. These drugs are currently being fast-tracked for approval by FDA for diabetic eye disease, including Diabetic Retinopathy and Diabetic Edema.

Over-the-Counter Nutritional Supplement to Reduce AMD Progression
NEI's *Age-Related Eye Disease Study (AREDS)* showed that a formulation containing vitamins C and E, beta-carotene, and minerals zinc and copper, reduced progression to advanced-stage AMD. New data from a follow-up study, *AREDS2*, suggest that replacing beta-carotene with lutein and zeaxanthin may produce a safer, more effective formulation.

Pressure-reducing Glaucoma Drugs
NEI-funded research has resulted in drug therapies that reduce intraocular pressure, a significant risk factor in the development of glaucoma−the second leading cause of vision loss in the U.S.

Sutureless Amniotic Membrane Graft
The graft is essentially a "biological bandage" that sits on the surface of the eye− the cornea−reducing scarring, prevention of blood vessel formation, and promoting healing, while reducing pain.

Robotic Device to Facilitate Corneal Transplantation
The developer is using this device to transplant an artificial cornea, which is currently under FDA regulatory review, and which may obviate the need for donor corneal tissue.

Visual Aide Services Using Camera-Enabled Mobile Phones
This Smartphone application enables users to identify everyday objects, such as packaged goods, compact discs, and money, with text-reader capabilities using Optical Character Recognition (OCR).

Virtual Phaco Trainer for Cataract Surgery
This simulator enables ophthalmology residents to practice the difficult steps of standard cataract surgery without risk to patients.

Field Expansion Prism Glasses for Hemianopia
High power prisms incorporated into prescription eyeglasses increase the visual field by creating artificial peripheral vision in these patients who experience loss of peripheral vision on the same side of both eyes, a common side effect of stroke or Traumatic Brain Injury (TBI).