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

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IN FY2018, NAEVR URGES CONGRESS TO FUND NIH AT $36.1 BILLION AND NEI AT $800 MILLION TO MAINTAIN THE MOMENTUM OF RESEARCH

FY2018 National Institutes of Health (NIH) Funding:

- The vision community thanks Congress for the $2 billion NIH funding increases in each FY2016 and FY2017.

- The vision community urges at least a $2 billion NIH increase in FY2018—to $36.1 billion—in addition to the *21st Century Cures Act* funding for special NIH initiatives.

- This pattern of sustained and predictable increases to NIH's base enables it to build upon past basic and clinical research that has accelerated the development of life-changing cures, train the next generation of scientists, drive the nation's economy by creating jobs and economic growth, and maintain U.S. leadership in global innovations.

FY2018 National Eye Institute (NEI) Funding:

- The vision community requests FY2018 NEI funding at $800 million—an increase of $67 million over the FY2017 level of $733 million—to continue to restore our nation's commitment for research that saves sight and restores vision.

- Despite the FY2016 and FY2017 NIH increases, current NEI funding is just four percent more than the pre-sequester FY2012 funding level of $702 million—meaning that it has taken five fiscal years for NEI to experience any significant growth in its budget, which has lost 25 percent of purchasing power since FY2003.

- Current NEI funding of $733 million is just 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 $2.30 per-person, per-year for vision research, while the cost of treating low vision and blindness is $6,680 per-person, per-year.

- Based on 2010 U.S. census data, NEI has estimated that of the 143 million Americans age 40-plus, four million were blind or had significant vision impairment and 37 million had an age-related eye disease, such as Age-related Macular Degeneration (AMD), Glaucoma, Diabetic Retinopathy, or Cataract.

- 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 an imaging technology that allows eye care providers to view the back of the eye without dilation, making visits faster and easier for patients. It facilitates quicker, more accurate diagnoses than previous techniques. This technology supports a private commercial market of more than $1 billion per year, more than 16,000 high-paying jobs, and has saved Medicare more than $11 billion by reducing unnecessary injections of prescription drug therapies.

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).