



**NAEVR**

National Alliance For  
Eye And Vision Research

*Serving as Friends of the National Eye Institute*

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## **THE VISION COMMUNITY URGES FY2021 NATIONAL INSTITUTES OF HEALTH FUNDING OF \$44.7 BILLION, NATIONAL EYE INSTITUTE OF \$875 MILLION**

### **Fiscal Year (FY) 2021 National Institutes of Health (NIH) Funding:**

- The vision community thanks Congress for the \$11.6 billion in NIH funding increases from FY2016-2020 which have helped the agency to regain lost ground after years of effectively flat budgets and to build upon basic and clinical research that accelerates the development of life-changing cures and treatments.
- We also thank Congress for passing the *Bipartisan Budget Act of 2019* which increased the *Budget Control Act* caps in each FY2020 and 2021, including that for critical non-defense discretionary (NDD) programs such as medical research.
- In FY2021, the vision community urges Congress to appropriate at least \$44.7 billion for NIH, a \$3 billion or 7.2 percent increase over the FY2020 program level funding of \$41.7 billion. This increase allows for: meaningful growth above inflation in the base budget to support promising science across all Institutes and Centers; ensures that funding from the Innovation Account established by *21<sup>st</sup> Century Cures Act* would supplement NIH's base budget, as intended, through dedicated funding for specific initiatives; and support the next generation of scientists through funding for early-stage investigators.

### **FY2021 National Eye Institute (NEI) Funding:**

- In FY2021, the vision community urges Congress to appropriate at least \$875 million for NEI, a \$51 million or 6.2 percent increase over FY2020. In year 2020, which reflects an important visual acuity goal of 20/20, Congress must ensure that the NEI remains the world leader in sight-saving and vision-restoring research. Without adequate funding, it may not be able to train the next generation of vision scientists.
- Despite recent increases, NEI's FY2020 enacted funding of \$824.1 million is just 21 percent greater than the pre-sequester FY2012 funding of \$702 million. Averaged over those eight years, the 2.6 percent annual growth rate is still less than the average annual biomedical inflation rate of 2.8 percent, thereby eroding purchasing power.
- NEI's FY2020 funding of \$824.1 million is less than 0.5 percent of the \$172 billion annual cost of vision disorders, which is projected to grow to \$717 billion in inflation-adjusted dollars by year 2050—primarily driven by an aging population.
- Vision disorders have the fifth highest direct medical costs—only less than heart disease, cancers, emotional disorders, and pulmonary conditions. The U.S. spends only \$2.50 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.

## **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 see the back of a patient's eye via a quick, non-invasive and inexpensive exam. This technology supports a private commercial market of \$1 billion per year and more than 16,000 high-paying jobs. A peer-reviewed publication has shown that OCT saved Medicare \$9 billion and patients \$2.2 billion in co-pays by reducing unnecessary injections of 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).