DEPARTMENT OF HEALTH AND HUMAN SERVICES

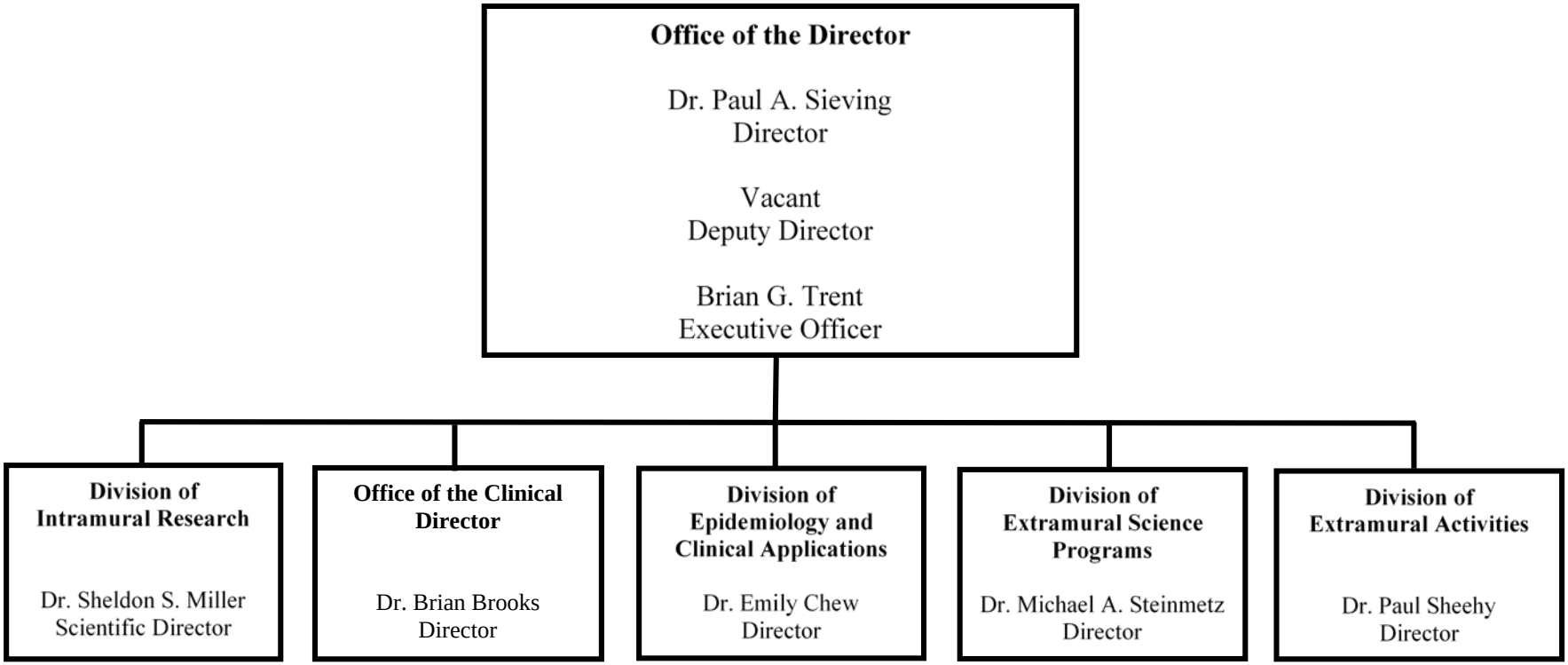
NATIONAL INSTITUTES OF HEALTH

National Eye Institute (NEI)

NATIONAL INSTITUTES OF HEALTH

National Eye Institute

Organization Chart



NATIONAL INSTITUTES OF HEALTH

National Eye Institute

For carrying out section 301 and title IV of the PHS Act with respect to eye diseases and visual disorders, $711,015,000.

NATIONAL INSTITUTES OF HEALTH
National Eye Institute

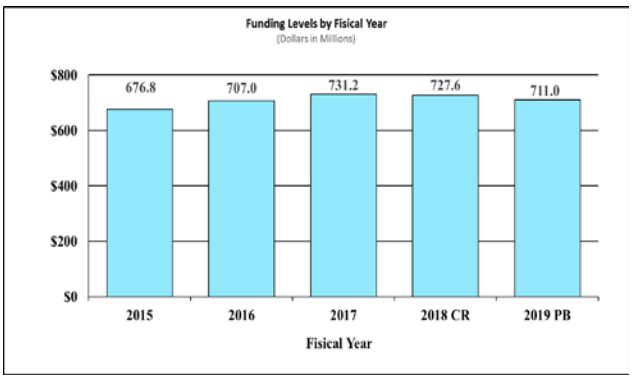
Amounts Available for Obligation[1]
(Dollars in Thousands)

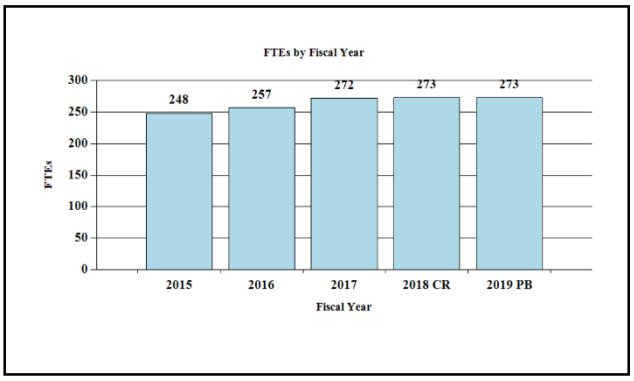
Source of Funding	FY 2017 Final	FY 2018 Annualized CR	FY 2019 President's Budget
Appropriation	$732,618	$732,618	$711,015
Mandatory Appropriation: (non-add)			
Type 1 Diabetes	*(0)*	*(0)*	*(0)*
Other Mandatory financing	*(0)*	*(0)*	*(0)*
Rescission	0	-4,975	0
Sequestration	0	0	0
Secretary's Transfer	-1,643		
Subtotal, adjusted appropriation	$730,975	$727,643	$711,015
OAR HIV/AIDS Transfers	237	0	0
Subtotal, adjusted budget authority	$731,212	$727,643	$711,015
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	$731,212	$727,643	$711,015
Unobligated balance lapsing	-9	0	0
Total obligations	$731,203	$727,643	$711,015

[1] Excludes the following amounts (in thousand) for reimbursable activities carried out by this account:
FY 2017 - $16,131 FY 2018 - $25,100 FY 2019 - $20,000

Fiscal Year 2019 Budget Graphs

History of Budget Authority and FTEs:





NATIONAL INSTITUTES OF HEALTH
National Eye Institute

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2018 Amount Authorized	FY 2018 Annualized CR	2019 Amount Authorized	FY 2019 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	$727,642,791	Indefinite	$711,015,000
National Eye Institute	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				$727,642,791		$711,015,000

NATIONAL INSTITUTES OF HEALTH
National Eye Institute

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2009	$667,764,000	$690,721,000	$687,346,000	$688,276,000
Rescission				$0
2010	$695,789,000	$713,072,000	$700,158,000	$707,036,000
Rescission				$0
2011	$724,360,000		$723,220,000	$707,036,000
Rescission				$6,208,198
2012	$719,059,000	$719,059,000	$692,938,000	$704,043,000
Rescission				$1,330,641
2013	$693,015,000		$695,115,000	$702,712,359
Rescission				$1,405,425
Sequestration				($35,271,328)
2014	$699,216,000		$701,407,000	$682,077,000
Rescission				$0
2015	$675,168,000			$684,191,000
Rescission				$0
2016	$695,154,000	$698,108,000	$709,549,000	$715,903,000
Rescission				$0
2017[1]	$707,998,000	$735,576,000	$740,826,000	$732,618,000
Rescission				$0
2018	$549,847,000	$743,881,000	$758,552,000	$732,618,000
Rescission				$4,975,209
2019	$711,015,000			

[1] Budget Estimate to Congress includes mandatory financing.

Justification of Budget Request

National Eye Institute

Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority (BA):

	FY 2017 Actual	FY 2018 Annualized CR	FY 2019 President's Budget	FY 2019 +/- FY 2018
BA	$731,212,000	$727,642,791	$711,015,000	-16,627,791
FTE	272	273	273	0

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Director's Overview

Eye diseases that lead to blindness, such as age-related macular degeneration (AMD), diabetic retinopathy, and glaucoma, affect millions of Americans of all ages and ethnicities. These and other less common diseases disable productive careers and rob people of their mobility and independence. The National Eye Institute (NEI) supports vision research through approximately 1,500 research grants and training awards made to scientists at more than 250 medical centers, hospitals, and universities across 44 states and around the world. NEI also conducts laboratory and patient-oriented research in facilities located on the NIH campus in Bethesda, Maryland.

50 Years of Progress in Vision Research: In August 1968, Congress established NEI to conduct research, training, and medical information dissemination to preserve the vision health of the nation. As NEI commemorates its 50th anniversary, we reflect on countless groundbreaking accomplishments over the past 50 years including[1]:

- Therapies to prevent, delay, or reverse the leading causes of blindness including AMD, diabetic retinopathy, glaucoma, cataract, and refractive errors, such as nearsightedness
- Support of nine Nobel Prize winning scientists, including landmark neuroscience discoveries of how brain circuits form and self-organize, which revolutionized treatment for amblyopia, a disorder in which the brain favors visual information coming from one eye over the other
- Discovery of genetic risks for complex diseases such as glaucoma and AMD, and showing how environmental or behavioral factors such as smoking can potentiate genetic risks
- Dietary supplements that can slow the progression to end-stage AMD

[1] For more historical context, highlights of progress, videos, and information on NEI 50th Anniversary events, including a March 21 reception on Capitol Hill, visit https://www.nei.nih.gov/neiat50.

- Studies comparing the effectiveness of different therapies to inform patients and their doctors on personalized treatment options
- Telemedicine to expand access to specialists in rural and underserved communities to screen for retinopathy-of-prematurity, the leading cause of blindness in severely premature babies

Fifty years later, NEI-supported vision research remains on the forefront of medicine, from regenerative medicine to replace tissue lost through retinal degeneration; to advancing retinal prosthetics, such as the FDA-approved Argus II artificial retina; and pioneering the application of gene therapy in the eye to correct disease-causing mutations. One landmark occurred in October 2017, when an FDA scientific advisory panel recommended approval for the first gene therapy to correct a retinal degeneration, Leber Congenital Amaurosis, which causes blindness in infants and children. The genetic mutation was discovered by an NEI scientist in 1993, but researchers then had to invent the tools to turn that discovery into a therapy by first developing gene vectors, then tested the therapy in rodent and dog models of the disease, and finally conducted human trials to assess safety and efficacy of this novel gene therapy. Having set precedence, the path from gene discovery to clinical trial is being expedited with a dozen vision loss mutations currently being addressed in pre-clinical and clinical studies.

Non-invasive imaging techniques have contributed to tremendous strides in medicine. Optical Coherence Tomography (OCT) is a transformational imaging tool for vision care that uses light waves reflecting from different layers in the retina to create a high-resolution 3-D cross-section picture for early detection of eye diseases. By measuring the thickness of retina tissue layers, eye doctors now can track cell loss or detect abnormal fluid. In the NEI Comparison of AMD Treatments Trial, patients with AMD either received a pre-set monthly drug injection for two years, or were evaluated with OCT to determine whether drug treatment was required. A recent study examined the reduced number of drug injections informed by OCT imaging in AMD patients and concluded that Medicare has saved nine billion dollars in the treatment cost for AMD alone[2]. NEI research has expanded the use of OCT for early detection and treatment decisions: in a 2017 study, OCT detected glaucoma in 60 percent of 356 patients with suspected glaucoma compared to 27 percent with the standard-of-care vision test. OCT significantly improved detection for cases of mild glaucoma. Another recent study used OCT for early detection of retinopathy in adolescents with sickle cell disease. OCT is also being developed as a tool for real-time image-guided eye surgery.

Addressing Today's Vision Challenges: NEI is prepared to address emerging public health emergencies. For example, in response to Ebola, NEI established an eye clinic in Liberia to investigate the long-term ocular effects as the virus lingers in the eye, even after the virus clears from the rest of the body. Similarly, NEI has funded two new grants on Zika: one to develop animal models to understand how the virus infection causes eye and optic nerve abnormalities; the other to establish a database and specimen bank from 400 pregnant women and infants with suspected infection in order to characterize the natural history and risk factors of Zika in the eye. NEI-supported scientists recently published a study showing that retinal Müller glia cells express a gene that makes them susceptible to Zika infection, which in turn activates a cascade of inflammation factors, leading to many of the ocular lesions. They found that they could block the inflammation by inhibiting a protein, p38MAPK. NEI researchers also found Zika virus in

[2] Windsor, M., et al. Amer. J. Ophthal. 185:115-122 (2018)

the tears of infected mice and are now testing for the presence of Zika in human tears, which would be easier to determine than via blood tests.

NEI funds trials to develop cutting edge therapies for blinding diseases. Idiopathic intracranial hypertension (IIH), primarily affecting obese young women, puts pressure on the optic nerve, leading to vision loss in about 10 percent of patients. The recently completed IIH Treatment Trial of 165 patients showed that for mild vision loss, acetazolamide plus diet was superior to diet alone for reducing vision loss and improving quality of life. However, neither intervention was effective for patients with moderate to severe vision loss. NEI is funding a new three-arm trial testing different surgical interventions to relieve pressure and protect the optic nerve in 180 IIH patients with more severe vision loss. Another promising new clinical trial will treat patients with retinal vein occlusion (RVO)—the second leading retinal vascular cause of vision loss after diabetic retinopathy. In RVO, the vessels draining blood from retinal tissue become clotted, leading to leaking and bleeding and ultimately starving the neurons of oxygen. The trial will test the safety, feasibility and efficacy of injecting stem cells derived from the patient's own bone marrow into their eyes. Another adult stem cell type ripe for clinical trials are corneal limbal cells, which are responsible for renewing the front layer of the transparent cornea. In thousands of patients with limbal stem cell deficiency (LSCD), loss of these cells causes visual impairment from chronic inflammation, abnormal blood vessel growth, and opaque corneas. The 21st Century Cures Act Regenerative Medicine Program is supporting an NEI project to treat LSCD. Researchers identified a limbal cell marker, ABCB5, which has allowed them to isolate, purify and expand limbal stem cells in the lab in sufficient quantities for transplantation.

Research Now to Develop Cures of the Future: The NEI Audacious Goals Initiative (AGI) seeks to restore vision through neuroregeneration in the eye and visual system. To reach this goal in 15 years, NEI enlisted several hundred vision scientists and clinical investigators to identify challenges and research barriers, and has established two collaborative consortia of research teams working on different facets of the challenge: functional imaging, and discovery science to identify new regeneration factors. To find new factors, researchers look to model systems. For example, unlike adult mammals, zebrafish regenerate their retina after injury, which led NEI researchers to identify a key regeneration factor, present in newborn mice; through manipulating this factor, they could form new neurons in adult mice. In another lesson from zebrafish, NEI researchers discovered that decreased levels of the neurotransmitter GABA are important for reprogramming the retina to produce stem cells. Consequently, studies in the mouse brain and pancreas found that lower GABA levels were associated with more stem cells dividing. In another recent study, scientist found that stem cell secretions, called exosomes, appear to protect a type of retinal cells, the ganglion cells, which are damaged in glaucoma. Exosomes are now being examined for their potential therapeutic effect. Exosome-treated rats only lost a third of their retinal ganglion cells following optic nerve injury, compared with 90 percent loss in untreated rats. NEI is currently reviewing proposals for a third AGI consortium, to develop animal model systems to facilitate translation of discovery research into the clinic.

In 2017, NEI also launched a 3D Retina Organoid Challenge Competition (3D-ROC), with the goal of developing functioning mini-retinas in a culture dish from human stem cells. The $1.1 million prize purse will be distributed to the team(s) who can best replicate retina structure and function for disease modelling and drug development.

The NEI is launching a strategic planning process this spring, under the auspices of the National Eye Advisory Council, and with significant scientific and community input. The plan will be organized around cross-cutting topics, such as regenerative medicine, health disparities and genetics. It will capitalize on top scientific opportunities and address the burden of vision loss.

Program Descriptions and Accomplishments

Retinal Diseases Research: The retina is the light-sensitive neural tissue that lines the inside of the eye and sends visual messages through the optic nerve to the brain. Damage to the retina through disease or retinal detachment can lead to severe vision loss. The goals of this program are to increase the understanding of disease mechanisms that cause vision loss and to develop improved methods of prevention, diagnosis, and treatment. To meet these goals, NEI supports research on the cell biology, physiology, neuroscience, and immunology of the retina. In 2017, NEI funded researchers applied a new technology to compare different molecules between mice with diabetic retinopathy and controls to identify proteins associated with abnormal vessel growth, angiogenesis. They discovered a novel protein marker, secretogranin III (Scg3), which selectively attaches to diseased vessels, but not healthy ones. When they used antibodies to neutralize Scg3, they were able to prevent angiogenesis in both diabetic retinopathy and retinopathy-of-prematurity, pointing to the potential for immunotherapy. Major areas addressed within the Retina Program include:

- **Age-related Macular Degeneration.** A leading cause of vision loss, AMD is a disease that blurs the sharp, central vision required for reading, driving, and face recognition. There are two forms of advanced AMD: geographic atrophy ("dry") AMD, a gradual breakdown of light sensing photoreceptor neurons; and neovascular ("wet") AMD, when abnormal blood vessels grow underneath the retina.
- **Retinopathy.** Diabetic retinopathy is a complication of diabetes in which abnormal blood vessels grow on the surface of the retinal and may swell and leak fluid. Retinopathy of Prematurity is a potentially blinding disorder that affects premature infants with very low birthweight.
- **Retinal monogenic disorders.** Some retinal degenerative diseases are caused by single genetic mutations, including retinitis pigmentosa, Usher syndrome, and ocular albinism.
- **Uveitis.** Inflammatory diseases that produce swelling and destroy eye tissue, sometimes leading to severe vision loss.

Program Portrait: Audacious Goals Translational Models

The National Eye Institute (NEI) Audacious Goal Initiative (AGI) was launched in 2012 with an open competition for bold, innovative ideas to stimulate innovation in establishing a national vision research agenda. A single audacious goal emerged from this process, namely, restoring usable vision in humans by regenerating neurons and neural connections in the eye and visual system. To achieve this audacious goal in 15 years, NEI has identified challenges and research barriers and has established collaborative consortia of research teams working on different facets of each challenge.

The first AGI funding opportunity awarded grants to five teams to address technical needs and opportunities for functional imaging in the visual system. The second consortium of six teams is using discovery-based science (genomics, proteomics, etc.) to identify factors that influence neural regeneration in the visual system. To plan next steps of the initiative, NEI has engaged the scientific and clinical communities and other stakeholders through a series of expert workshops and townhall meetings at scientific conferences. The community identified a critical need for animal model systems that are closer to human visual anatomy, function, and/or disease than current models. The third AGI funding opportunity, released in December 2017, calls for development of translation-enabling models to evaluate survival and integration of regenerated neurons in the visual system.

The areas of research encouraged in this initiative include replacing retinal neurons by transplantation stem cells or stem-cell derivatives, creating new neurons from existing cells in the retina by converting one cell type into another, generating models of blinding retinal diseases that might be candidates for cell replacement therapy in humans, and evaluating the anatomical and physiological integration of replacement cells into existing circuits. Model systems using non-human primates or other species that are more representative of the anatomy and physiology of the human retina are highly encouraged. It is expected that quantitative measures will be used to evaluate survival and integration of the regenerated cells using electrophysiology, functional imaging, behavioral measures, or any other appropriate technology that would demonstrate circuit integration and restoration of visual function. NEI will provide oversight of these projects, in conjunction with an External Scientific Oversight Committee, who will closely monitor progress in meeting the milestones of all projects and will provide an extra level of scrutiny for programmatic relevance and progress in cases where adjustments in funding may be required. These funded projects should synergize with the previous two consortia to generate the necessary tools and data to support the start of clinical trials in future years. By facilitating cross-disciplinary research, AGI is tackling the most devastating and difficult-to-treat eye diseases.

Corneal Diseases, Cataract, and Glaucoma Research: Corneal diseases, cataracts, and glaucoma cause more visits to ophthalmologists a year than any other vision disorders. NEI supports research to address these conditions that originate in the front of the eye.

- **Corneal disease research.** Corneal injuries, infections, and diseases can be extremely painful and require immediate medical attention. In 2017, NEI scientists demonstrated the existence of a resident ocular microbiome that trains the developing immune system to fend off disease causing pathogens. Once thought to be sterile due to enzymes and antimicrobial peptides that rid the eye of microbes, new research suggests resident bacteria live on the ocular surface, like the beneficial microbiome in the gut.
- **Cataract research.** Cataracts, a clouding of the lens in the eye that affects vision, are the leading cause of blindness worldwide. NEI researchers investigate strategies to prevent cataract formation and progression through research to understand the physiological basis of how the lens in the eye remains transparent at the cellular and molecular levels. Although cataract surgery is effective, up to 12 percent of surgery patients develop secondary cataract. In a pair of 2017 studies, scientists found that the lens proteins alpha-beta crystallin and growth factor TGF-beta play roles in the formation of secondary

cataract. One team used a lens culture system to test drugs for their ability to block secondary cataract. They found that rebastinib, a drug that is currently in phase I clinical trials for cancer, prevented TGF-beta from inducing secondary cataract.

- **Glaucoma research.** Glaucoma is a group of blinding diseases that result from damage to the optic nerve, the bundle of fibers that transmit signals from the eyes to the brain. Current therapies focus on reducing excessive fluid pressure in the eye, which causes nerve damage in the most common form of glaucoma. In a recent advance, NEI researchers working with mice predisposed to glaucoma discovered that vitamin B3 (niacin) added to the drinking water effectively prevented disease. Also, levels of NAD, a key molecule in energy metabolism, decrease with age, making neurons and other cells more vulnerable to stress such as ocular pressure. Vitamin B3 replenishes NAD, fortifying the cells, opening the door to an inexpensive potential therapy. The program also includes optic neuritis and other optic neuropathies.

Sensorimotor Disorders, Visual Processing, and Rehabilitation Research: NEI funds basic and applied brain research, and research on rehabilitation for individuals with low vision. NEI neuroscientists have made remarkable progress in understanding what goes on in the face-processing areas in the brain. For example, one team used MRI functional imaging to see how face-specific brain activity emerges during the time when children are learning social skills. NEI has recently funded two other projects that record multi-unit electrophysiological signals in young primate brains and use computational techniques to fully understand how these groups of neurons work together to establish and refine their face-processing mechanisms. These studies will enable treatments and therapies for children whose brains do not develop normally.

- **Sensorimotor disorders and visual processing research.** Strabismus (misalignment of the eyes) and amblyopia (known as "lazy eye") are common disorders that develop during childhood. Program goals center on gaining a better understanding of the neuromuscular control of gaze and the development of the visual system in children at high risk for these disorders. Neuroscientists working in vision research seek to understand how the brain processes the visual information that floods our eyes, how neural activity is related to visual perception, and how the visual system interacts with cognitive and motor systems.
- **Refractive errors.** Refractive errors, such as nearsightedness, farsightedness, and astigmatism, are commonly correctable with eye glasses or contact lenses in the U.S. but remain a tremendous economic and personal burden globally. The major goals of this program are to discover the biochemical pathways that govern eye growth and to uncover the risk factors associated with refractive errors. For example, a recent study showed that uncorrected farsighted preschoolers have a harder time paying attention, impacting learning. While some children were able to focus their eyes and adjust for their farsightedness, others who struggled to see close-up had lower scores on tests of visual attention (the ability to zero in on visual targets while ignoring others), visual perception, and visual-motor integration (eye-hand coordination or copying skills).
- **Rehabilitation research.** Low vision is the term used to describe chronic visual conditions that are not correctable by eye glasses or contact lenses. NEI supports rehabilitation research to improve the quality of life for people with visual impairments

by helping them maximize the use of remaining vision and by devising improved aids and strategies to assist those without useful vision.

Program Portrait: Vision Research Clinical Trials

The NEI Cooperative Clinical Research (CCR) program, supports single- and multi-center investigational and observational clinical studies, through cooperative grants, in which NEI program officials are active partners and have substantial involvement in the research. CCR cuts across NEI program areas from retina and cornea diseases to glaucoma, myopia, and neuro-ophthalmology. The program tests new agents, technologies and other interventions for the prevention, diagnosis, or treatment of eye diseases or to improve vision-related quality of life. Program objectives include:

- To conduct population-based research to describe the prevalence of eye diseases across the life span and within and among divergent demographic groups
- To conduct studies that identify risk factors (both biological and social) for the development, persistence, and progression of eye diseases
- To conduct secondary data analyses utilizing existing database resources
- To conduct system-level health services research to improve vison health and/or reduce health disparities
- To develop new statistical methodology and tools appropriate for analyzing vision health data
- To develop new approaches for conducting clinical research studies, including those that capitalize on point-of-care and electronic medical records
- To conduct research to develop nomenclature and quantitative methods to facilitate big data analytics

CCR also supports clinical trial networks, which organize an infrastructure of clinical investigators, scientific review committees, statistics and data management resources, and patient tissue sample collection and storage. Networks allow a pipeline of clinical protocols to be developed and approved quickly and expedites patient recruitment. For example, the Diabetic Retinopathy Clinical Research network is a very successful model in which retinal specialists from 139 university and community practices in 33 states conduct clinical studies of diabetes patients with all different stages of eye disease. The network recently expanded to cover other retinal disease such as age-related macular degeneration and hereditary degenerations. It has also leveraged federal dollars with industry collaboration to pursue opportunities otherwise not possible, and in a manner consistent with academic integrity and optical clinical trial performance.

Intramural Research: NEI clinical studies are focused on the cause, prevention, and treatment of eye diseases and vision disorders; cellular and molecular mechanisms of eye development, infectious diseases of the eye; inflammatory and immunological responses; mechanisms of visual perception by the brain; and sensory control of movements. In a 2017 advance, intramural investigators simplified manufacturing and dosing of a potential drug candidate for the autoimmune eye disease uveitis—a vision-threatening condition that accounts for about 15 percent of blindness in the U.S. The protein in question, part of the immune system signaling molecule interleukin-35, also shows efficacy in treating a mouse model of multiple sclerosis.

Research Management and Support (RMS): RMS supports, provides essential services, and monitors the budgets of research programs. Included in these funds is personnel to carry out leadership and management functions, human resource support, training, travel, purchasing, facilities, budget, planning, information technology, and extramural grant award and management. NEI currently oversees more than 1,500 grants and contracts, including research project grants, core center grants, research career development awards, cooperative clinical research agreements, and research and development contracts.

NATIONAL INSTITUTES OF HEALTH
National Eye Institute

Detail of Full-Time Equivalent Employment (FTE)

OFFICE/DIVISION	FY 2017 Final			FY 2018 Annualized CR			FY 2019 President's Budget		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Epidemiology and Clinical Applications									
Direct:	11	-	11	11	-	11	11	-	11
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	11	-	11	11	-	11	11	-	11
Division of Extramural Activities									
Direct:	17	-	17	17	-	17	17	-	17
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	17	-	17	17	-	17	17	-	17
Division of Extramural Science									
Direct:	16	-	16	16	-	16	16	-	16
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	16	-	16	16	-	16	16	-	16
Division of Intramural Research									
Direct:	138	2	140	139	2	141	139	2	141
Reimbursable:	3	-	3	3	-	3	3	-	3
Total:	141	2	143	142	2	144	142	2	144
Office of the Director									
Direct:	85	-	85	85	-	85	85	-	85
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	85	-	85	85	-	85	85	-	85
Total	270	2	272	271	2	273	271	2	273
Includes FTEs whose payroll obligations are supported by the NIH Common Fund.									
FTEs supported by funds from Cooperative Research and Development Agreements.	0	0	0	0	0	0	0	0	0

FISCAL YEAR	Average GS Grade
2015	12.3
2016	12.3
2017	12.4
2018	12.4
2019	12.4

NATIONAL INSTITUTES OF HEALTH
National Eye Institute

Detail of Positions[1]

GRADE	FY 2017 Final	FY 2018 Annualized CR	FY 2019 President's Budget
Total, ES Positions	1	1	1
Total, ES Salary	187,000	190,647	191,562
GM/GS-15	32	34	34
GM/GS-14	24	24	24
GM/GS-13	41	38	38
GS-12	40	39	39
GS-11	33	34	34
GS-10	1	1	1
GS-9	6	7	7
GS-8	1	2	2
GS-7	4	3	3
GS-6	3	3	3
GS-5	0	0	0
GS-4	2	2	2
GS-3	0	0	0
GS-2	0	0	0
GS-1	0	0	0
Subtotal	187	187	187
Grades established by Act of July 1, 1944 (42 U.S.C. 207)	0	0	0
Assistant Surgeon General	0	0	0
Director Grade	1	1	1
Senior Grade	1	1	1
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	2	2	2
Ungraded	83	83	83
Total permanent positions	0	0	0
Total positions, end of year	0	0	0
Total full-time equivalent (FTE) employment, end of year	272	273	273
Average ES salary	187,000	190,647	191,562
Average GM/GS grade	12.4	12.4	12.4
Average GM/GS salary	106,697	109,655	110,181

[1] Includes FTEs whose payroll obligations are supported by the NIH Common Fund.