

Outpatient Clinical Research Units

This year, the Institute has established a new program of outpatient vision research units. Persons whose eye disorders do not require hospitalization are being studied in a more organized fashion by physician-scientists seeking clues to many eye problems. The new units offer opportunities for studying ocular diseases which affect only humans and cannot be duplicated in animals, and for continuing research which has reached its limits in the laboratory or in animal trials. Specific research areas include human macular diseases, diseases of the retina, diabetic retinopathy, corneal research, herpetic keratitis, and ocular pharmacology. The first outpatient units are located at Jefferson Medical College of Philadelphia, the University of Wisconsin, Duke University, New York University, the University of Miami, the Wills Eye Hospital and Research Institute of Philadelphia, Boston University, and Mount Sinai Hospital of New York City.

Blindness Statistics

Adequate statistics on blindness are essential to any program of prevention and control. These must be well defined and carefully assembled. At both State and national levels, this need for information includes not only total blindness but also the related degrees of severely handicapping visual impairment, both in relationship to the socioeconomic setting of each case.

The Institute has organized Model Reporting Areas for blindness in 14 States to provide urgently needed information. These areas use a common method of classification and record keeping intended to produce comparable records from each of the cooperating States. With the addition of four States this year, the project represents approximately one-third of the States and also one-third of the population of the United States. Even so, an extension of the project will be necessary before figures of national significance can be produced.

Training

The research community working in the field of vision and its disorders is proud of its record of accomplishment. However, the responsibility and challenge are enormous when compared with the small number of clinical and basic science investigators in the field. The task ahead must be contrasted with the small size of the research establishment.

NINDB-supported training programs are providing a focal point in 34 university centers for teaching and research in vision and visual disorders. However, in many of the 50 remaining schools there is no focus. To fill some of the manpower needs, the Institute proposes to establish a program of teacher-investigator awards in ophthalmology and the visual sciences. These awards will be for the support of full-time academicians in selected medical centers to promote leadership in the development of programs of undergraduate and graduate training and in the establishment of eye research programs in areas where these are lacking.

In fiscal year 1966, 379 trainees benefited from the Institute's grants in the fields of ophthalmology, ophthalmic basic science, and vision psychophysiology. Eighteen special fellowships were awarded in the areas of neuro-ophthalmology, ophthalmology, ophthalmic pathology, and sensory physiology to prepare basic and clinical scientists for careers in research and academic medicine and related fields. The Institute has given one Research Career Award on sensory physiology (vision). There were 13 Research Career Development Awards and 7 post-doctoral fellowships awarded in ophthalmology and ophthalmological sciences.

RESEARCH

Glaucoma

Glaucoma is an eye disease due to increased pressure of the aqueous fluid within the eyeball which tends to destroy the nerve cells within the retina. If untreated, it leads to impairment of vision and eventual blindness. The major emphasis of NINDB glaucoma research is toward a better understanding of the processes for maintaining proper pressure within the eye, including the early use of medications which save vision by correcting the pressure. Therefore, NINDB researchers are studying the effects of drugs on eye pressure to facilitate early diagnosis. Epidemiologists are defining the characteristics of individuals for whom special vigilance is required because they are especially prone to develop glaucoma.

It is now believed that it will be possible to predict which individuals are prone to develop glaucoma because of the knowledge gained about the genetic and