

Funding Request for FY 1995

THE DECADE OF THE BRAIN

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THE FACTS

▶ In 1989, Congress and the President declared the 1990s as the "Decade of the Brain," in support of the premise that neurological disorders can be prevented, cured or alleviated if adequate funding is provided for research

▶ Approximately one in four Americans are directly or indirectly affected by a neurological or psychiatric disorder, and more people are hospitalized with neuropsychiatric disorders than any other major disease group, including cancer and cardiovascular diseases

▶ Twelve percent, or 8.1 million, of the country's 68 million youths 18 or under have mental, behavioral, or developmental disorders; nearly one-half of them are believed to be severely handicapped by their illness, yet only one-third get treatment. Suicide is now the second leading cause of death in this population

▶ Neurologically-related diseases include the following:

→ 50 million Americans have a permanent, neurological disability that limit their daily activities, costing \$400 billion a year

→ Four million Alzheimer's Disease cases, costing \$90 billion a year

→ Depression, totalling 18 million cases and \$43.7 billion annually. Disability from depression exceeds that of diabetes, hypertension, gastrointestinal, and lung diseases

→ Three million incidences of stroke, at a cost of \$25 billion annually. 1,200 Americans are new stroke victims every day; 1/3 of these die and 1/3 are permanently disabled

→ Parkinson's Disease, affecting 500,000 people and costing more than \$6 billion a year

→ The brain and nerves can be damaged by more than 500 genetic disorders, resulting in disability or death. More than one million Americans suffer from these genetic disorders

→ More than one in twenty Americans have developmental disorders of the nervous system--such as cerebral palsy, spina bifida, mental retardation, and learning disorders--costing \$30 billion annually

- Two and one-half million Americans--one in 100 Americans--suffer from epilepsy. While drugs often control epilepsy, this is not always the case, and recurring epileptic seizures have a significant affect on quality of life. Seizures can even result in death
- Forty thousand Americans are stricken with brain tumors every year, resulting in paralysis or death
- Traumatic Spinal Cord Injury, which includes 250,000 cases and costs \$10 billion annually
- Traumatic head injury, totaling one million cases, 100,000 deaths, and \$25 billion a year
- Nearly two million cases of schizophrenia, the most chronic and disabling of mental illnesses, costing \$32.5 billion a year. Approximately 300,000 new cases are diagnosed every year
- 300,000 cases of multiple sclerosis, at a cost of \$5 billion a year
- Suicide, which claims more than 30,000 lives each year
- Attention-Deficit Hyperactivity Disorder (ADHD), afflicting nine percent of all children, an estimated 70 percent of whom will continue to experience the full syndrome in adolescence
- Nerve and muscle disorders, such as Lou Gehrig's Disease and neuropathies associated with diabetes, affecting 4,600 people annually
- Panic Disorders, affecting over three million Americans during their lifetimes, in whom the suicide rate is 20 times that of the general population

ECONOMIC BURDEN

- ▶ In 1990, the total costs (direct, indirect, and other related) for all mental disorders was \$148 billion, approximately the same as that for all cardiovascular system diseases
- ▶ Total costs for severe mental illnesses was \$74 billion
- ▶ Treatment costs of \$67 billion represented 10 percent of the nation's \$670 billion direct health care costs in 1990
- ▶ Depression alone accounted for almost \$44 billion in annual costs in 1990
- ▶ State and local governments provide a significant proportion mental health funding--while state and local governments provide only 14 percent of total expenditures for all health care, they provide 28 percent of all funding for mental health care

FUNDING RECOMMENDATIONS/NEUROSCIENCE NEEDS FOR FISCAL YEAR 1995

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- ▶ **Basic research** in neurochemistry, neurogenetics, neuropathology, and other fundamental neurosciences, to identify the secrets of the brain and nervous system that will open the door to new clinical opportunities
- ▶ **Basic and applied research** to understand the brain's control of behavior, mood and innate creativity
- ▶ Research efforts in the **genetic basis of neurological disorders** to address the increasing evidence of the genetic basis for many diseases
- ▶ **Functional imaging of the brain** to determine brain activity and structure in disease as well as the cognitive functions of learning, thinking and memory
- ▶ **Mechanisms of repair** to identify how the brain restores itself after being damaged and to further explore the fundamental neurobiology of the normal nervous system
- ▶ **Controlled clinical trials** to develop and bring to the market effective therapeutics for the treatment of neurological diseases
- ▶ **Training of research scientists and clinicians** in the field of neuroscience
- ▶ **Over 40% of the genes in the entire human genome are involved with the structure and function of the brain, making the mapping of the genome a high priority for neuroscience**

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▶ The **SOCIETY FOR NEUROSCIENCE** recommends the following:

	1994 Appropriation	1995 President's Budget	Ad Hoc Group Recommendation*
NIH	\$ 10.95 billion	\$ 11.5 billion	\$11.95 billion
NINDS	630.7 million	653.7 million	---
NIMH	613.4 million	637.9 million	---

(*Ad Hoc Group for Medical Research Funding; does not make recommendation for individual institutes)

▶ The Ad Hoc Group level of support would provide:

- Support for existing and new research centers and clinical trials, funding for which has not kept pace with opportunities
- Expansion in all areas of NIH's research and research training initiatives
- Fund at least 30 percent of meritorious and approved peer-reviewed research grant applications

■ RECENT ADVANCES IN NEUROSCIENCE ■

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▶ **Researchers have identified genes** associated with 14 inherited neurological diseases since the passage of the "Decade of the Brain," including Familial Alzheimer's disease, Fragile X syndrome, Tay-Sachs disease, Gaucher's disease, and Neurofibromatosis 1. For other diseases scientists have identified the chromosome of where the gene is located, and the exact location of the gene should be known soon.

▶ **Addiction to drugs and alcohol** has recently been estimated to cost our nation more than \$215 billion annually. Major advances have been the identification of receptors (precise molecular sites) in the brain where drugs exert their action; including the receptors for the active chemicals in marijuana, PCP and cocaine.

▶ **Depression** currently afflicts over 10% of the U.S. population in a year, and costs our nation \$43.7 billion annually. Recent studies have identified specific brain regions involved in depression, and a number of new medications with highly specific effects on selected neurotransmitter levels in the brain are proving to be very effective in ameliorating the symptoms of depression.

▶ **Brain and spinal cord injuries** cost this nation approximately \$35 billion annually. Recent advances have provided substantial evidence that if the patient's brain or spinal cord is treated within 8 hours of injury, permanent damage can be prevented.

▶ **Strokes** currently affect 500,000 Americans a year, costing the nation \$25 billion annually. Current approaches involve opening blocked vessels to restore circulation before oxygen loss causes permanent damage.

▶ **Alzheimer's disease** currently costs our nation, each year, over \$90 billion and currently affects an estimated 4 million Americans; and is expected to affect 14 million Americans by the year 2040. Researchers have located an area on chromosome 21 that may be linked to the early onset of the familial form of the disease.

▶ **Huntington's disease** - recent discovery of the gene that causes this disease will expedite effective treatments. This disease currently afflicts 25,000 Americans, with another 125,000 at risk.

▶ **Amyotrophic Lateral Sclerosis (ALS, "Lou Gehrig's disease")** - recent discovery of the gene that causes an inherited form of this disease will lead to better understanding of all forms of this disease and to new treatments. ALS currently affects 5,000 Americans.

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■ HARKIN/HATFIELD Health Research Fund Act ■

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Senators Tom Harkin (D-IA) and Mark Hatfield (R-OR) introduced the "Health Research Fund Act of 1994" on February 28, 1994. It is also supported by Senator Edward Kennedy (D-MA) and by Senator Nancy Kassebaum (R-KS), Chairman and Ranking Minority Member of the Labor and Human Resources Committee, respectively. Representative William Coyne (D-PA) plans to introduce a companion measure in the House.

The Health Research Fund Act would provide increased support for biomedical and behavioral research through the establishment of a medical research fund.

Monies would be directed into the Fund through a one percent set-aside of all monthly health insurance premiums and through a voluntary federal income tax check-off, where Americans would be given the opportunity to designate contributions for health research on their federal income tax form.

The Senators estimate that their legislation would increase funding for NIH by approximately 50%. The legislation includes a provision that monies from the Fund could not be obligated unless appropriations to the NIH for the current year are at least the same amount as appropriations for the previous year, thereby preventing the Fund from becoming a replacement for regular appropriations.

Monies from the Health Research Fund would be allocated as follows: two percent would be directed to extramural construction and renovation of research facilities, two percent would be allocated to the NIH Director's discretionary fund, and one percent would be directed to the National Library of Medicine. The remaining 95% would be allocated to the individual Institutes, based upon the allocation of their appropriation.

→ The Senators intend to offer their legislation as an amendment to any major health care reform legislation that is considered by the full Senate.

Under the Budget reduction legislation passed last year, discretionary spending will be frozen for the next five years – under the law, it will not even be adjusted for inflation. Thus, it will be very difficult to provide any new funding for existing programs, let alone provide inflationary growth.

→ Passage of the Harkin/Hatfield amendment is the only way to provide any real increase in funding for NIH. It is critical for Society for Neuroscience members to contact their Senators and ask them to join as a co-sponsor of the Harkin Hatfield Health Research Fund Act of 1994, and to contact their Representative and ask him or her to join Congressman Coyne as a House sponsor.

Nearly 200 medical and health groups, including the Society for Neuroscience, support the Harkin/Hatfield Medical Research Fund.

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■ ANIMAL RIGHTS MOVEMENT ACTIVITIES ■

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▶ During the past ten years the activities of the animal rights movement have increased considerably. While most groups within this movement were originally concerned with the humane care and treatment of animals, many organizations have now shifted their goals to abolishing all use of animals.

▶ There are well over 300 organizations in the U.S. dedicated to opposing the use of animals in biomedical research, education and consumer product safety testing.

▶ The animal rights movement maintains a constant level of high profile activities designed to attract media attention, thus keeping their side of the issue in the public eye. These activities include:

- Bomb Threats
- Break-Ins at animal facilities
- Arson
- Vandalism
- Threats against people and property
- Civil disobedience
- Demonstrations and picketing
- Lawsuits against federal agencies, research facilities, and others
- Sit-Ins
- Letter campaigns to newspapers
- Letter campaigns to elected officials
- Boycotts

▶ The animals rights movement has increasingly resorted to illegal acts to further their cause. Laboratories have been broken into and vandalized, animals have been stolen, research data has been tampered with, and individual researchers have been personally harassed and threatened.

The animal rights movement is attacking the following targets:

- ▶ **Biomedical Research Institutions**→ for use of lab animals
- ▶ **Individual Researchers**→ for use of lab animals or speaking in support of those who use them
- ▶ **Agricultural Industries**→ poultry and veal producers have been particularly hard hit
- ▶ **Cosmetics Industry**→ for use of the Draize test to ensure product safety
- ▶ **Consumer Product Industry**→ for use of the LD50 test to ensure product safety
- ▶ **Students**→ for use of animals in science courses. Includes elementary, secondary, undergraduate and graduate levels of education.
- ▶ **Furriers, Merchants and Customers**→ for manufacturing, selling and purchasing fur goods
- ▶ **Entertainment and Sports Industries**→ for use of animals in circuses, zoos, aquariums, rodeos, hunting, etc.