National Arthritis Month Proclaimed by President

At a White House ceremony Apr. 11, President Ronald Reagan signed a proclamation declaring May 1983 as National Arthritis Month.

Also present were Vice President George Bush, Senator Steven Symms of Idaho and his wife, Mrs. Fran S. Symms, a member of NIH's National Arthritis Advisory Board; John Wiswall of Delaware who has had arthritis for 18 of his 19 years, and Victoria Principal, the well-known actress and this year's general chairman for the Arthritis Foundation. Ms. Principal's mother has systemic lupus erythematosus, a potentially serious connective tissue disease.

Arthritis, the oldest known group of chronic diseases, is still the Nation's greatest crippler. At least 35 million Americans—about one in seven—have some form of arthritis at a cost to the Nation of billions of dollars.

The forms of arthritis include such common disorders as osteoarthritis, rheumatoid arthritis, and gout; connective tissue diseases, such as lupus and scleroderma; which can afflict internal organs as well as the joints and skin; juvenile arthritis, which can afflict infants and children; and ankylosing spondylitis, or spinal arthritis.

The Presidential proclamation declared: “The total cost of arthritis must be

In recognition of National Arthritis Month, Dr. John Decker (above), chief of the Arthritis and Rheumatism Branch, NIADDK, will be the keynote speaker at a community forum on arthritis to be held in Masur Auditorium May 17 starting at 7 p.m.

NCI and NIAID Award $245,721 to Fund Four New Research Studies on AIDS

The National Cancer Institute and the National Institute of Allergy and Infectious Diseases recently awarded one-quarter of a million dollars in direct costs to fund four new studies on acquired immune deficiency syndrome (AIDS).

AIDS is a relatively new, often fatal condition that leads to a breakdown of the body's immune function.

The awards are the first made from research proposals submitted in response to a request for applications (RFA) issued by NCI to stimulate studies on possible causal factors for the condition and its treatment. NCI has allocated up to $1.8 million and NIAID approximately $1 million to support proposals received from investigators in response to the RFA. Additional awards for proposals submitted under the RFA are expected to be made this month. NIH estimated total funding for research on AIDS in FY 1983 will be $9.6 million, including $4.4 million through NCI; and $4.0 million through NIAID.

AIDS disorders include Kaposi's sarcoma, a rare tumor that starts in cells of blood vessel walls; Pneumocystis carinii pneumonia; and other opportunistic infections. Cases of AIDS have been reported primarily among homosexual men, intravenous drug abusers, recent Haitian entrants and hemophiliacs.

The research projects to be funded by NCI are:

- Dr. John H. Hughes, Children's Hospital Research Foundation, Columbus, Ohio, will conduct animal studies on the immunosuppressive potential of human seminal plasma and cytomegalovirus (CMV), cause of a type of infection seen in AIDS patients. Seminal plasma and CMV have been suggested by investigators as possible causal agents for AIDS.

- Dr. H. H. Hughes, Children's Hospital Research Foundation, Columbus, Ohio, will conduct animal studies on the immunosuppressive potential of human seminal plasma and cytomegalovirus (CMV), cause of a type of infection seen in AIDS patients. Seminal plasma and CMV have been suggested by investigators as possible causal agents for AIDS.

- Dr. Martin S. Hirsch, Massachusetts General Hospital, Boston, will investigate the possible role of viruses in the development of Extensive virological and immunologic studies will be conducted on a group of AIDS patients. (See AIDS STUDIES, Page 11)

President's Revised 1984 Budget Maintains 5,000 New and Competing Grants

NIH officials have finished their participation in the Congressional hearings on the President's 1984 budget estimates. Testimony by government witnesses on the NIH budget was completed Apr. 26.

NIH Director Dr. James B. Wyngaarden and the Directors of NIH's Bureaus, Institutes and Divisions appeared before the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Agencies Apr. 12 and 13, and before the House Subcommittee on Apr. 19, 20, 21, 25 and 26.

In their testimony, the NIH witnesses presented the President's proposed 1984 budget for the agency. The total requested: $4,077 billion, was the same as that submitted with the President's budget message Jan. 30, but the distribution of funds, particularly within the mechanisms of support as finally approved by the OMB, differed from the earlier draft submissions.

The revised proposal calls for the support of 5,000 new and competing grants, with offsetting reductions in support for centers, training, contracts and other programs. (See "Revised Budget Appropriation and Mechanism Tables," page 12.)

Parklawn Classic Results

The April 29 Parklawn Classic turned out to be an NIH Classic. Jerry Moore of the Division of Management Policy, Office of Administration, OD, placed first in the 5-mile men's race, setting a new course record. Linda Bennett of the National Institute of Child Health and Human Development came in second in the women's race. Altogether, 8 NIHers received awards.

Complete details and photographs of the Classic will appear in the next issue of The NIH Record.
Dr. Harald Löe, NIDR Director, presented cash awards to four Dental Clinic staff members, Apr. 11. The awardees were recognized for extraordinary efforts in assuming additional tasks during a personnel shortage which lasted nearly 1 year. Their cooperation and collaboration enabled the clinic to function without any disruption to patient care or research activities. The award presentation is (l to r): Dr. Mike Roberts, Dr. Marie Nylen, Marie Papanicolas, Jerry Davis (rear), Rose Staley, Nancy Kerr, Dr. John Goggins, and Dr. Löe.

AIDS Citations Available Through Literature Search

A bibliography containing 179 references from the recent journal literature on acquired immune deficiency syndrome (AIDS) is available without charge from the National Library of Medicine's reference section.

AIDS is the current epidemic of serious illnesses associated with defects in the body's immune system. The illnesses—opportunistic infections associated with cellular immunodeficiencies, Kaposi's sarcoma and other malignancies, lymphadenopathy, and pneumocystis carinii pneumonia—affect primarily such groups as homosexual or bisexual males, Haitian immigrants, hemophiliacs, and drug abusers.

The bibliography on AIDS, Literature Search No. 83-1, was produced through NLM's computer-based system MEDLARS. An addendum contains additional references drawn from other sources.

A complete list of available Literature Search titles appears in each issue of Index Medicus and Abridged Index Medicus. When requesting the AIDS bibliography, please include the Literature Search Number (L.S. 83-1), enclosed a self-addressed gummed label, and mail to Literature Search Program, Reference Section, National Library of Medicine, Bethesda, MD 20209.

Safety Hazard Suggestion Wins Cash Award

Mr. Gregg (l) received the award from Otis Watts, assistant director, General Services Management Branch, ORS.

Clyde E. Gregg, an employee in the transportation section, recently received a $500 cash award for suggesting that a hydraulic lift platform be built at the Chemical Storage Bldg. The platform will separate highly flammable chemicals and gases that are presently stored together in a nonrestricted area.

Public Meeting May 17
On Laboratory Animal Guide

The National Research Council's Institute of Laboratory Animal Resources will hold an open meeting May 17, at 9 a.m., to receive statements from the public relevant to preparation of a sixth edition of their Guide for the Care and Use of Laboratory Animals. The meeting will be held in the auditorium of the National Academy of Sciences, located in the 2100 block of "C" St., N.W., Washington, D.C.

The revision of the "Guide" is being done under an NIH contract to the Academy by a 14-member committee on care and use of laboratory animals, chaired by Dr. Steven P. Pakes of the University of Texas Health Sciences Center, Dallas.

Two additional regional public meetings are planned, one in the midwest and one on the west coast. Public announcements will be made for these meetings when the locations and schedules are selected.

Parking for meeting participants is not available at the Academy building. For more information, call the Division of Research Resources, Office of Science and Health Reports, 496-5545.
NCI Pediatric Branch Designs Special Play Therapy for Children with Cancer

By Ron Cowen

Every Tuesday and Thursday at 2 p.m., therapists Iris Shmueli and Sue O’Connell unlock a closetful of special toys in the Clinical Center’s sixth floor playroom. They carry out the amputee teddy bear with the removable leg, the rabbit with the prosthetic paw, toy syringes, and the blood pressure gauges. Rag dolls lie in a heap against the wall. The women push back the child-size chairs and tables, and roll out a blanket over the rug. Then the children come in.

A 7-year-old girl picks up a doll and puts a bandaid on its arm. A 5-year-old boy dons surgical gloves and an oversized lab coat.

He listens to a doll’s heartbeat with a real-looking stethoscope and shakes his head. “We’ll have to take a spinal tap,” he says, and turns the doll on its stomach, pulling a toy syringe out of his pocket. “This won’t hurt too much,” he says.

Another boy carries over a mock intravenous stand with a hanging plastic bottle. “What’s the white blood cell count?” he asks Ms. Shmueli, his social worker.

These children are acting out some of the medical procedures they have experienced. The children have cancer.

Their diagnoses include Burkitt’s lymphoma, leukemia, Ewing’s sarcoma, neuroblastoma and osteogenic sarcoma.

Although the children have life-threatening illnesses, their psychological needs are similar to those of healthy children. The warmth and caring provided by families, staff members, classmates and friends help support the children through the lonely and difficult days.

Older children will talk out their fears, but younger children “don’t talk, they play,” Ms. Shmueli said.

“One little girl had a real fear of medical equipment. Young children are not used to stethoscopes and alcohol wipes. This girl played out her fears, and now she charges in, digging into every box and toy medical kit we have,” Ms. O’Connell commented.

The program is a team effort. If the play therapists see that a child is having trouble, Linda Moore, the 6-West head nurse, is alerted and can follow up on the problem.

The success of the program can be attributed to the variety and quality of play materials available, the nonthreatening atmosphere of the sessions which allow expressive play, and a supportive, understanding medical staff who realize that children need time to be children and try to schedule medical procedures around this special play time.

Each child or young adult in the Pediatric Branch has an assigned social worker. The majority of patients come from the eastern and southern parts of the U.S., often with only one parent able to make the trip home and Bethesda. The older children are very supportive of the younger ones. There’s a feeling among the patients that “we all understand.”

The Play Program is based on one created by Margaret Adams, a social worker at the Memorial Sloan-Kettering Cancer Center in New York. At NIH, the Pediatric Branch and the Patient Activities Department ordered special medical toys for the popular 6th floor playroom, and hospital carpenters built others.

“There’s a tremendous bond between all of us during the play sessions. We roll out a blanket before we start so the children can play with dolls, or the medical kits, or the stuffed animals and the puppets. Their attention span is short, and it’s good that they can also change activities, or simply leave if they wish.

“There is one little girl who’s been treated with chemotherapy for 2 years, and she’s well and healthy. When she’s on chemotherapy, the pictures she draws show a tiny 6-year-old girl next to her siblings, who are huge.

“When she is between cycles of chemotherapy, she draws herself as a regular size member of her family. She is telling us how chemotherapy affects her,” the play therapists said.

Dr. Philip Pizzo, chief of the Pediatric Branch, says it is too early to evaluate results of the play therapy program, but anticipates success “because we know children like to act out their fears through play.”

Further information on the program is available from the Pediatric Branch at (301) 496-4256.

House Dust Allergy

Volunteers Wanted

The Allergenic Products Branch of the Office of Biologics, FDA, is soliciting volunteers (HHS employees) who have allergic symptoms following exposure to house dust and wish to participate in the study to evaluate selected allergens in house dust.

Participants will be asked to complete a questionnaire relating to their allergies, undergo skin testing to selected house dust allergens and donate a sample of blood.

If interested, send a request for house dust allergy questionnaire to Dr. Paul Turkeltaub, Bldg. 29, Rm. 214.

Baseball Season Arrives

Baseball season is here and R&W has obtained Orioles tickets for the following games at Memorial Stadium in Baltimore.

Thursday, June 9, Milwaukee Brewers, 7:05 p.m.
Friday, June 17, Boston Red Sox, 7:05 p.m.
Wednesday, Sept. 7, Boston Red Sox, 7:05 p.m.
Sunday, Oct. 2, New York Yankees, Upper box seats and bus transportation cost $12.50. The bus departs Bldg. 31C at 5:30 p.m.

Tickets may be ordered through the R&W Activities Desk, Bldg. 31, Rm. B1W30.

Office Procedures Handbook

Now Available to Employees

Because of many requests for current information on preparing correspondence and routine office procedures, the Division of Management Policy has recently issued a revised version of the NIH Office Procedures Handbook.

The handbook will be distributed initially by your BID executive officer. Additional copies can be obtained by submitting a completed Form NIH 414-5 to the Printing and Reproduction Branch, Division of Administrative Services, Bldg. 31, Rm. B3BE07.
Patient Requests to Die Subject of Federal Ethics Meeting

Issues that arise when a patient requests to be allowed to die were the subject of an interdisciplinary conference held Apr. 11 at NIH. The Clinical Center’s Departments of Social Work, Spiritual Ministry, and the Assistant for Bioethics, Dr. John C. Fletcher, sponsored the conference.

Delegations of physicians, nurses, chaplains, legal officers, and social workers attended from Walter Reed Army Hospital, Bethesda Naval Hospital, and the Uniformed Services University of the Health Sciences, in addition to their CC counterparts. It was the first time that workers from these four institutions have met to discuss a significant ethical/social issue and compare practices.

The major resource person for the day was Dax Cowart, a recovered burn patient who suffered severe burns over 70 percent of his body in 1973 from a propane gas explosion. Mr. Cowart, 25 years old at the time, refused treatment several times, but his decision to die was overridden by family and physicians.

Mr. Cowart was forced for the next 14 months to undergo excruciatingly painful procedures, including daily immersions in a tank of medicinally fortified water to sterilize his open burns.

Several operations were performed in the effort to save his sight, hands, and the use of his arms. Today he is blind, has impaired hearing, and limited arm mobility.

Now, nearly a decade after his near-fatal accident, Mr. Cowart wants to live but feels that his desire to refuse the long and painful course of treatment should have been honored, and that he should have been allowed to die.

Six Minority Students Get NIH Science Awards

Six minority science students received research awards for their scientific abstracts at a banquet Apr. 9 highlighting the 11th Annual Minority Biomedical Research Support Symposium at the Shoreham Hotel in Washington, D.C.

The ceremony marked the end of three days of lectures, workshops, seminars, slide and poster presentations which brought together 1,600 minority students and faculty researchers from 81 U.S. universities, the largest gathering of its kind in the United States. The following is a list of award winners and titles of their abstracts:

- Robin Scott (Howard University), "Variability of Fetal Hemoglobin Levels Among Non-Human Primates."
- Isabel Lopez (University of New Mexico School of Medicine), "Variation in Quantitative and Distributional Patterns of Fluorescent Lectins Bound to Surface Oligosaccharides of Aging Human Diploid Fibroblasts (IMR-90)."
- Leonie Nelson (California State University), "Effect of a New Class of Rifamycins on Transcription in Mycobacteria."
- Jonathan Mosely (Tuskegee Institute School of Veterinary Medicine), "Comparison of Mecadox with Bactracin in Controlling Swine Dysentery."
- Stephen Nash (Tuskegee Institute School of Veterinary Medicine), "Passive Transfer of Immune Protection in Swine Dysentery."
- K. Khalighi (California State University), "Effect of Prostaglandin E2 (PGE2) on In Vitro Renin Release in Sodium Loaded and Sodium Deficient Rats."

Sponsored by NIH’s Division of Research Resources and coordinated by Howard University, the symposium opened with NIH Director Dr. James B. Wyngaarden delivering a scientific address on "New Inborn Errors of Purine Metabolism."

Other program highlights include a lecture by Dr. Yvonne Clement-Cormier, assistant professor in the department of pharmacology at the University of Texas Medical School, who spoke on dopamine receptors and schizophrenia.

Alan Demmerle, Larry Nadel, Robert Martin, and John Powell of the Computer Systems Laboratory, Division of Computer Research and Technology, held a workshop entitled "Selection and Application of a Computer System for the Biomedical Research Laboratory." This was part of the Minority Biomedical Research Support Symposium sponsored by DRR and held at the Shoreham Hotel Apr. 7 and 8.

Topics in the workshop included discussions on the various types of computer systems available for a biomedical research lab, what to look for in selecting a suitable system, and a few examples of existing laboratory computer systems.

Seminars were also conducted by Dr. Michael Brownstein, NIMH, on brain peptides and by Dr. Erik Westin, NCI, on research aspects of oncogenes. In addition, about 600 posters and papers were presented by minority students.

Explaining his research findings, a student (r) from Atlanta’s Morehouse College participates in the 11th Annual Minority Biomedical Research Support (MBRS) Symposium, which took place recently in Washington, D.C. Approximately 1,600 minority faculty and students attended this year’s gathering, making it the largest meeting of minority biomedical researchers in the United States.

The symposium is an integral part of the MBRS program which funds research activities at colleges and universities with high minority student enrollments. The program is administered by NIH’s DRR. Howard University coordinated this year’s symposium.

"Each side certainly benefits from technology, yet each perceives it from different vantage points... It presents the enlightened physician with the challenge of finding common ground from which both medicine and the lay public can judge the new technologies and exploit them in the cause of better health for all," Dr. Brandt emphasized.

During their stay in the Washington area, symposium participants also toured NIH facilities.
NIADDK Lupus Research Program Focuses on Kidney Involvement

By Barbara Weldon

More than half a million American patients are awaiting a cure for a mysterious, potentially fatal connective tissue disorder known as systemic lupus erythematosus (lupus).

Lupus is primarily a disease of young adults which strikes an estimated 50,000 people each year. Almost 90 percent of its victims are young women of childbearing age. The disease, a disorder of the body's immune system, can affect the kidneys, heart, lungs, or central nervous system.

Over the past 30 years, more than 1,000 patients with lupus have participated in a research program at NIH.

Scientists at the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases are dedicated to trying to find a cure for lupus. The program's major thrust has been research on the effect lupus has on the kidney, and how best to treat this disease complication.

According to Dr. John Klippel, a senior investigator in the Arthritis and Rheumatism Branch, "At one time, lupus was thought to be fatal but now we know that in most cases it is a chronic disease."

Dr. Klippel said certain symptoms make a doctor think of lupus. These include arthritis, blood disease, kidney disease, sensitivity to the sun, or a persistent rash on the nose and cheeks. In about 20 percent of the cases, the lupus patients may have a false-positive reaction to a premarital test for syphilis.

Since lupus is a lifelong disease that has no cure, many people ask how they can be admitted into an NIH study program. To be accepted, patients must have a positive diagnosis of lupus and be referred by their physician. The researcher studying the disease will then evaluate the case to see if the patient fits into a particular research study.

If accepted, patients are divided into two groups based on the severity of their case. Those with mild disease are treated in the outpatient clinic while those with more advanced forms are admitted to the Clinical Center.

When a patient is first admitted, a complete history is taken and laboratory studies are done. For example, a blood count is ordered to learn if the patient has too few red cells, white cells, or platelets (blood cells that control clotting).

These blood tests also include an examination for a particular type of white cell (LE cell) often found in lupus patients, and an antinuclear antibody (ANA) test for determining if the patient has an unusual type of protein substance (antibody) found in many patients with autoimmune diseases like arthritis or lupus.

In other tests, researchers collect all urine passed in a 24-hour period to see if the kidneys are functioning properly. A chest X-ray is taken to see whether the lungs are involved, and an electrocardiogram to see if the disease has affected the heart.

Since lupus differs in each patient, some treatments that work for one patient may not work for another. Thus, NIADDK researchers are evaluating three distinct types of therapy to treat patients with kidney problems resulting from lupus.

Drug Combinations

Researchers may give lupus patients a specific type of immunosuppressive drug to stop production of too many antibodies (disease fighters). They may also combine several immunosuppressive drugs.

In addition, they may vary the timing of the drugs, for example, giving large doses of immunosuppressive drugs early in the disease and less later on.

Most lupus patients are treated with steroids (prednisone and other agents). Researchers are convinced that these agents have reduced mortality and prolonged life in lupus patients.

Since death rates are highest in patients with kidney involvement, the primary focus of the NIADDK research program is the kidney, but other aspects of lupus have been studied. For instance, researchers have evaluated a new procedure called plasmapheresis. They filter the patient's blood through a machine that works like a cream separator.

As the blood is withdrawn from the patient, it is spun rapidly with the heavier red cells separating from the plasma—the liquid part of the blood containing antibodies. These antibodies are filtered out and discarded. The "cleansed" blood is then returned to the patient.

Another study concerns the genetic characteristics of lupus. Recently eight families were studied to determine whether inheritance contributes to the disease. Their studies included lupus patients, their spouses, and immediate blood relatives.

Patients were questioned about drug intake, nature of household contacts, and signs or symptoms of lupus.

Blood samples were drawn from each family member for evaluation. "We find that about 90 percent of patients have no family history of lupus. Almost 10 percent have family members with the disease," Dr. Klippel said.

Much NIADDK research on lupus focuses on the immune system and the role of antigens (substances that provide the disease immune response) and antibodies (which are produced in response). Replacement of deficient cell material may be a possible future treatment for lupus.

Gene splicing and gene transfer are new, rapidly expanding research fields. If the lupus patient is shown to have a genetic problem, such as a mutation in the chromosome, then scientists may eventually be able to delete the gene responsible for lupus and replace the defect one.

"We have to realize that we are dealing with a chronic disease and may have to follow the patient for years. One of the strengths of this program has been the excellent follow-up of lupus patients. This allows you to see the whole spectrum of the disease," Dr. Klippel said.

NIH Tennis Club Sponsors Teams in GWTA League

The NIH Recreation and Welfare Association and the NIH Tennis Club will sponsor two teams in this year's Greater Washington Tennis Association Interclub League.

The teams will play singles and doubles matches on Sunday mornings, beginning June 5, and extending through mid-August, at local clubs and schools as well as at the NIH courts. For further information call Herb Dorsey, after 6 p.m., at 530-0378.

May 10, 1983
The NIH Record
Asian/Pacific American Heritage Week Activities Are Planned For May 18-20

Watch out for the dragon in the cafeterias Monday, May 16. Members of the Chinese Fraternal Association will perform the traditional dragon dance accompanied by drum in the cafeterias of the Clinical Center, and Bldg. 31 at noon.

In Cambodian mythology, the royal dragons stand at the palace entrance guarding the royal couple. They occasionally dance on the palace grounds to please the royal couple.

The dragon will herald this year's celebration by NIH of the Asian/Pacific American Heritage Week program to be held May 18-20.

The program is being sponsored by the NIH Asian American Cultural Committee in collaboration with the Division of Equal Opportunity.

The purpose of the 11th annual program is to show the contributions by Asian Americans toward a dynamic and rich cultural diversity in the United States.

During the month of May there will be an exhibit of Thai art in the showcase next to the NIH library in the Clinical Center.

On the patio of Bldg. 31A, May 18-19 from noon to 2 p.m., there will be booths representing Cambodia, China, Japan, Korea, Pakistan, Thailand and the Philippines.

In the Cambodian booth there will be a demonstration (old leaf painting technique) "Angkor's Art," dedicated to the preservation of Cambodian culture through the media of hand silk screening and watercolor, will display a variety of pictures including scenes of the great temple complex at Angkor Wat.

Chinese kite making will be demonstrated and old Chinese costumes will be available in which onlookers may have their pictures taken at the Chinese booth.

In the Japanese booth, the president of the Ikenoubo school of flower arrangement in the Washington metropolitan area will exhibit and demonstrate Ikebana, classical Japanese floral arrangement.

The Korean booth will offer an arts and crafts display.

The Philippine booth will consist of wood carvings, Philippine dolls, oil paintings and selected books written by contemporary Philippine authors. Among the wood carvings will be a carabao (water buffalo), hand carved by Igorots from a single block of Philippine mahogany, and a carving of man and woman dancing the "tinkling," embossed on a background of Philippine capiz shells. The dolls will feature various costumes worn by Philippine women through the centuries as well as those worn by different ethnic groups.

Snack foods will be available. Proceeds will be donated to the NIH Day Care Center. At noon on Friday, May 20, in the CC ACRF Amphitheater, Dr. Harvey Stupler, an authority on Asian art, will give a lecture entitled "Jataka Tales in Buddhist Art."

On Friday evening, May 20, in the CC Masur Auditorium from 7:30 p.m. to 10:30 p.m., live performances will be offered by participants of six cultural groups: China, Japan, Korea, Thailand, the Philippines, and Pakistan.

Participants of the Chinese Fraternal Association and students from Georgetown University and the University of Maryland, will perform a dragon dance. The dragon is the traditional symbol of Chinese royalty.

Flutists and a singer will perform three classical Japanese selections which depict the sounds of nature, particularly of water, and names of objects of good fortune and prosperity.

Mrs. Yoo Soon Lee of Korea and children will entertain with drum and fan dances which palace maids used to perform for the King and Queen at royal events.

Joon Rhee and students will perform a combination of ballet and karate, "The Marriage of East and West" to music of Beethoven 45, "Might for Right" to music from Exodus and "God Bless America."

Thai Culture and Performing Arts Association members will enact "Khon," a Thai masked play which is a Thai version of the famous Indian epic, the Ramayana.

Sixteen dancers will perform several Philippine folk dances, including "Singkil" and "Tinkling," which require great concentration and agility of the performers as they weave through rapidly clapping bamboo poles.

Norman Ismail and friends will present both contemporary and folk music of Pakistan and a classical folk dance.

The first Asian/Pacific American Heritage Week was observed at NIH in 1973 in response to an employee suggestion to increase minority cultural awareness programs at NIH.

Plans are underway for other cultural programs: Native American Indian Program, June 1983; and the Hispanic Heritage Program, Sept. 1983.

Sail on the 'Amazing Grace'

Sail aboard the Amazing Grace, a classic Bugeye, on Sunday, May 29, from 10:30 a.m. to 3:30 p.m. in Annapolis.

Cost is $20 per person and limited to 25 "seafarers." Sign up at the R&W Activities Desk, Bldg. 31, Rm. B1W30.
Extensive Instruction Given to Insure Proper Waste Disposal at NIH

Laboratory personnel in the Clinical Center and every research building on the NIH campus, as well as the Animal Center, have been undergoing extensive instruction in the proper disposal practices for general and medical pathological waste (MPW). Review sessions have been conducted by the Division of Safety’s occupational safety and health control officers. This need for reviewing proper waste handling procedures for MPW was brought about by the recent controversy which revolved around the question as to whether inappropriate materials were being delivered to Montgomery County’s solid waste facilities as general waste. These facilities include the County Transfer Station in Rockville and the sanitary landfill at Laytonsville.

The Division of Safety established a collaborative monitoring initiative with county officials at the Rockville Transfer Station in which staff from the division was assigned to monitor waste. This surveillance continued for a 10-day period. Subsequently, spot checks continue to be made.

Additionally, on campus, the housekeeping staffs of the CC and DAS have been screening materials in the general waste to further reduce the possibility that medical pathological waste will be sent to the county landfill.

During these inspections, it was determined that some materials recovered were, by the NIH’s definition, medical pathological waste and should have been disposed of in the NIH incinerator. In these cases, followup visits have been made to those sources which discarded these waste materials in the regular trash (general waste) and appropriate corrective actions taken.

In a memo to all scientific directors and to the acting director, Clinical Center, Dr. J. E. Rall, Acting NIH Deputy Director for Science, emphasized the importance of properly separating the various kinds of waste—chemical, radioactive, medical pathological, and general—in order to correct the misperception of NIH which has been created by the recent waste disposal controversy.

Additionally, Dr. Rall noted that, “NIH generates approximately 20 tons of general waste per day and to jeopardize our use of Montgomery County services would present a very serious problem for NIH.”

Dr. Emmett Barkley, Division of Safety director, and staff members recently met with representatives from the Montgomery County Council and the Greater Laytonsville Civic Association to assure them of our cooperation and give them an overview of NIH waste management practices.

The Division of Safety has also established a collaborative monitoring initiative with County officials at the Rockville Transfer Station to further check on the effectiveness of the NIH waste disposal procedures.

To further assist NIH personnel in the proper disposal of waste material, the Division of Safety will be distributing updated general operating guidelines during the month of May. In the interim, for further clarification or information, call the following:

- Medical Pathological Waste 496-2346
- Chemical Waste 496-7990
- Radioactive Waste 496-5774
- General Waste 496-2346

NIH has long been regarded as a good neighbor in the local community. All employees of the NIH share a responsibility in maintaining this element of respect by the Montgomery County community. The attention and diligence we give to proper waste handling procedures will help to ensure our good neighbor status.

Applications Being Accepted For Grants Seminars

Each year the Office of Grants Associates in the Division of Research Grants organizes a series of seminars to complement the working assignments of the grants associates and the working experiences of health scientist administrators.

The Office of Grants Associates is accepting applications for its 1983-84 Grants Associates Seminar Series, scheduled to begin on Monday, Sept. 12. The weekly seminars will run for 10 months and are usually held on Monday mornings in Bldg. 31.

The seminar series is designed to address a broad spectrum of philosophical, political, and policy issues relevant to the administration of Federal programs in the support of biomedical research. The series is not designed as an orientation or introduction to extramural programs or to the program review operations.

Topics to be covered will include: the roles and interactions of DHHS, NIH, other PHS and non-PHS agencies; policy and ethical considerations in biomedical and behavioral research; factors affecting extramural programs and their administration; program planning and evaluation; and the legislative/budget process.

Deadline is June 9

Those wishing to be considered for the series should forward a current curriculum vitae (with emphasis on current duties and responsibilities), including a statement of interest related to one’s position. Applications should be submitted through immediate supervisors to BID directors.

Each BID director will forward three nominations to A. Robert Polcari, Office of Grants Associates, Bldg. 31, Rm. 1B55, no later than Thursday, June 9.

Only a limited number of participants will be accepted. Final selections will be made by Dr. William F. Raub, NIH Associate Director for Extramural Research and Training. All nominees whose documents reach the OGA by the deadline will be notified of final action in late August.

Only those selected will be required to submit a Form DHHS-350 (DHHS Training Nomination and Authorization). Participants will receive a minimum of 150 hours of training credit in their official personnel file after completing the series.

For further information, contact Mr. Polcari, 496-1736.

What many orators lack in depth they make up for in length.—Baron De Montesquieu

Dr. Barkley (with box) explains the NIH waste disposal program to the Greater Laytonsville Civic Association members (1 to r); Dr. William J. Jaffurs, Vice President; Dr. W. G. Paulhus, and Judy Whalen.

May 10, 1983 The NIH Record
**Make the Corridors Safe**

The topic for this month's safety poster, located throughout the buildings on the reservation, is the "Safe Use of Corridors." The poster highlights the new corridor utilization policy that has been distributed to all BID Safety Committee chairpersons. The policy has also been distributed as the revised Manual Issuance 1361.

Preparation of this document represents a new approach to the development of safety and health policy. It represents the collective efforts of management, safety professionals and building occupants.

In addition to stating policy, the new document provides explanatory comments that are designed to help building occupants implement the policy.

For copies of the new corridor utilization policy, contact your BID Safety Committee chairperson.

**NIH Safety Seminar Scheduled for May 19**

The "Supervisor and Personal Liability" will be the subject of the NIH Safety Seminar, sponsored by the Division of Safety which will be presented on May 19, from 9:30 to 11 a.m., in the Lister Hill Auditorium (Bldg. 38A).

The seminar will feature Robert Lanman, NIH legal advisor, Office of the General Counsel, DHHS, who will review various aspects of the question and discuss the legal and practical aspects of the question.

The seminar will be broadcast to the NIH Library staff conference room, Bldg. 10, Rm. B1L309.

**NIH Library Presents Third Biomedical Science Lecture**

The NIH Library, Division of Research Services, will present the third in a series of lectures on current topics in biomedical sciences for medical librarians and information specialists. This series has been approved by the Medical Library Association for continuing education credit.

The lecture, "Aspects of Human Bioethics," will be given by Dr. John C. Fletcher, CC assistant for bioethics, at 2:30 p.m., May 18, in the NIH Library staff conference room, Bldg. 10, Rm. B1L309.

Call Sarah Log, 496-2398, or Kathie Vashaw, 496-1156 to make arrangements.

**Dr. Robert Wittes Named Associate Director Of NCI's Cancer Therapy Evaluation Program**

Dr. Robert Wittes has been appointed associate director of the Cancer Therapy Evaluation Program, Division of Cancer Treatment, NCI. The program is responsible for sponsoring and monitoring NCI's extramural clinical trials.

Dr. Wittes comes to NCI from the Memorial Sloan-Kettering Cancer Center, New York, where he had been associate chief of the solid tumor service since 1979.

His main interest has been in clinical trials-involving anticancer drugs and combined-modality therapies—for testicular, lung, head and neck, breast cancer, and melanoma. He has designed clinical protocols in these areas and has been principal investigator on many multimodality trials.

His most recent work has been with new drugs, including phase I and II trials of anthracyclines, a class of chemotherapy drugs that includes Adriamycin and daunomycin.

In 1968, Dr. Wittes graduated from Harvard Medical School and in 1970 completed his internship and residency at Beth Israel Hospital in Boston.

After 2 years as a research associate in the NCI Laboratory of Biochemistry, he became a fellow in medical oncology at Memorial Hospital from 1972 to 1973. The following year, he was a clinical assistant physician in the Medical Oncology Service there.

Since 1974, he has served consecutively as clinical assistant physician, assistant attending physician, and associate attending physician in the solid tumor service, department of medicine, before becoming chief of the service.

**Developmental Awards in Clinical Pharmacology Received by 2 NIGMS Grantees and Former Trainee**

Two current grantees and a former trainee of the National Institute of General Medical Sciences recently received three of the four faculty development awards in clinical pharmacology made by the Pharmaceutical Manufacturers Association Foundation.

The awards provide 2 years of salary and benefit support to enable junior faculty members to strengthen their research capabilities.

Dr. Larry L. Douglas, a former NHLBI clinical associate and now assistant professor, department of medicine, University of Chicago, is supported under an NIGMS program project in clinical pharmacology.

He will examine the role of neuromodulators and their interaction with catecholamines in the control of blood pressure.

Dr. Garret A. FitzGerald, assistant professor, departments of medicine and pharmacology, Vanderbilt University School of Medicine, is an investigator in an NIGMS clinical pharmacology center.

His research interests include characterizing the physiological importance of arachidonic acid metabolites and their relevance to platelet vascular interactions in humans.

Dr. David W. Nierenberg, was trained at the University of California, San Francisco, under an NIGMS clinical pharmacology fellowship program directed by Dr. Henry R. Bourne. Dr. Nierenberg is now assistant professor of medicine and pharmacology, departments of medicine and pharmacology and toxicology, Dartmouth Medical School.

His work involves the inhibitory effect of some weak organic acid drugs (such as phenylbuazone, penicillin, and furosemide) on the excretion of methotrexate.

**NIGMS Committee Member Receives Award**

Dr. Marcus Reidenberg, a professor in the departments of pharmacology and medicine at Cornell University Medical College and a member of the National Institute of General Medical Sciences' Pharmacological Sciences Review Committee, has received the 1983 American Society for Pharmacology and Experimental Therapeutics Award.

Dr. Reidenberg was given the award, which consists of a bronze medal and $2,500, in recognition of his research on genetically determined variations in response to aromatic amine drugs, such as procainamide. He is the 15th recipient of the annual award, which is funded by the Hoffmann-La Roche pharmaceutical firm.

A graduate of Temple University School of Medicine, Dr. Reidenberg has been with Cornell University Medical College since 1975. He is a former recipient of a Rawls-Palmer Award of the American Society for Clinical Pharmacology and Therapeutics.
Interferon Shrinks Some Kaposi Tumors

Interferon treatment of some patients with advanced Kaposi's sarcoma and acquired immune deficiency syndrome has resulted in regressions of their tumors, according to preliminary results recently reported by NCI supported investigators at Memorial Sloan-Kettering Cancer Center in New York.

However, interferon did not appear to improve significantly the underlying problem of loss of immune function, which is the primary threat to the lives of AIDS patients.

Kaposi's sarcoma is a rare tumor that starts in cells of blood vessel walls.

"The treatment of Kaposi's sarcoma in AIDS patients using chemotherapy may aggravate the underlying immune deficiency, so that early results with interferon are encouraging," said Dr. Edward N. Brandt, Jr., Assistant Secretary for Health.

However, he added, "we are continuing to look for an effective treatment to reverse the immune dysfunction." He said several other clinical studies are being conducted using chemotherapy, interferon, and other biological substances "to try to improve therapy."

The Memorial Sloan-Kettering study, supported in part by NCI and conducted in collaboration with Hoffmann-La Roche, Inc., was published in the New England Journal of Medicine, May 5.

Thirteen Kaposi's sarcoma patients were treated with recombinant leukocyte A interferon.

Of the 12 evaluable patients, 3 were free of all signs and symptoms of disease up to 10 months after therapy. Two had partial responses: their tumors shrank by at least 50 percent, and no new cancerous lesions appeared.

Three others had minor responses: their tumors shrank more than 25 percent but less than 50 percent, and their improvement was temporary. The four remaining patients showed disease progression; three of them have died. Of the five who had partial or minor responses, two have died.

The patients were injected with high doses of interferon once a day for 28 days. Those who responded or remained stable continued to receive interferon administered three times a week. The average treatment was continued for approximately 6 to 7 mos.

Interferon is a protein that exists in minute quantities in the body, and is known for its antiviral and antitumor activity. Different types of interferon are being evaluated in treatment of Kaposi's sarcoma and other AIDS patients. It is too early to know the long-term effects on the cancer and the underlying immune deficiency.

Until the past few years, Kaposi's sarcoma occurred usually among the elderly and persons who were receiving drugs that weakened their immune systems. Since 1980, an increasing number of cases have been reported among persons with AIDS.

In addition to Kaposi's sarcoma, AIDS patients may have other conditions that present more immediate threat to their lives that must be treated before cancer therapy begins.

AIDS has a high fatality rate, and there presently is no cure for the immune deficiency. □

CC Opens New Surgical Facility

The Clinical Center Surgical Services Department officially noted the opening of a new facility on the second floor of the ACRF with a ribbon cutting ceremony on Apr. 18.

The ribbon was cut by Dr. Steven A. Rosenberg, chief, Surgical Branch, NCI, and Adrian Strong, head nurse, gynecology operating room.

"The new facility offers more space for equipment, larger operating suites, and improved delivery systems," said Miguel Jaureguizar, chief, Surgical Services Department.

Other improvements include the addition of C-arm fluoroscopy which provides a live, continuous X-ray on a TV monitor during surgery. The ophthalmology operating room is equipped with ceiling mounted instruments that rotate to either side of the operating table, eliminating the need for cart-mounted equipment.

The facility also offers two viewing galleries which were not available in the old unit. When fully operational, all operating rooms will be equipped with closed circuit TV to allow operations to be viewed in other parts of the building.

Outpatient waiting and dressing rooms are contained in the new facility which will facilitate outpatient surgery for the first time at the Clinical Center.

The Surgical Services Department performs more than 2,000 cancer, eye, and general surgical procedures a year. It also conducts general surgical consultation. □

A delegation of scientists from the People's Republic of China visited NHLBI recently to participate in a meeting of the US-PRC Working Group in Cardiovascular Disease. A joint epidemiologic study of cardiovascular disease risk factors among urban and rural populations of China is under way. The purpose of the meeting was to review progress and preliminary research data from phase 1 field work in China. Preliminary results show marked differences in the prevalence of hypertension for the same age/sex groups between North and South China. Significant changes in diet and coronary heart disease rates in recent years were also noted. Plans were developed for implementation of phase 2 data collection. Pictured are (l to r): Dr. Huang Zhengdong, deputy director of Guangdong Provincial Cardiovascular Institute, Guangzhou; Professor Tao Shou-chi, director of Cardiovascular Institute and Fu Wai Hospital, Beijing; Dr. Claude Lenfant, Director, NHLBI; Professor Tsai Ru-sheng, deputy director, Cardiovascular Institute and Fu Wai Hospital; and Dr. Wu Xi-guei, cardiologist, Fu Wai Hospital.

May 10, 1983

The NIH Record Page 9
Dr. Lester F. Aungst to learn more about the colleges and universities are looking for new and creative ways to obtain what funds are available.

West Chester, Pa., is accomplishing this task months at the National Institute of Child Health and Human Development. While in the Washington metropolitan area, Dr. Aungst also plans to become familiar with other Federal research funding agencies.

When he returns to WCSC, he will continue as an associate professor of speech pathology and audiology. He will also serve in the WCSC grants office as a resource for information on Federal funding.

Dr. Aungst describes his NIH experience as "pump-priming to revitalize the college's grants office."

### R&W Is on a New Kick!

R&W has tickets to see Team America, the best American soccer players all on one team, at discount prices for the following games:

- **Sunday, May 8, 5 p.m.** Tulsa Roughnecks vs. Golden Bay Earthquakes
- **Sunday, May 27, 8 p.m.** Golden Bay Earthquakes vs. Montreal Manics
- **Wednesday, Aug. 10, 9 p.m.** New York Cosmos vs. Montreal Manics

R&W’s price is $5.50 with service charge for adults; $3.50 with service charge for children under 16 years.

On Sunday, June 12, a Beach Boys concert will follow the 2:30 p.m. game with the Ft. Lauderdale Strikers, for the regular admission price ($7 adult, children $4—tickets not discounted). Tickets may be purchased at the R&W Activities Desk, Bldg. 31, Rm. B1W30.

### Three NIH Directors On Alzheimer's Group

Three directors of Institutes at the National Institutes of Health have been named to a newly created eight-member Task Force on Alzheimer’s Disease by HHS Secretary Margaret Heckler.

The three are: Dr. Murray Goldstein, National Institute of Neurological and Communicative Disorders and Stroke; Dr. Richard Krause, National Institute of Allergy and Infectious Diseases; and Dr. Robert Ringier, acting director, National Institute on Aging.

Others named were: Dr. Herbert Pardes, National Institute of Mental Health; Dr. Robert J. Rubin, Assistant Secretary for Planning and Evaluation; Dr. Everett C. Koop, Ph.D. Surgeon General; Lennie-Marie Tolliver, Commissioner on Aging, and Dr. Herbert Jacobs, Office of Coverage Policy, Health Care Financing Administration.

"I am taking action to assure high-level coordination of HHS research into one of the most terrifying diseases threatening older Americans," Mrs. Heckler said in making the announcement.

Alzheimer’s disease, a premature onset of mental deterioration, is the fourth leading cause of death in the elderly. Promising research into the causes, diagnosis and treatment of the disease is ongoing through HHS’ National Institute of Mental Health, the National Institute on Aging and the National Institute of Neurological and Communicative Disorders and Stroke as well as through many independent scientists working under HHS grants.

Secretary Heckler has asked Assistant Secretary for Health Dr. Edward N. Brandt, Jr., to chair the task force. In this capacity, he will direct the task force to coordinate the intensive research already being done at HHS on Alzheimer’s disease; create a mechanism by which all programs in the department serving the elderly can share information on Alzheimer’s; identify the most promising research avenues; and act as the vehicle to translate research findings into policy, programs and practical means for improving the quality of life for older Americans.

The misfortunes hardest to bear are those which never come.—James Russell Lowell

### ARTHRITIS

(Continued from Page 1)

counted not only in terms of socioeconomic losses, but also in terms of human suffering and disability ... We must meet the critical need for new research ideas and productive research studies upon which advances in the area of arthritis treatment and prevention can be based.

"Our goal continues to be the eventual elimination of arthritis as a cause of human suffering and economic burden to the Nation."

The President then called upon the citizens of the United States and health organizations and professionals to advance programs to discover the causes and cures of all forms of arthritis.
Dr. Hector DeLuca Wins 3M Life Sciences Award

NIADDK grantee Dr. Hector F. DeLuca received the "3M Life Sciences Award," with a $10,000 honorarium Apr. 11 at the annual meeting of the Federation of American Societies for Experimental Biology in Chicago, Ill.

The award was established to honor researchers whose work has made a significant contribution to the health and welfare of mankind. Dr. DeLuca was recognized by 3M for his "internationally distinguished work in vitamin D metabolism." He is presently chairman, and the Harry Steenbock research professor, department of biochemistry at the University of Wisconsin, Madison.

Dr. DeLuca was the first to demonstrate that vitamin D must be metabolically altered before it can function. He subsequently isolated the active metabolites of vitamin D in pure form and determined their chemical structures.

The structures were confirmed by means of chemical synthesis which also provided the pure forms of this compound for use in treating metabolic bone diseases such as vitamin D-resistant rickets, renal osteodystrophy, and osteoporosis. The active form of vitamin D has shown to increase calcium balance and reduce bone fractures in postmenopausal women with osteoporosis.

Dr. DeLuca has identified the metabolically active form of vitamin D that stimulates intestinal calcium transport and bone calcium metabolism. This work led scientists to conclude that, since the final step in producing this metabolite occurs in the kidney and has its targets of action in intestine and bone, it must be considered a hormone.

According to his colleagues, Dr. DeLuca's discovery of vitamin D metabolites and his development of biochemical research techniques have facilitated the research of other scientists around the world.

He has published more than 600 research articles in the fields of vitamin D, vitamin A, parathyroid hormone, and calcitonin.

In 1968, he received the Meade Johnson Award of the American Institute of Nutrition, and in 1969, the Andre Lichwitz Prize from the French Institute National de la Sante et de la Recherche Medicale.

In 1971, he received the Nicholas Andry Award from the Association of Bone and Joint Surgeons, and in 1974 the Dixon Medal from the Irish Medical Council. He is a member of several scientific organizations, including the American Society of Biological Chemists and the American Institute of Nutrition.

Pamphlet on Osteoporosis Available from NIADDK

The Division of Arthritis, Musculoskeletal and Skin Diseases, NIADDK, has recently published a pamphlet entitled Osteoporosis: Cause, Treatment, Prevention.

Osteoporosis is a condition in which bone tissue decreases, causing the bones to become more susceptible to fracture. The disorder is the principal underlying cause of bone fractures in older people, especially women.

An estimated 2 to 5 million Americans seek medical help each year for some problem linked to osteoporosis, and upwards of 15 million have osteoporosis in some degree.

Free copies of the pamphlet may be obtained by writing to: Osteoporosis, NIADDK, Bldg. 31, Rm. 9A04, Bethesda, MD 20205.

Dr. Skolnick Awarded Neuroscience Prize

Dr. Phil Skolnick, senior investigator, Laboratory of Bioorganic Chemistry, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, is the 1983 recipient of the Mathilde Solowey Award in the Neurosciences.

Established in 1973 by the Foundation for Advanced Education in the Sciences (FAES), the award honors an outstanding scientist specializing in research in neurobiology or diseases of the central nervous system. It consists of a certificate, a lecture at FAES, a reception at the FAES academic and social center, and an honorarium.

Dr. Skolnick will present his lecture entitled, "Receptors for an Age of Anxiety," Tuesday, May 24, at 3 p.m., in the Clinical Center Masur Auditorium.

AIDS STUDIES

(Continued from Page 1)

The viruses to be studied include CMV, Epstein-Barr virus (EBV), and human T-cell leukemia-lymphoma virus (HTLV). EBV and HTLV have been associated with some rare cancers, but presently the association between these viruses and AIDS is uncertain. First-year funding is $97,983 in direct costs for the 3-year study.

NIADDK is funding:

- Dr. Walter T. Hughes, St. Jude Children's Research Hospital, Memphis Tenn., will study potential drug treatments for Pneumocystis carinii pneumonia in an animal model. Funding is $62,332 in direct costs for the first year of this 3-year study.

- Dr. Pearl Ma, St. Vincent's Hospital and Medical Center, New York City, will study cryptosporidiosis, a recently identified parasitic disease that can cause severe and potentially fatal diarrhea in the immunosuppressed AIDS patients.

She will investigate the prevalence and transmission of the parasite in high risk groups as well as the disease process and possible treatments. Support for the first year of this 3-year project is approximately $39,165 in direct costs.

Although the deadline for receipt of applications under this RFA is closed, applications for support for research on AIDS may be made through the standard grant application procedures for the National Institutes of Health.

Investigators may obtain grant application kits from their institutions' application control office, or by writing to the Division of Research Grants, NIH, Bethesda, MD 20205.

An NIADDK grantee, Dr. DeLuca received the 3M Award for his research on vitamin D metabolism.
### Summary by Mechanism

**National Institutes of Health**

**1984 REVISED PRESIDENT'S BUDGET**

**Summary by Appropriation**

**(Budget Authority in thousands)**

<table>
<thead>
<tr>
<th>Appropriation Area</th>
<th>1982 Comparable</th>
<th>1983 Estimate</th>
<th>1984 Revised Request</th>
<th>Change</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Grants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Projects:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noncompeting projects</td>
<td>$1,251,483</td>
<td>$1,443,769</td>
<td>$1,510,790</td>
<td>+67,021</td>
<td></td>
</tr>
<tr>
<td>Administered supplements</td>
<td>15,794</td>
<td>15,386</td>
<td>7,814</td>
<td>-7,582</td>
<td></td>
</tr>
<tr>
<td>Animal projects</td>
<td>564,640</td>
<td>564,640</td>
<td>623,146</td>
<td>623,146</td>
<td>27,734</td>
</tr>
<tr>
<td>Subtotal, research projects</td>
<td>1,883,887</td>
<td>2,054,577</td>
<td>2,141,750</td>
<td>87,173</td>
<td></td>
</tr>
<tr>
<td>Research Centers:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialized/comprehensive ctrs.</td>
<td>244,046</td>
<td>260,879</td>
<td>221,350</td>
<td>-39,529</td>
<td></td>
</tr>
<tr>
<td>General clinical research ctrs.</td>
<td>63,776</td>
<td>74,023</td>
<td>76,812</td>
<td>3,739</td>
<td>4,789</td>
</tr>
<tr>
<td>Biotechnology resource grants</td>
<td>15,327</td>
<td>20,410</td>
<td>21,710</td>
<td>1,393</td>
<td>1,393</td>
</tr>
<tr>
<td>Lab animal sciences &amp; primate res.</td>
<td>24,259</td>
<td>25,460</td>
<td>27,370</td>
<td>1,910</td>
<td>1,910</td>
</tr>
<tr>
<td>Gorgas memorial institute</td>
<td>1,692</td>
<td>1,692</td>
<td>1,692</td>
<td>-1,800</td>
<td></td>
</tr>
<tr>
<td>Subtotal, research centers</td>
<td>349,104</td>
<td>382,572</td>
<td>349,242</td>
<td>-33,330</td>
<td></td>
</tr>
<tr>
<td>Other Research:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research career programs</td>
<td>50,125</td>
<td>55,670</td>
<td>57,586</td>
<td>2,916</td>
<td>2,916</td>
</tr>
<tr>
<td>Cancer task forces</td>
<td>13,945</td>
<td>17,710</td>
<td>12,000</td>
<td>-5,710</td>
<td>-320</td>
</tr>
<tr>
<td>Clinical education programs</td>
<td>16,914</td>
<td>6,000</td>
<td>6,000</td>
<td>-1,914</td>
<td>-1,914</td>
</tr>
<tr>
<td>Cooperative clinical research</td>
<td>43,832</td>
<td>44,319</td>
<td>46,942</td>
<td>2,623</td>
<td>2,623</td>
</tr>
<tr>
<td>Biomedical research support</td>
<td>49,395</td>
<td>59,893</td>
<td>38,530</td>
<td>-21,363</td>
<td>-21,363</td>
</tr>
<tr>
<td>Minority biomedical support</td>
<td>23,834</td>
<td>26,376</td>
<td>27,624</td>
<td>1,288</td>
<td>1,288</td>
</tr>
<tr>
<td>Other research related</td>
<td>22,870</td>
<td>24,649</td>
<td>26,196</td>
<td>1,547</td>
<td>1,547</td>
</tr>
<tr>
<td>Subtotal, other research</td>
<td>209,226</td>
<td>226,617</td>
<td>214,878</td>
<td>-13,739</td>
<td></td>
</tr>
<tr>
<td>Total, research grants</td>
<td>2,391,217</td>
<td>2,665,766</td>
<td>2,704,870</td>
<td>40,104</td>
<td></td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual awards</td>
<td>27,067</td>
<td>28,169</td>
<td>26,387</td>
<td>-1,782</td>
<td>-1,782</td>
</tr>
<tr>
<td>Institutional awards</td>
<td>123,426</td>
<td>139,269</td>
<td>131,278</td>
<td>-7,991</td>
<td>-7,991</td>
</tr>
<tr>
<td>Total, Training</td>
<td>150,493</td>
<td>167,438</td>
<td>157,666</td>
<td>-9,773</td>
<td></td>
</tr>
<tr>
<td><strong>Research and Development Contracts</strong></td>
<td>316,228</td>
<td>316,135</td>
<td>316,200</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td><strong>Intramural Research</strong></td>
<td>455,605</td>
<td>497,319</td>
<td>521,951</td>
<td>24,632</td>
<td></td>
</tr>
<tr>
<td><strong>Direct Operations</strong></td>
<td>146,343</td>
<td>163,609</td>
<td>171,634</td>
<td>8,025</td>
<td>8,025</td>
</tr>
<tr>
<td><strong>Program Management</strong></td>
<td>39,753</td>
<td>44,650</td>
<td>45,386</td>
<td>736</td>
<td>736</td>
</tr>
<tr>
<td><strong>Disease Control</strong></td>
<td>56,192</td>
<td>56,000</td>
<td>60,040</td>
<td>4,040</td>
<td>4,040</td>
</tr>
<tr>
<td><strong>Construction Grants</strong></td>
<td>64,933</td>
<td>64,933</td>
<td>8,210</td>
<td>-8,210</td>
<td></td>
</tr>
<tr>
<td>Subtotal, IRD's</td>
<td>3,583,324</td>
<td>3,913,917</td>
<td>3,980,856</td>
<td>66,939</td>
<td></td>
</tr>
<tr>
<td><strong>National Library of Medicine</strong></td>
<td>40,035</td>
<td>43,942</td>
<td>49,616</td>
<td>2,502</td>
<td>2,502</td>
</tr>
<tr>
<td><strong>Office of the Director</strong></td>
<td>23,618</td>
<td>25,748</td>
<td>26,720</td>
<td>972</td>
<td>972</td>
</tr>
<tr>
<td><strong>Buildings and Facilities</strong></td>
<td>9,998</td>
<td>17,500</td>
<td>19,900</td>
<td>2,400</td>
<td>2,400</td>
</tr>
<tr>
<td><strong>TOTAL, NIH</strong></td>
<td>3,583,324</td>
<td>3,913,917</td>
<td>3,980,856</td>
<td>66,939</td>
<td></td>
</tr>
</tbody>
</table>

*Includes proposed transfer of unobligated balances from the Rural Development Loan Fund, DHHS, for pay costs ($2.299).*